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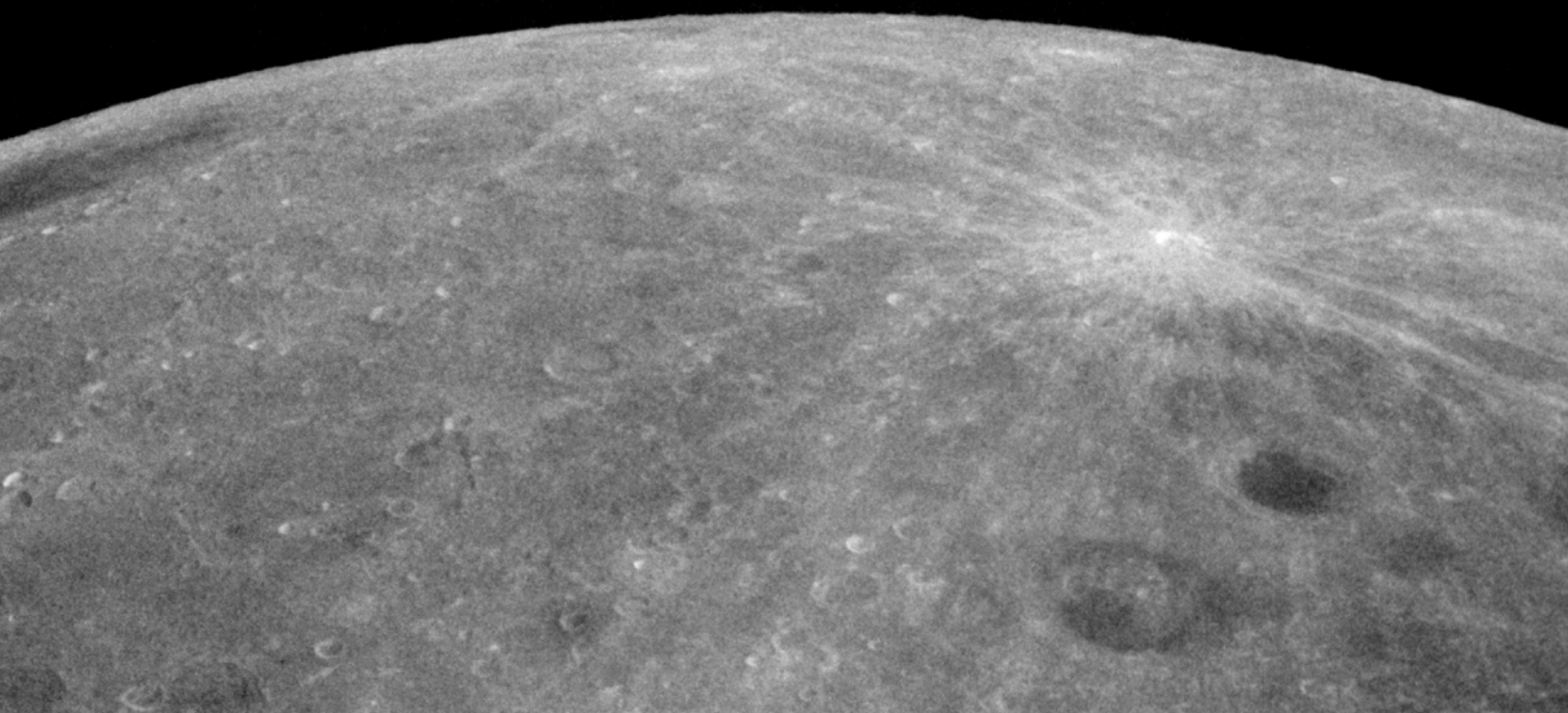
Governing the Moon

A HISTORY

Stephen S. Buono



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Governing the Moon

A HISTORY

A Report for NASA's Office of Technology, Policy, and Strategy

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Foreword

The Office of Technology, Policy, and Strategy sponsored this original historical research on the origins of the Moon Treaty in order to better explore and understand an emerging issue in space policy: future lunar governance. How humanity coordinates our exploration of the Moon may be just as important as the technical and scientific rationales we promote. This volume uncovers a fascinating chapter of international space policy history: the Moon Treaty. Why did such a significant agreement fail to reach consensus and approval by the U.S. Government and, indeed, the majority of spacefaring nations? Our current and future efforts to develop an optimal approach to lunar governance and coordination are informed by this past effort.

The Moon Treaty (formally known as the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies) came at the tail end of a remarkable period of global consensus regarding space exploration. The Outer Space Treaty (1967), Rescue Agreement (1967), Liability Convention (1971), and Registration Convention (1974) all sought to structure a nascent world order for the peaceful utilization of space. On the surface, the Moon Treaty sought to elaborate certain provisions of the Outer Space Treaty and to formalize in international law a broadly equitable approach to space exploration. Prof. Stephen S. Buono's central thesis, illuminated by new uses of many primary sources, is that the motivations of all actors involved were highly complex, contradictory, and steeped in the geopolitical and economic ideas animating the 1970s, including post-colonial movements in the Global South, the U.S.-Soviet rivalry in space, and the rise of powerful commercial space interests.

The initial proposal put forth by an Argentine lawyer, Aldo Armando Cocca, was influenced by contemporary political and social upheavals in South America, in which states reckoned with centuries of natural resource exploitation. His proposal to the United Nations sought to "study the legal status of substances, resources, and products coming from the moon" and was announced just two weeks before the greatly anticipated Apollo 11 crewed lunar landing. Subsequent Apollo missions introduced the world to regular American astronaut visits to the Moon, while also heightening concerns about claims of national sovereignty and resource exploitation.

At the dawn of the Artemis era, we now understand lunar exploration to be a tremendously multifaceted undertaking. The proliferation of space activities around the world (now with nearly 100 national space agencies and organizations), highly capable commercial space firms, and private citizen explorers has introduced an array of new considerations. This democratization of space exploration brings the dream of broadly accessible spaceflight closer to reality for many. Of course, it also means that we will take with us more of humanity's political and social concerns, including the ethical utilization of space resources. In this new era, just like the previous era, competing powers with space programs have targeted the Moon for

sustained human presence and development. For these reasons, a fulsome examination of lunar governance and coordination options, and the processes by which they might be affected, is a critically valuable task.

Future research might go beyond the Moon Treaty to examine historical treaties and roughly analogous governance mechanisms, including the Antarctic Treaty, the UN Convention on the Law of the Sea, the Arctic Council, and others. As this volume explains, the debates in the 1970s over lunar resources on the Moon were strongly influenced by contemporaneous debates over the equitable allocation of ocean seafloor resources. What are the challenges to generating agreement and implementing such measures? How do nations authorize and provide oversight for private and commercial missions? What are the critical ethical, social, and cultural considerations?

Throughout history, we've projected our ideal political, social, and economic organizational preferences onto the *tabula rasa* of the Moon. Our vision for lunar development is sometimes a thinly veiled abstraction of how we seek to change and improve life on Earth. As this volume attests, rarely do such idealistic visions survive fully intact the gauntlet of international and public opinion. Yet, there is tremendous value in imagining how to organize new worlds and progress to the next chapter in human history.

Charity Weeden
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NASA Headquarters

Introduction

Sometime this decade, Americans—and by extension humankind entire—will return to the Moon. Four intrepid astronauts will descend to the lunar South Pole, where they will head out to explore a dark and craterous region replete, they hope, with stores of water and volatiles. On a series of moonwalks the astronauts will take pictures and video, retrieve samples, survey the local geology, and collect scores of other data to meet specific scientific goals. It will be the first time that humans set foot on the lunar surface in more than a half century, and the first-ever crewed mission to the South Pole. They will stay for roughly a week.

In scanning popular newspapers, journals, and TV shows, it appears at first glance that neither the United States nor the wider world are legally prepared for this new wave of lunar exploration. Human activity on the Moon, we are told, will constitute a "Wild West" where anything goes.[1] The great powers will scramble for rare earth metals.[2] Private companies will compete for hegemony in lunar tourism.[3] Perhaps even a neo-colonial race for lunar spheres of influence will ensue; years ago, one New Delhi-based magazine even speculated that the discovery of water on the Moon would precipitate "a repeat of the East India Company."[4]

Sensational predictions about impending lunar chaos ignore several laws pertaining to the Moon that are already on the books. The 1967 Outer Space Treaty (OST) stipulates that states shall use the Moon and other celestial bodies "exclusively for peaceful purposes." The accord bans the establishment of military bases on these bodies and forbids military exercises or the testing of any weapon. Grounded in that landmark document are the more recently negotiated Artemis Accords (2020), which reaffirm for its growing list of signatories that space exploration, for the United States and its partners, must adhere to a set of discrete principles aimed at the peaceful and sustainable use of space for all.[5]

There is, in fact, one international treaty that pertains specifically to celestial bodies, the Moon in particular: the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies,

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1 Robert A. Manning, "Who Owns the Moon?" *Foreign Policy*, May 2, 2023, accessed December 4, 2023, accessed March 24, 2024, *https://foreignpolicy.com/2023/05/02/moon-outer-space-ownership-united-states-china-competition-resources-mining/*.

2 Namrata Goswami and Peter Garretson, *Scramble for the Skies: The Great Power Competition to Control the Resources of Outer Space* (Lanham, MD, 2020).

3 Rebecca Boyle, "A New Private Moon Race Kicks Off Soon," *Scientific American*, August 1, 2022, accessed December 4, 2023, *https://www.scientificamerican.com/article/a-new-private-moon-race-kicks-off-soon/*.

4 "Luna's Law," *DownToEarth*, April 15, 1998, accessed December 4, 2023, *https://www.downtoearth.org.in/news/lunas-law-21509*.

5 National Aeronautics and Space Administration, The Artemis Accords: Principles for Cooperation in the Civil Exploration and Use of the Moon, Mars, Comets, and Asteroids for Peaceful Purposes (2020), accessed March 24, 2024, *https://www.nasa.gov/artemis-accords/*.

known better and more colloquially as the Moon Treaty. Negotiated over a grueling eight years at the United Nations, the Moon Treaty was adopted by the General Assembly (UNGA) in December 1979. Dozens of countries across six continents participated in the proceedings. Building on four previous space agreements hashed out in the UN's Committee on the Peaceful Uses of Outer Space (COPUOS), the Moon Treaty was a bold, imaginative document that divorced the exploration and use of celestial bodies from the rapacious legacies of the "frontier" since the Columbian Exchange. The agreement forbade "any threat or use of force" on the Moon; outlawed the stationing of nuclear weapons on the lunar surface or in orbit around it, as well as the construction of military bases, the testing of weapons, and the conduct of military exercises on the Moon; declared that the exploration and use of the Moon was to be carried out in the interests of all countries, with "due regard" paid to economic uplift; aligned human activity on the Moon with the UN Charter; enshrined the freedom of scientific investigation on the Moon; mandated the protection of the Moon's natural environment; and opened up signatories' lunar facilities to inspection. Crucially, it also banned claims of national sovereignty over the Moon and its natural resources, which the agreement declared "the common heritage of mankind."[6]

Many of these tenets had been drawn directly from the more sweeping, "quasi-constitutional" OST.[7] In much of its letter and most of its spirit, the Moon Treaty was a copy of the earlier pact that applied renewed legal force to human activity on the Moon and other heavenly bodies. Yet the two agreements differed in one crucial respect: *legitimacy*. Whereas the Space Treaty garnered more than one-hundred signatories, the Moon Treaty acquired a mere eighteen.[8] Whereas the two space-racing powers immediately ratified the OST, neither ratified the Moon Treaty. Whereas the OST formed the backbone of international space law, the Moon Treaty was considered a stillborn sibling. Its impotence was on full display when in 1980 a former ventriloquist and car salesman named Dennis Hope claimed the entire Moon and began selling parcels of it to willing customers at $20 per acre. "There is a loophole in the treaty," he wrote in letters to the United Nations and the Soviet Union, notifying them of his claim to title, "it does not apply to individuals." Not only did the U.S. government fail to contest Hope's claims, three American presidents—Jimmy Carter, Ronald Reagan, and George H. W. Bush—eventually purchased lunar property from him.[9]

The reasons for the Moon Treaty's failure as an instrument of international law were complex and deeply rooted. For starters, its ascension at the United Nations came as a surprise because in the COPUOS, where voting took place on a consensus basis, agreement on even the most basic precepts was extremely difficult. Little improved once it opened for signature. Many diplomats and lawyers were unsure of the agreement's necessity given its similarities to the OST and the series of UN resolutions on space exploration that the General Assembly had passed throughout the early 1960s. Others determined that the negotiation of such an exhaustive and anticipatory treaty was premature.[10] Why should states yet determine the permissibility of this or that behavior when lunar exploration and development was still in its infancy?

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6 United Nations General Assembly, 34th Session, A/RES 34/68, Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, December 5, 1979, *https://www.unoosa.org/oosa/oosadoc/data/resolutions/1979/general_assembly_34th_session/res_3468.html*

7 James Vedda, "The Outer Space Treaty: Assessing Its Relevance at the 50-Year Mark," Aerospace Corporation (May 2017); Stephen Buono, "Merely a 'Scrap of Paper'? The Outer Space Treaty in Historical Perspective," *Diplomacy & Statecraft* 31, no. 2 (2020): 350–72.

8 In January 2023, Saudi Arabia withdrew from the agreement, becoming the first nation to withdraw from a UN space treaty.

9 Lunar Embassy, "Who Owns the Moon?" accessed March 24, 2024, *https://lunarembassy.com/who-owns-the-moon-dennis-hope/*.

10 Bernard D. Nossiter, "Treaty on Moon Is It Too Soon?" *New York Times*, March 9, 1980, E8.

Better that interested parties first establish the viability of human life systems and key industrial capacities on the Moon before wading out too deep.

Most of all, critics in the West, especially the United States, conceived of the Moon Treaty as merely the latest manifestation of redistributionist politics emanating from the Global South in its quest for a "New International Economic Order" (NIEO) that might redress centuries of colonial exploitation. When the agreement arrived before U.S. senators, a score of interest groups—technology firms, spaceflight boosters, mining conglomerates—lined up to testify against it, particularly Article 11's "common heritage of mankind" principle. That nebulous phrase caused more trouble than the agreement's original crafters had ever bargained for. Connecting common heritage of lunar resources to the UN's Third Convention on the Law of the Sea (UNCLOS III), which deployed the same term to describe the status of seabed resources, detractors hoped to pitch the Moon Treaty as a Marxist coup.[11] They succeeded. The Carter administration buried the accord in legislative review, and the Senate never voted on ratification. In the end, only a handful of nations ratified the accord in its first decade. Less than twenty ever became parties.[12]

The controversy swirling around the Moon Treaty determined much about the tenor and quality of the early scholarly literature. Many of the first studies aimed to work out whether the United States, or any other nation for that matter, should ratify the agreement in the first place. Major surveys emerged initially from the U.S. government itself. In preparation for the Senate's hearings on the accord in July 1980, the Committee on Commerce, Science, and Transportation, at the request of its chairman Howard W. Cannon (D-Nevada), commissioned three distinct analyses. The first was a historical summary of the negotiations and a "pro and con" analysis by prominent space legalist Eilene Galloway, who had played a major role in drafting the 1958 National Aeronautics and Space Act that created NASA. The second, a study by the Office of Technology Assessment (OTA), included a survey of technologies related to the exploitation of extraterrestrial resources and the deep seabed, as well as an article-by-article review of the treaty. And the third, completed by the Congressional Research Service (CRS), issued reviews of the technological, foreign policy, and legal issues that were likely to arise during congressional debate.[13]

These reports, all completed between May and November 1980, concerned either: a) the procedural history of the negotiations; b) textual meanings; or c) the short- and long-run implications of the treaty for space policy and international relations. Alongside the published Senate hearings, they provided grist for an avalanche of contemporary work—principally in law journals—that emerged between the treaty's adoption and its entry into force in 1984.[14] Often, these subsequent studies took sides. Some regarded the Moon

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11 United Technologies, "Stranglehold on the Moon," *Washington Post*, February 14, 1980, A2; K. Eric Drexler, "Dangerous Defects in the Draft for a 'Moon Treaty,'" *New York Times*, October 9, 1979, A22.

12 Parties to the Moon Treaty include the Philippines, Uruguay, Chile, Netherlands, Austria, Pakistan, Australia, Mexico, Morocco, Kazakhstan, Belgium, Peru, Lebanon, Turkey, Kuwait, Venezuela, and Armenia. France, Guatemala, India, and Romania have signed the agreement but have yet to ratify it. In January 2023, Saudi Arabia withdrew from the Agreement.

13 The hearings were held by the CCST's Subcommittee on Science, Technology, and Space, chaired by Illinois's Adlai Stevenson. Members included Wendell Ford (KY); Russel B. Long (LA); Ernest Hollings (SC); Donald Riegle, Jr. (MI); Howell Heflin (AL); Harrison Schmitt (NM); Barry Goldwater (AZ); Nancy Landon Kassebaum (KS).

The Galloway study, conducted under the auspices of the Committee on Commerce is collected in U.S. Senate, *Committee on Commerce, Science, and Transportation, Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, Parts 1 & 2 (Washington, DC, 1980) (hereafter "Transportation Study"). The OTA and CRS studies are collected in Parts 3 and 4, respectively, and will hereafter appear as "OTA Study" and "CRS Study."

14 Carl Q. Christol, "The Common Heritage of Mankind Provision in the 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies," International Law 14, no. 429 (1981): 429–83; Carl Q. Christol, "The Moon Treaty

Treaty a genuine milestone in "the unbroken line" of constructive space law dating from *Sputnik*.[15] Many more dragged it through the mud.[16] Stephen R. Bond, a legal advisor to the U.S. State Department who participated in the negotiations, recalled accusations that the Moon Treaty had been "drafted by lawyers behind closed doors" and that it was a plot hatched by the Soviet Union, "supported by its developing country lackeys," to weaken the United States by barring private enterprise in space.[17]

Indeed, the economic implications of the Moon Treaty guaranteed that a proper understanding of the document would be elusive. As Ronald F. Stowe, Chairman of the American Bar Association's Committee on International Law (and at one time another key U.S. representative to the negotiations), told the Senate in 1980, the confluence of business interests and partisan politics that infused debates about the agreement had produced "a rash of horror stories." The United States would be forced to transfer technology; the UN could seize American assets; a moratorium on exploitation would prevent development for generations; and foreign nations could "send storm troopers marching" across lunar mines. These fever dreams were "the products of excited imaginations" coupled with general disillusionment with U.S. foreign policy, a combination that could only lead to the blanket presumption that Americans, regardless of the actual text, had been duped. "The frustration may be understandable," Stowe admitted, "but it is hardly a promising or an adequate foundation on which to build our inescapable, future role in the international community."[18]

The same must be said of our treatment of the treaty's history, which is far more nuanced than either its promoters or detractors have cared to admit. As Thomas Gangale has pointed out, existing scholarship is guilty of a myopic focus on the treaty text itself, rather than a full consultation of adjacent documents

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Enters Into Force," *American Journal of International Law* 79, no. 1 (January 1985): 163–68; Carl Q. Christol, "The American Bar Association and the 1979 Moon Treaty: The Search for a Position," *Journal of Space Law* 9, no. 1 and no. 2 (Spring and Fall 1981): 77–92; Martin Mentor, "Commercial Space Activities Under the Moon Treaty," *Syracuse Journal of International Law and Commerce* (1979): 213–38; Rex J. Zedalis, "Will Article III of the Moon Treaty Improve Existing Law: A Textual Analysis," *Suffolk Transnational Law Journal* 5, no. 1 (1980–81): 53–72; John H. Works Jr., "The Moon Treaty," *Denver Journal of International Law and Policy* 9, no. 2 (Summer 1980): 281–86; K. B. Walsh, "Controversial Issues Under Article XI of the Moon Treaty," *Annals of Air and Space Law* 6 (1981): 489–96; "The Moon Treaty: Should the United States Become a Party: Remarks," *American Society of International Law Proceedings* 74 (1980): 152–61; Nancy L. Griffin, "Americans and the Moon Treaty," *Journal of Air Law and Commerce* 46, no. 3 (1981): 729–64; D. D. Smith, "The Moon Treaty and Private Enterprise," *Astronautics and Aeronautics* (1980): 62–65; D. Goedhuis, "Conflicts in the Interpretation of the Leading Principles of the Moon Treaty of 5 December," *Netherlands International Law Review* 28, no. 1 (May 1981): 14–29; Bin Cheng, "The Moon Treaty: Agreement Governing the Activities of States on the Moon and Other Celestial Bodies within the Solar System other than the Earth, December 18, 1979," *Current Legal Problems* 33, no. 1 (1980): 213–37; Stephen P. Mau, "Equity, the Third World and the Moon Treaty, *Suffolk Transnational Law Journal* (1984) 221–58; Patricia Minola, Comment, "The Moon Treaty and the Law of the Sea," *San Diego Law Review* 455, 468 (1981); Adrian Bueckling, "The Strategy of Semantics and the Mankind Provisions of the Space Treaty," *Journal of Space Law* 7, no. 1 (Spring & Fall 1979): 15–22; E. Van Bogaert, "The Moon Treaty: Achievements and Future Problems," *Studia Diplomatica* 34, no. 6 (1981): 655–73.

15 Edward R. Finch Jr., Amanda Lee Moore, "1979 Moon Treaty Encourages Space Development," *The Proceedings on the Law of Outer Space* 23 (1980): 13–18.

16 See, for example, Art Dula, "Free Enterprise and the Proposed Moon Treaty," *Houston Journal of International Law* 2, no. 1 (1979); Stanley B. Rosenfield and Delbert D. Smith, "The Moon Treaty: The United States Should Not Become a Party," *Proceedings of the Annual Meeting* (American Society of International Law) 74 (April 17–19, 1980): 162–70.

17 Remarks by Stephen R. Bond in "The Moon Treaty: Should the United States Become a Party?" *American Society of International Law Proceedings* 74 (1980): 155.

18 U.S. Senate, *The Moon Treaty: Hearings before the Subcommittee on Science, Technology, and Space of the Committee on Commerce, Science, and Transportation,* 96th Cong. 2nd Sess., July 29 and 31, 1980 (Washington, 1980): 4.

and negotiating papers that would provide crucial context.[19] The result has been straw men, boogeymen, and red herrings. And while many laudable studies have consulted the UN's full repository of COPUOS documents—annual reports, resolutions, draft texts, proposals, Legal Subcommittee meeting records, and verbatim records, among others—a firm grounding in that material creates its own inescapable, fenced-in preserve, one in which we learn precious little about what happened outside the United Nations.[20] As it turns out, quite a lot did.

This report represents the first comprehensive effort to ground the Moon Treaty in history. Leveraging oral histories, COPUOS negotiating records, scholarly legal debates, and archival documents, this report hopes to answer several questions: What forces—legal, political, economic, and diplomatic—drove the international community to seek governance structures for the Moon? What were the contours of the negotiations themselves, and what motivated the various parties? What were the unique contributions of those parties to the treaty's development? And why, despite initial support by the space powers, did the Moon Treaty ultimately fall short as a legal intervention?

The present study proceeds in five chapters, each devoted to what might be called a particular "stage" in the evolution of the Moon Treaty. Chapter One illuminates the lost genesis of the agreement—that is, its origins as an exercise in legal theorization performed by jurists the world over during the late 1950s and 1960s. In particular, the chapter examines the life and work of Argentine scholar Aldo Armando Cocca, who more than any single *personae dramatis* molded, nurtured, and fought on behalf of lunar governance. I show that, long before the Moon Treaty became a United Nations boondoggle or an American political football, it was a genuine and fruitful academic excursion.

Chapter Two covers the formalization of the agreement as a subject of international law and indeed of political action. Though Cocca had first attempted to reify his proposals for a Moon treaty at the United Nations in 1969—just months after the first crewed lunar landing—it was not until the Soviet Union submitted its own version two years later that either the General Assembly or the COPUOS truly sprang into gear. The chapter explores Soviet motives to construct a draft, that draft's departure from Cocca's original vision, as well as hurried U.S. calculations for a proper diplomatic response. As new evidence demonstrates, though many organs of the American government ultimately came to support the agreement during the lengthy negotiating process, at the outset many officials were perplexed by the Soviet initiative and felt dragged, willy-nilly, into the process.

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19 Thomas Gangale, "Myths of the Moon Agreement" Conference Paper for the annual meeting of the American Institute of Aeronautics and Astronautics, September 9, 2008.

For a sampling of the work that followed the treaty's entry into force, see Nathan C. Goldman, "The Moon Treaty: Reflections on the Proposed Moon Treaty, Space Law, and the Future" in *People in Space: Policy Perspectives for a "Star Wars" Century*, ed. James Everett Katz (New Brunswick, NJ: Transaction Inc., 1985); Brian M. Hoffstadt, "Moving the Heavens: Lunar Mining and the Common Heritage of Mankind in the Moon Treaty," *UCLA Law Review* 42, no. 2 (December 1994): 575–622; Anthony R. Filiato, "The Commercial Space Launch Act: America's Response to the Moon Treaty," *Fordham International Law Journal* 10, no. 4 (Summer 1987): 763–81; David Everett Marko, "A Kinder, Gentler Moon Treaty: A Critical Review of the Current Moon Treaty and a Proposed Alternative," *Journal of Natural Resources & Environmental Law* 8, no. 2 (1992): 293–346.

20 English-language versions of these documents can be accessed through the UN's Office of Outer Space Affairs (UNOOSA). See UNOOSA, Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Moon Agreement), accessed January 2, 2024, *https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/travaux-preparatoires/moon-agreement.html*.

The principal documents—those that can be said to form a rough "backbone" of the procedural history—can also be found online in the UN's audiovisual library. See United Nations, Agreement governing the Activities of States on the Moon and Other Celestial Bodies, New York, 5 December 1979, accessed January 2, 2024, *https://legal.un.org/avl/ha/agasmocb/agasmocb.html*.

The next two chapters detail the negotiations at the United Nations, where the COPUOS's Legal Subcommittee (LSC) fiercely debated the text for nearly a decade. Here, motives were legion. The United States wanted to promote space diplomacy while maintaining its freedom of action. The Soviet Union wanted to preserve principles of national sovereignty *on* the Moon while positioning itself as a leader in preventing sovereign claims *to* the Moon. Delegations from the Global South wanted to prevent neo-colonial competition over the Moon and a monopoly over its resources by the industrialized nations capable of getting to and extracting them first. Cocca and his ilk wanted a grand, forward-thinking document providing legal elaboration and substantiation for the Outer Space Treaty; perhaps the humanist legal principles enshrined in a Moon treaty could serve as a model for international law back on Earth, thus transforming it. All achieved a modicum of success. All failed, too.

The key differences among the delegations—whether the treaty would apply solely to the Moon or all celestial bodies; the extent to which countries should be obligated to share information about their space missions; and whether lunar resources constituted "the common heritage of mankind"—were bitterly contested and threatened repeatedly to strangle the accord. Chapter Four details a lengthier period in the negotiations, one in which enthusiasm flagged, tensions flared, and risks mounted that the treaty would suffer irreparable harm from neighboring political fights at the United Nations, namely UNCLOS III and the campaign for the NIEO. In these conflicted years one can observe the attitudes, positions, and interests that later proved critical to the treaty's defeat.

The report's final chapter recapitulates the collapse of the Moon Treaty, first in the United States and subsequently on the world stage. American political leaders, concerned that the agreement's provisions on the exploitation of lunar resources might establish an unsavory precedent for the ongoing UNCLOS debate over the natural wealth of the seabed, openly rejected the Moon Treaty. Prodded along by passionate lobbyists, and skeptical of an initiative that, in their eyes, had been put in motion by Moscow, they cared little for legal subtleties. The Senate hearings—and subsequently the beating the accord took in both popular and academic writing—cast a pall over the treaty, one from which it has never truly broken free.

Chapter 1

The Moon's Lawyer

Aldo Armando Cocca and the Germ of a Treaty

It is one of the startling wrinkles of the Space Age that the story of lunar governance began neither in the Eastern bloc nor the Western. It began in South America. In 1953 the world's first doctoral dissertation in space law—a synthesis of the germinal field—was submitted to the faculty at the University of Buenos Aires. Its author, Aldo Armando Cocca, was then a tender twenty-nine. Within a decade's time, the young jurist would not only become among the discipline's most eminent scholars; he would also lay the intellectual foundations upon which the United Nations eventually constructed the Moon Treaty. Indeed, his professional life spanned the agreement as first an academic and, later, a political project.

I

Thin, handsome, and eloquent, Cocca was a lawyer's lawyer. He was born in the Las Flores neighborhood of Córdoba on September 3, 1924, to Italian parents—Ernesto, a chemist, and Teresa, a housewife. Cocca received an education befitting the modern, urban Argentina wishfully envisioned by reformers going back to Domingo Sarmiento, the nation's second president.[1] He attended high school at one of Argentina's most prestigious prep institutions, the Colegio Nacional de Monserrat—modeled after the European gymnasium—before entering the Universidad de Buenos Aires (UBA) in 1943 to begin a bachelor's in law, where his interest in and work on astronautics matured. During his senior year Cocca organized a seminar on air law at UBA and founded and chaired the Argentine Institute of Aeronautical and Radioelectric Law, the world's first center to investigate the right to communications in space. Afterward, he continued on at Buenos Aires for his law degree.

Cocca took his theoretical survey of space law on the road shortly after he finished his juris doctorate, supplying his own budding interpretations along the way. In August 1954 he trekked to the University of Innsbruck in Austria to deliver a lecture at the 5th International Astronautical Congress (IAC). Only the German version—translated from the original Spanish—survives in the records of the International Astronautical Federation (IAF), which hosted the annual conference, but it provides a glimpse into the juridical and, it is appropriate to say, philosophical underpinnings of Cocca's early thought.

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1 Domingo Faustino Sarmiento, *Facundo; Or, Civilization and Barbarism* (New York: Penguin, 1998 [1845]).

The bulk of his talk constituted a whirlwind tour of the myriad visions of space sovereignty proposed by prominent scholars including John Cobb Cooper, Antonio Ambrosini, Joseph Kroell, and fellow countryman Carlos Alberto Pasini Costadoat. It is important to note, especially, the influence of the Frenchman Kroell, who had written that extraterrestrial space could only represent a common good, a *res communis omnium* "from which all beings that form the national or state human unity of our globe can benefit." Space therefore could not be seized for narrow projects but only "reserved for the happiness of all the members of the international community." "It would have to be," Cocca observed, "das Allgemeingut der Menschheit," the common property of humanity.

Cocca made a few conclusions of his own, too. Because the exploration of outer space was bound to be the collective effort of dozens of nations, regardless of the lopsided investments made by a handful of countries, the resulting technology—"the vehicle" of exploration—must fall under a legal framework that was international in character as well. That is, the conquest of interplanetary space was bound to be a conquest of the "community of humanity" ("Gemeinschaft der Menschheit").[2]

Cocca's ideas ripened in the mid-to-late 1950s as he traveled the world attending conferences, testing his theories, and speaking with other lawyers in the field. By the time he walked through the Palazzo di Congressi in Rome to attend the 7th IAC in September 1956, he had come to adopt more strident opinions about the urgency and obligations of his discipline.[3] "Why shouldn't law be studied in the fourth dimension if it has in mind mankind, who is a fourth-dimensional being?" he asked his audience (his four dimensions were personal, national, international, and cosmic). "Astronautics provides a definitive instrument for legal speculation: the compelling force of the time factor."[4]

By time factor, Cocca referred to Albert Einstein's special theory of relativity, which had first inspired him as an undergraduate to investigate *el derecho especial*. All physical events, Einstein had written, happened at the conjunction of three space points (x, y, and z) and one time point (t); together the four delimited an event's space-time location. From his 1947 symposium at UBA, Cocca realized that he had been seeking a precise location for the law, the very foundation, as he put it, for legal reality. For twenty-two-year-old law students, the coordinates could be plotted through ingenuity, imagination, and departure from "old molds." Astronautics, Cocca determined at this early juncture, "demanded its own method of study, nothing less than a process of [the] abstraction of the jurist spirit." Over time this spirit would compete with technological development in space for supremacy over humanity's cosmic future. "The cultivator of law," Cocca opined, must not surrender to invention.

These were bold claims. Should not technical realities precede humanity's legal breach into space? Indeed, it was an open question for many political leaders whether governments should yet cooperate on international legislation for space given the paucity of reliable information about the medium and of the technologies necessary to penetrate it. The "positivist" school of space law, led by Yale University's Myres McDougal and Leon Lipson, encouraged nations to "make haste slowly" in constructing the legal

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2 Aldo Armando Cocca, "Die Rechliche Natur des Weltraums," *Berlch über den V., Astronautischen Kongress, Innsbruck*, trans. Allen R. S. S. ("Legal Nature of the Interplanetary Space"), International Institute of Air Law, McGill University, Montreal Canada (Wien: Springer, 1955), 283–90; "Sovereignty of the Air Debated," *South China Sunday Post*, August 8, 1954, 17; Aldo Armando Cocca, "The Advances in International Law through the Law of Outer Space," *Journal of Space Law* 9, no. 1 and no. 2 (Spring and Fall 1981): 15.

3 L. R. Shepherd, "Prelude and First Decade," *Acta Astronautica* 32, no. 7 and no. 8 (July–August 1994): 487.

4 Metodo para el studio de los problemas juridicos que planeta la Conquista del espacio Interplanetario," 7th International Astronautical Congress, Rome, Italy (September 17–22, 1956), 155. In possession of the author.

grounding for human space activity.[5] Chester Ward, a U.S. Navy judge who frequently advised his government on space law, put the matter colloquially. "It would be futile for a state legislature to attempt to draw up a state highway code without knowing the performance characteristics of modern automobiles and trucks," he wrote. "The legislators would have to know the ability of modern drivers and the driving hazards of the highway system."[6]

As Barton Beebe has explained, many newly practicing space lawyers, Cocca included, considered this a losing strategy. The legal profession could not afford to yield to the von Brauns and the Korolevs; better to "acculturate the future to the law" and claim its anticipatory politics as "professional property." By positing a visionary role for the law as a "countercultural, humanist antidote" to ceaseless technological revolution, space lawyers could create change, control change, and above all, maintain their own relevance. The alternative: "the rise of science and … the death of law."[7]

Cocca captured this apprehension in a treatise published shortly before the launch of *Sputnik*. Based on his UBA dissertation, *Teoría del Derecho Interplanetario* ("Theory of Interplanetary Law") offered a tour and synthesis of the budding space law discipline, distinguishing along the way between astronautical, aeronautical, cosmic, interspatial, and extraterrestrial law. The march of space technology, Cocca wrote, had led to "the painful realization that in Law there is still much to do and that much of what has been done is collapsing." Space lawyers, intrepid minds all, were attempting to "lay foundations of [a] new Law," but the goal posts were in constant retreat.[8]

Echoing his speech in Rome just the year before, Cocca argued that a solution could be found in creativity, in cultivating a "revisionist sense of Law" capable of keeping legal science on the same plain as—that is, on pace with—the hard sciences. Interplanetary law constituted a *jus novum* that demanded a "different vision of Law" than had been practiced by self-interested parties in the international system.

He offered an example. Cocca considered space exploration a "public right of civilization" considering the relationship between space and public interests. This interpretation contradicted the primacy of private law that had developed around the issue to date—patents, liability, labor, and ownership of space vehicles. "Never until now has a conquest been attempted with such a vast and generic human contribution," the Argentinian observed. "For this reason, interplanetary law is a right of civilization," not nature.[9] He advised his colleagues to write space law in stages: first to address "the instruments of conquest" (space technology), then the medium beyond Earth's atmosphere, and finally the heavenly bodies of the solar system.[10]

Notably Cocca's *Teoria* devoted an entire chapter to this last subject, one in which "La Luna" featured prominently. Prefiguring a decade's worth of political declarations, speeches, academic arguments, and UN resolutions on lunar governance, Cocca advocated the free use of space for all people and the ineligibility of the Moon to claims of national sovereignty. He admitted that "in these days of heightened

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5 Francis O Wilcox testimony in U.S. Congress, *House of Representatives, Hearings before the Committee on Science and Astronautics, "International Control of Outer Space,"* March 5, 6, and 11, 1959, 86th Cong., 1st Sess. (Washington, DC, 1959), 67.

6 Ward as quoted in Stephen Buono, "The Province of All Mankind: Outer Space and the Promise of Peace" (PhD Dissertation, Indiana University, 2020), 267.

7 Barton Beebe, "Law's Empire and the Final Frontier: Legalizing the Future in the Early Corpus Juris Spatialis," *Yale Law Journal* 108, no. 7 (May 1999): 1741–42.

8 Aldo Armando Cocca, *Teoria del Derecho Interplanetario* (Buenos Aires: Editorial Bibliográfica Argentina, 1957), 66–67.

9 Ibid., 70–72.

10 Ibid., 19.

nationalism" some countries would perhaps make territorial claims over celestial bodies. "But there is no doubt that the majority of opinion must find it difficult to accept the idea that the heavens too are to be parceled out among individual governments."[11] While "elements" of space could be derived from analogous zones such as the ocean, novel structures reflecting the true internationalism of space exploration would be needed. He recommended, in that spirit, that whatever "special rules can be foreseen" be established under the aegis of the United Nations. In a phrase prescient of future debates, Cocca suggested that supranational development of space law would highlight "la herencia comùn de la humanidad"—the common inheritance of mankind.[12]

Teoria del Derecho Interplanetario is a forgotten yet crucial text in the history of the Moon Treaty, as it prefigured Cocca's—and by extension Argentina's—activism in the COPUOS to author the agreement. The book reflects Cocca's scholarly approach to the question, his conceptual rejection of national sovereignty on the Moon, and his early adoption of a humanist approach to space law, one in which he would consistently advocate for a vertical extension of legalism for the betterment of all mankind. As he put it, the new field should have a "unique mission" that aviation, in an earlier time, had also aspired but sadly failed to achieve, namely the "opening [of] a horizon for concord and peace."[13]

Perhaps most importantly, Cocca's *Teoria* demonstrates a commitment to nuance that, in later years, once the Moon became a political matter rather than an academic one, faded from view. The young lawyer understood that analogies from the high seas, Antarctica, and the skies could provide useful legal concepts but not always concrete legal solutions. He acknowledged that space exploration would dictate the pace and quality of interplanetary legal theory but made reasonable arguments in favor of preemptive controls for both space technology and the medium of space itself. Cocca balanced enthusiasm with realism, legal precedent with innovation, and political considerations with "spirituality." Here, in short, was a landmark work.

II

Late in August 1958, Cocca attended a special conference, the first of its kind. Organized by two founders of space law, the American attorney Andrew G. Haley and his colleague Prince Welf Heinrich von Hanover (who completed his own dissertation on space law the previous year), this First Colloquium on the Law of Outer Space marked the arrival of a bona fide legal discipline. Forty-four jurists from ten countries traveled to the stately Rolzaal in The Hague, historic seat of international arbitration and human rights, to exchange papers and business cards.

The roll call boasted many of the young field's leading lights: the Frenchman Eugene Pépin, who directed McGill University's new Institute of Air and Space Law; John Cooper, who pioneered aeronautical law and was the institute's most prominent faculty member; the University of Denver's Stephen Gorove, who would go on to establish the *Journal of Space Law*; Eilene Galloway, dean of the American space

11 Ibid., 212.

12 Ibid., 213.

13 Ibid., 20.

advisors and a key government consultant on space issues after *Sputnik*; and of course Haley and Heinrich themselves.[14]

Already by 1958, Cocca deserved inclusion in this esteemed group. Chairman of the Argentine Interplanetary Association and a delegate to the legal committee of the International Civil Aviation Organization (ICAO), Cocca, merely thirty-four, was already an internationally recognized scholar. Since graduating from law school he had published three books and a landmark article on "International Instruments." Well-travelled, well-mannered, and well-spoken—he was fluent in Spanish, French, Portuguese, and Italian—the young lawyer was a natural fit. The colloquia, to be held every year since, would only enhance his status in the discipline over time.

It was only natural that, at this first meeting of the international space law community, foundational questions dominated. Cooper addressed the very definition of "air space," Galloway the "Community of Law and Science." The assembled lawyers were keen to develop principles, for example, over the boundary between air and space, on limits of political sovereignty in the new medium, as well as the responsibility of states for damage caused by spacecraft. Cocca's contribution was similarly broad: the "Legal Nature of the Moon."[15]

Though it would be nearly three years before John F. Kennedy would commit the United States to land men on the Moon, Cocca asserted that the signal goal of astronautics was to conduct such a mission. Indeed, the lunar adventure had begun just days before the conference began, when the U.S. Air Force had attempted to launch a lunar orbiter, Pioneer 0, atop a modified Thor missile. The turbopump gearbox malfunctioned and the first stage of the rocket exploded, but NASA and the Soviet Union's OKB-1 Special Design Bureau quickly assembled other missions until finally Luna II impacted the lunar surface in September 1959. Its successor, Luna III, photographed the far side of the Moon just weeks later. Presaging these plans and successes, Cocca thought "it might be useful to anticipate a few concepts in order to draw up a final declaration regarding the legal nature of the earth's natural satellite." It was imperative that the law anticipate technological progress in space and augur its implications for politics and society. The messy example set by the atomic revolution was instructive. "The consequences which follow from a *fait accompli* cannot be permitted in the present stage of the development of civilization," Cocca intoned. "The jurist is faced with this duty."[16]

As with his *Teoria del Delrecho Interplanetario*, what followed in Cocca's address is crucial to understanding his legal thought and, by extension, the intellectual origins of the Moon Treaty, for the precepts he laid down at the Rolzaal would appear again in Paris, Washington, Warsaw, and Athens until finally they arrived at the United Nations in 1969, tweaked but not fundamentally changed. Those ideas, in turn, would influence much of the Global South's negotiating posture in the COPUOS.

Fitting the Moon into a legal regime, Cocca suggested, could be broken down into three separate goals. First, lawyers must determine principles that could be "discarded from a legal point of view." He offered five:

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14 Andrew G. Haley and Welf Heinrich Prince of Hanover, *Proceedings of the First Colloquium on the Law of Outer Space* (Vienna: Springer Verlag, 1959), forward and table contents; Office for Outer Space Affairs, *Space Law: A Bibliography* (New York, United Nations, 1996), i.

15 Aldo Armando Cocca, "Principles for a Declaration with Reference to the Legal Nature of the Moon, *Proceedings on the Law of Outer Space*, vol. 1, no. 34 (1958): 34–37.

16 Ibid., 34.

The Moon does not constitute either a territory or a zone in space.
The Moon cannot be declared independent of the States of the Earth.
The Moon cannot be declared autonomous.
The Moon cannot be declared a sovereign state.
There are no rights of ownership on or over the Moon.[17]

Notice that each item is a negation. "Does not." "Cannot." "No rights." So-called *negative* or *prohibitory* law was crucial to germinal space jurisprudence. The cosmos, ambitious lawyers thought, was an empty canvas onto which new coda could be painted, and the first task was to establish that which was to be kept out of the new regime: imperialism, hyper-nationalism, war, and greed. Andrew Haley, for example, suggested that any person "who would exclude others for any political reason," or any "nefarious (or impiously wicked)" person should be barred from space. Such people did not have the right "moral makeup." William Hyman, a New York attorney, would soon suggest that "War, in, by, or through space is hereby banned forever." Such measures were aspirational of course, but there were practical proposals based on similar principles. A year before Cocca's address Poland submitted a plan to demilitarize Central and Eastern Europe by barring nuclear weapons from the region; though the United States and NATO rejected the idea, it became the basis for "nuclear free zones" that emerged from the 1960s to the 2000s. In 1959, twelve nations signed a treaty closing off Antarctica from sovereign national claims, nuclear weapons testing, and "any measure of a military nature."[18]

Negation was crucial to Cocca's early thought on the Moon because he considered it "a different world within the cosmos" and therefore ineligible for the traditional legal prerogatives of Earth-bound nation-states. Though the Moon existed in "a relationship of dependence" to Earth, it did not have "continuity or adjacency" to its mother planet. Concepts that jurists used to convey ownership or sovereignty—"title," "territory," "zone," "colony," "protectorate"—were tied to the terrestrial concerns of the Latin Romans. This lexicon was unfit for the Moon.[19]

Of course, positive law was needed as well to delineate what states *could* do on the Moon. Again, Cocca provided examples:

The Moon Must Be Declared Free for Utilization by the Different States of the Earth.
[Lay Down Regulations for the] Exploitation of the Moon's Resources.
[Arrange the] Establishment of a Right of Way on the Moon for the States of the Earth.

Each of these provisions entailed both: a) freedom to use the Moon, and b) the drawing up of regulations for that utilization. "[I]t would be advisable," Cocca said of lunar resources, "to refer to the principles governing the exploitations of those regions on Earth which are acknowledged to be free, such as the high

17 Ibid., 34–36.

18 Haley and Hyman quotes, as well as discussion of "negative" law, available in Buono, "Province of All Mankind," 272–74.

19 Consider Cocca's elaboration of his 5th principle: "Ownership is an institution of Private Law which does not extend to the Moon. Eventual occupation of the Moon would by no means imply rights of ownership, but, at most, would entitle Earth—not a particular State—to preferential domination in the event of legal claims being put forward by political organizations from other planets."

seas, and to be guided by the established regulations for the utilization of the sea's resources." For the right of way on the Moon, easements (*rerum praediorum*) established under Roman Law might provide a clue.[20]

Last must come formal declarations, whether treaties, resolutions, or domestic law. Cocca's reasoning in positive and negative law prompted his first stab at a binding norm:

> The States of the Earth … hereby agree and declare:
>
> *Firstly*: That the Moon is free for utilization by the States of the Earth, and adequate regulations for this purpose and for peaceful objectives are recommended.
>
> *Secondly*: That, regarding the exploitation of its natural resources, the procedure shall be the same as that governing the exploitation of the resources of the high seas.
>
> *Thirdly*: That, with regard to interplanetary travel, and in view of its position as a natural satellite, a Right of Way is to be established on the Moon for States of the Earth.[21]

Here, in the pages of an obscure 1958 legal publication, is what may fairly be called the germ of the Moon Treaty, its first living cell. For now, it existed merely as an academic exercise, and at that in the brain of a single lawyer. But even at this early date, Cocca's "Declaration" shared much with the final text. It was high-minded, irenic, and at once absorptive of neighboring international law and eager to forge new paths.

III

Cocca's experiment in codifying lunar law would remain a scholastic question for some time, but others quickly joined in the asking. In 1960 a globe-trotting group of jurists specializing in the new *droit de l'espace* established the International Institute of Space Law (IISL) in Paris. Their goal was to use the Institute as a forum to coordinate with national and international organizations and to develop the corpus of space law and nurture the budding field with meetings, colloquia, and competitions.[22] Each year, it held a Colloquium on Space Law and published its proceedings. Shortly after its inception the IISL established a deliberative body (Working Group III) dedicated to the legal study of celestial bodies. [23]

Over the course of the 1960s, Cocca leveraged the formal debates in Working Group III to promulgate his ideas and garner support for binding legal principles for the Moon and its orbits. To achieve his aims, he developed two intellectual projects he hoped would go hand in hand: first, the elaboration of a new conception of international law to accommodate "Mankind" as the principal locus and beneficiary of legal rights; and second, the refinement of specific space law principles grounded in the novel *jus humanitatis*.

As his *Teoria* illustrated, Cocca was interested in ascending tranches—it is fair to say a hierarchy—of proper legal authority. There were local laws, laws governing internal state activities, and of course

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20 Cocca, "Principles for a Declaration," 36.

21 Ibid., 37.

22 Stephen Doyle, *The Origins of Space Law and the International Institute of Space Law of the International Astronautical Federation* (San Diego, CA: Univelt, 2002); IISL, "About," accessed December 13, 2023, *https://iisl.space/index.php/about/*.

23 Christol, "Common Heritage," 439.

international legal structures governing relations *between* states. Yet none were suited for space. Recall the four dimensions outlined in Cocca's 1956 Rome address: personal, national, international, and cosmic. The first three enjoyed clear corollaries in the law. But the fourth required inventions capable of transcending even international law. For Cocca, the United Nations Universal Declaration of Human Rights (UNDHR), according to which every member of the "human family" was entitled to natural rights regardless of distinction, offered a precedent. Humanity, not states, had been declared a discrete subject of the law.

Jus humanitatis was congruent with—indeed seemed tailor made for—space exploration. The new legal reality did not depend on the mere existence of human beings as much as "the inalienable faculties of Humanity itself," which, as Cocca wrote, found its "highest expression in planetary function." To even begin to understand the Law of Mankind, lawyers needed to "place ourselves upon one and single starting point: the position we have within our world as a whole and facing the universe. In this way, we shall have a fixed basis, free from all willfulness. Man's conduct in the cosmos will turn unpredictable unless he is not offered this basis and this idea of what is legitimate and what is not."[24]

In September 1963, at the Place de Fontenoy in Paris—UNESCO headquarters—Cocca proclaimed the new reality human rights had brought about and its implications for spaceflight. National and international law were "only a means to ensure the application of the regulations which would secure the just rights of all human beings which integrate the idea of Humanity, regardless [of] the Nations and the national laws they are subject to." "In other words," he explained, "the subject of Space Law is Humanity, as a whole, and International Law is only a law of procedure, which must secure the application of Space Law."[25]

What implications did a Law of Mankind have for the Moon and other celestial bodies? Both in his first "Basic Statute" on the Moon in 1958 and a second version presented to the IAC's annual meeting in Varna, Bulgaria four years later, Cocca had defined the Moon and its resources *res communis omnium*, comparable to the high seas.[26] But no longer. Elaborating a legal theory in which outer space occupied a unique

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24 Aldo Armando Cocca, "Legal Status of Celestial Bodies and Economic Status of the Celestial Products," *7th Proceedings on the Law of Outer Space* (1964): 18.

25 Aldo Armando Cocca, "Determination of the Meaning of the Expression Res Communis Humanitatis in Space Law," *6th Proceedings on the Law of Outer Space* (1964): 2–3.

26 Aldo Armando Cocca, "Basic Statute for the Moon and Heavenly Bodies," *5th Proceedings of the International Institute of Space Law* (1963): 1–6. The full list of principles—refined and elaborated from Cocca's original 1958 Statute, are as follows:

Concerning the Moon:

1. To declare the free use of the Moon
2. To establish a regulation for the common use of the Moon with peaceful ends only
3. To establish a regulation for the common exploitation of the natural resources of the Moon
4. The Moon being a natural stop or call in interplanetary traffic, to declare that an easement for interplanetary traffic should be established there for all parties concerned, regardless of their nationality or origin
5. To declare that a statute for the Moon, different from those of other heavenly bodies, should be established
6. To declare that the Moon is a natural boundary between Space Law and Interplanetary Law.

Concerning Heavenly Bodies:

7. To declare that planets are the only heavenly bodies considered such from a legal viewpoint; i.e., bodies, admitting occupation if they are vacant, or pacific relations if a legal order exists there
8. To declare that heavenly bodies are *res communis omnium* for all mankind, regardless of the nation that reached or occupied them
9. To declare that in relations with other worlds, any idea of aggression or conquest should be discarded; and that the mission of man when visiting other planets should evidence a high degree of civilization and a sense of legality."

and separate position from other shared zones still subject to international law, Cocca thought that the phrase should be updated. For the Moon, lawyers should replace *res communis omnium* with *res communis humanitatis*. Space exploration, the product of scientists, research, and money from all over the world, was fundamentally a human, not a national, endeavor. The same would undoubtedly prove true of whatever innovations made the extraction of celestial resources a physical possibility. As such, Cocca argued, "The legal status for [the] working of mineral wealth found in celestial bodies cannot be traced from the regulations of such extractive activities, as mining and fishing on the Earth, where private law fully dominates." Products of celestial bodies, subject instead to *jus humanitatis*, belonged "ab initio to Humanity (which embodies all human beings—hence the condominium)."

What if extraterrestrial material was removed from its original location? In oceanic law, no one had legal title over the bountiful cod of the North Atlantic, but once those fish were raised in the net, ownership, and with it the right to profit, ensued. Austrian lawyer Ernest Fasan and Yugoslavia's Michel Smirnoff, chair of the IISL's working group on celestial bodies, had asked just these types of questions. Though the nautical analogy seemed obvious, Cocca demurred. Individuals, nations, or private companies who separated minerals from celestial bodies could "only expect a profitable compensation for [their] task, not an appropriation of the products obtained," he explained.[27] In a reply to Fasan and Smirnoff, Cocca was unequivocal:

> True it is that if a State invests great sums of money and experience in digging up valuable materials it is entitled to an adequate compensation, but it must be quite clear that the products obtained should be shared, not only from a scientific or cultural point of view, but also from a commercial or industrial [one]. In fact, the State that undertakes the task of exploitation of a celestial body does so as a representative of all Humanity, and all Nations should take part in all the benefits as well as in all the expenses involved … These considerations are made having in mind that the basic idea of the legal status of the wealth of the celestial bodies is a condominium, and not a free right of use and profit.[28]

IV

Though Cocca's theorization of a *jus humanitatis* bumped up against the jealous interests of state sovereignty, free-market capitalism, and not least autarkic Cold War ideology, it thrived in the soaring rhetoric of the space age and indeed found purchase in the early corpus of international space law. In December 1963, just months after Cocca's address in Paris, the UNGA unanimously adopted a resolution—the "Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space"—that played openly with his humanist conceptualization of the law. The resolution declared that space exploration "shall be carried on for the benefit and in the interests of all mankind" and all nations, regardless, the preamble stated, "of their degree of economic or scientific development."[29] Astronauts,

27 Cocca, "Meaning of the Expression Res Communis Humanitatis," 3–4. Emphasis in the original.

28 Ibid., 4.

29 A/RES/1962 (VVIII), "Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space" (December 13, 1963).

moreover, were "envoys of all mankind." ("No other former representation has ever been as wide," Cocca wrote, and "politically—it goes beyond the most audacious ambition.")[30]

The Declaration of Principles, as the resolution quickly became known, proved that states could forge general legal principles before technological and political developments in space forced legal realities onto an unwilling world. It proved, too, that space law could evolve piecemeal: from dream to declaration to edict.[31] Here was evidence, as Cocca opined in a later essay, that space law was "related to a humanistic philosophy which began gaining ground until it reached the feeling of peoples … even before any international agreement was adopted."[32]

Nor would the Argentine have to wait long for that formal agreement to come about. Almost from the moment space law became formalized as an arm of the United Nations and as a political object for states, especially the major space powers, the notion of a treaty to govern human activity in the cosmos had been the subject of feverish discussion. The precedents set by the 1959 Antarctic Treaty and the 1963 Limited Test Ban Treaty (which included a provision banning nuclear weapons tests in space) indicated that international treaties could reliably demilitarize zones and secure a modicum of peace. The idea received a boost from Lyndon Johnson on May 7, 1966, when the president delivered a statement from his ranch in Texas. He called for the transplantation of the principles of the Antarctic accord and the UNGA's space resolutions to a formal, binding agreement where it would be reinforced by the full force, such as it was, of international law. At Johnson's direction, U.S. Ambassador to the UN Arthur Goldberg asked the COPUOS to convene its Legal Subcommittee to begin discussions about such a treaty. By the middle of the following month both Washington and Moscow had submitted drafts.[33]

A full accounting of the Outer Space Treaty's history is beyond the scope of the present study and has in any case been profitably explained elsewhere.[34] The negotiations were difficult but swift. When leaders from the United States, the Soviet Union, and Britain gathered at the White House for an audacious signing ceremony on January 27, 1967, they affixed their names to a document that the international space community would come to regard as its constitution. Crucially, every operative article in the Space Treaty applied to "the moon and other celestial bodies." This included, of course, the OST's prohibition of national sovereign claims, of nuclear weapons tests and, in the case of celestial bodies specifically, of any warlike activity. Article IV forbade the construction of military bases, weapons testing of any kind, as well as military maneuvers. Parties were obligated to use the Moon and other heavenly bodies "exclusively for peaceful purposes." The agreement enshrined the Declaration of Principles in international law and established the cosmos as a realm akin to the high seas, a zone free for use and exploration by all, "the province of all mankind."

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30 Aldo Armando Cocca, "The Advances in International Law through the Law of Outer Space," *Journal of Space Law* 9, no. 1 and no. 2 (Spring and Fall 1981): 17.

31 Vladimir Kopal, "The Role of United Nations Declarations of Principles in the Progressive Development of Space Law," *Journal of Space Law* 16, no. 1 (1988): 5–20.

32 Cocca, "Advances in International Law," 13.

33 Stephen Buono, "'Merely a Scrap of Paper'? The Outer Space Treaty in Historical Perspective," *Diplomacy & Statecraft* 31, no. 2 (2020): 356–57.

34 Paul G. Dembling and Daniel M. Arons, "The Evolution of the Outer Space Treaty," *Journal of Air Law and Commerce* 33 (1967): 419–456; Ram S. Jakhu, "Evolution of the Outer Space Treaty," *in Fifty Years of the Outer Space Treaty: Tracing the Journey*, ed. Ajey Lele (New Delhi: Institute for Defense Studies and Analyses, 2017); Annette Froehlich, ed., *A Fresh View on the Outer Space Treaty* (Cham, Switzerland: Springer) 2018.

Cocca was thrilled. The OST appeared to have substantiated and fulfilled legal theories he had been developing for more than a decade. In a 1969 volume on *New Frontiers in Space Law*, he provided a "Latin American viewpoint" on the Space Treaty, one that both flowed from his earlier ideas about space governance and presaged Argentina's campaign at the United Nations. Beyond the applause many diplomats and politicians heaped upon agreement, the Argentine considered it a watershed in world legal history. Cocca was unequivocal: the OST was not merely "an enumeration of good wishes" or "a moral recommendation." It was an injunction, a mandate, a commandment. The accord reflected the transcendence of law from a tool of nations to a tool of humanity. "Space law," Cocca wrote, "is of a planetary nature as well [as] the only truly universal law." Concerning itself with human beings, "regardless of… geographical latitude or position in space," and ignorant of technological or economic development, space law was "a total law: a *jus humanitatis*, the law of mankind."

Crucially, the law of mankind did not supplement international law; it superseded it. "A new subject is born," Cocca wrote, "not to act together with the international community, but to substitute said community.

> This newly born subject, established by the international community, is none other than mankind.… The new subject is given a specific patrimony in accordance with its nature with the largeness of the new field and powers of the human mind.… We have been calling this, within doctrine, *res communis Humanitatis*, which is a larger expression with a greater content than the res communis omnium. An expression and a content that could not appear except for the cosmic expansion of man.[35]

Through governance of the cosmos, the law had eclipsed not only the state, "with all its selfishness," but the entire international system, which, because it combined and organized discrete sovereignties, had an egoism all its own. Echoing his writings on *res communis humanitatis*, Cocca argued that legalists had created "Humanity" expressly for the benefit of space exploration. As "a new juridical architecture," it now stood apart from and above existing legal structures.[36]

But for all his gushing enthusiasm, Cocca spotted an unfortunate omission. "[P]roblems relating to the Moon's richness and celestial products have been bypassed," he noted. For all the attention lunar resources had garnered in the lead-up to Apollo 11, the subject had failed to make an appearance at COPUOS. And, Cocca thought, the lacuna had obviously been "deliberate." Clearly, "the world has not yet achieved juridical unity on this matter."[37] He was right. When the U.S. Senate ratified the treaty, the Committee on Foreign Relations stated unequivocally that "nothing in Article I [of the OST] diminishes or alters the right of the United States to determine how… it shares the benefits and results of its space activities."[38] Soviet leaders agreed, arguing that the Treaty created no specific obligations about provisioning benefits. The absence of any specific provisions about space resources generally or lunar materials specifically contributed indeed to the perception, not unpopular among space lawyers, that while it achieved a proper

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35 Aldo Armando Cocca, "Fundamental Principles of Space Law: a Latin-American Viewpoint," in *New Frontiers in Space Law*, eds. Edward McWhinney and Martin A. Bradley (Dobbs Ferry, NY: Oceana Publications, 1969), 63.

36 Ibid., 61–63.

37 Ibid., 72.

38 Eric Husby, "Sovereignty and Property Rights in Outer Space," *Journal of International Law and Practice* 3, no. 2 (Summer 1994): 364.

elucidation of general principles, the OST "breaks very little new ground" and "leaves unresolved a number of problems which urgently need legal regulation."[39]

V

On the eve of first Moon landing, Cocca found himself with the authority and the professional chops to turn the question of lunar governance into an actionable program. When the COPUOS Legal Subcommittee met in Geneva from June 9 to July 4, 1969, the forty-five-year-old lawyer had become Argentina's chief representative to the body. He took his chance. On the penultimate day of the conference Cocca submitted a brief proposal urging the subcommittee to include in its next session "the study of… the legal status of substances, resources and products coming from the moon." Knowing full well that Apollo 11 would return physical samples from the Moon and desiring to "continue the progressive elaboration of space law scientifically," Cocca felt that the question of lunar wealth had acquired an urgency demanding preemptive action. Others agreed. Argentina combined its proposal with two others by France and Poland recommending the need for a thorough study of "questions relating to the legal regime governing man's activities on the surface of the moon and other celestial bodies."[40]

Cocca's proposal did not reverberate far in the American policy community. One "space law veteran" in the U.S. delegation at COPUOS—most likely lead negotiator Stephen M. Boyd—told the *Los Angeles Times* that there was "no need to rush" regulation of lunar resources through the space committee. "The cost of just putting materials into earth orbit is around $500 per pound at present," the diplomat reminded readers. "You can imagine that it would be prohibitive to set up equipment on the moon and ship back to earth commercial quantities of known materials." Another U.S. delegate "scoffed at the thought of economic imperialism in space." Even "polished diamonds," he quipped to the *Times*' reporter, "would be uneconomic to rocket home to Tiffany." U.S. officials were not opposed to discussing mineral exploitation per se but felt "that there are other space questions which should command higher priority." Peter Thatcher, another space law negotiator, noted that for the foreseeable future both Antarctica and the world's seabed were likely to become commercially exploitable before the Moon. NASA, in any case, was set to scoop lunar samples and give them to science groups in Australia, Belgium, Britain, Canada, Finland, Japan, Switzerland, and West Germany. Samples from future missions were to be shared with the international community. "This," said the American diplomats, "should puncture the exploitation argument at least for the next few years."[41]

It did not. Indeed, the Apollo 11 Moon landing on July 20—the first of six American crewed missions to the lunar surface—stoked the exploitation question to feverish new heights. NASA returned nearly 50

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39 Ivan A. Vlasic, "The Space Treaty: A Preliminary Evaluation," *California Law Review* 55, no. 2 (May 1967): 508.

40 All these proposals are available in A/AC.105/58, "Report of the Legal Subcommittee on the work of its Eighth Session," July 4, 1969, Annex I, 4, 6–7; Kathleen Teltsch, "Nations Beginning to Consider Who Owns What on the Moon," *New York Times*, June 29, 1969, 30.

41 Earl W. Foell, "Treaty Bars Moon Ownership; Other Problems Remain," *Los Angeles Times*, July 19, 1969.

At the time of Cocca's proposal, the United States delegation to the COPUOS Legal Subcommittee was led by Stephen M. Boyd—from the State Department's Office of the Legal Advisor—who likely was the "space law veteran" referenced in Foell's article. His alternate was NASA Chief Counsel Paul G. Dembling. His advisors at the 8th session included Harry H. Almond, Senior Attorney Advisor, Office of the Secretary of Defense; Daniel Arons, Office of the General Counsel at NASA; and Lawrence Hoover, Legal Advisor to the U.S. mission to Geneva.

pounds of material to Earth, including samples of lunar regolith and rocks consisting mainly of basalts and breccias. Once scientists found resources (silicon, calcium, aluminum, oxygen, magnesium, iron, and significant quantities of titanium) in these samples, pundits, politicians, and many scientists reawakened old fantasies about exploiting mineral frontiers on the Moon.[42] News articles, scientific publications, and other media raised hopes that NASA Deputy Administrator Hugh Dryden had not exaggerated when, just five years earlier, he had predicted that "Geologically, we have no reason to doubt that the moon … may be rich in rare mineral resources, possibly offering economic returns far outweighing the costs of exploration."[43] On the day of the landing, *New York Times* foreign affairs correspondent C. L. Sulzberger dubbed the Moon an "eighth continent" replete with the minerals that would usher the world into a new generation of prosperity.[44] When just days earlier sci-fi author Arthur C. Clarke referred to the Moon as an "Africa-sized world" teeming with resources, observers could easily recall the Berlin Conference of 1884–85, where Bismarck and other European leaders had formalized their division of the continent. It was easy to wonder if the Moon would be the latest pie divided among ravenous, neo-colonial space powers.[45]

Predictably, Apollo 11 reinvigorated legal debates about lunar governance as well. The prospect of future crewed missions made necessary both a clarification of the Outer Space Treaty's treatment of human activity on the Moon and more specific legal principles for the construction of lunar research stations; the dissemination of information; military surveillance from the Moon; the preservation of the local environment; and of course, the proper allocation of lunar resources.[46]

VI

The international space law community attempted to develop answers to these questions just weeks after the events at Tranquility Base when it met for the IISL's annual meeting that October. The proceedings—the twelfth held since 1958—was notable for two reasons: first, that Cocca himself served as president and rapporteur, and second, that Argentina hosted the event, allowing a greater number of local lawyers to attend. Welcoming the assembled wonks to Mar del Plata, a beach city 250 miles south of Buenos Aires, Cocca called for a "vigil of the jurist" in which the Institute would fulfill a duty to prepare workable legal doctrine for space, one that the technical reality of lunar exploration had made more difficult. "Technological development has strained the capacity of the jurist and challenged his creative activity," Cocca warned. "But it has also conferred on him an inalienable obligation." It was incumbent upon space lawyers to "ensure that the elaborated principles do not fall into the field of merely intellectual creations,

42 "Titanium seen in moon dust by scientists," *Times of India*, August 1, 1969, 13. On the Moon as a resource frontier, see Megan Black, *The Global Interior: Mineral Frontiers and American Power* (Cambridge, MA, 2018), Chap. 6.

43 Hugh Dryden, "The Future: No Tourists on the Moon," *New York Times*, April 19, 1964, SMA102. See also Robert Jastrow, "The Moon is a Rosetta Stone," *New York Times*, November 9, 1969; "Ways Sought to Tap Resources on Moon," *Washington Post*, November 20, 1969, A18; Harry Schwartz, "Capitalist Moon or Socialist Moon?" *New York Times*, July 21, 1969, 16; Robert A. Wright, "Can We Mine the Moon?" *New York Times*, July 27, 1969, F1.

44 C. L. Sulzberger, "Foreign Affairs: From the Moon to the Earth," *New York Times*, July 20, 1969, E12.

45 Arthur C. Clarke, "Will Advent of Man Awaken a Sleeping Moon?" *New York Times*, July 17, 1969, 47.

46 Eugene Brooks, "Legal Aspects of the Lunar Landing," *International Lawyer* 4, no. 3 (April 1970): 415–32; Delbert D. Smith; Christopher Stott, "Private Sector Utilization of the Moon: A Right of Use: A Question of Jurisdiction and Continuing Application of Existing National Regulation on the Moon," *Air and Space Lawyer* 34, no. 3 (2022): 12–14; Sidney Hyman, "Man on the Moon—The Columbian Dilemma," *Bulletin of the Atomic Scientists* 25, no. 7 (1969): 17–22; Christol, "Common Heritage Provision," 431.

but rather that transfer to their recipient, Humanity, all the benefits that are already achieved and that are advertised."[47]

Notably part four of the Colloquium, on natural resources, was dominated by Latin American, particularly Argentinian, jurists. These included Oscar Fernandez-Brital, professor at the Universities of El Salvador and Moron; Florencia G. Rusconi, a lawyer attached to the Institute of Aeronautical and Space Law of Cordoba; Manuel Augusto Ferrer, professor at the Universidad Nacional and Universidad Catolica in Cordoba; as well as a several "Argentine scholarly youth" (students of Cocca and others).[48] Their papers, published together in the IISL's *Proceedings*, reveal much about the goals legalists held for governance of lunar resources before the Moon Treaty had been formalized as a diplomatic project. They reveal, too, Cocca's outsized influence in the field. Nearly all adopted *res communis Humanitatis* as an organizing principle for lunar wealth, and all advocated the establishment of some kind of world body with powers sufficient to tax or otherwise impel state sharing of that wealth. These authors thus authorized the extraction and exploitation of lunar resources, but appended conditions. A "royalty shall be paid to Humanity by the beneficiary State," for example.[49] Or a system of "reserves" should be established alongside an international organization to "apply sanctions" to states that did not make the necessary contributions.[50] Or perhaps lunar resources should fall under the auspices of the International Council of Scientific Unions or UNESCO, which would distribute them to humanity for scientific purposes.[51]

The Latin jurists also agreed on the urgent necessity of an international agreement that would fill legal vacuums left by the OST. Perhaps, Ferrer offered, the Institute should prepare a draft.[52] But unsurprisingly, Cocca acted first. He synthesized the various principles outlined in the Mar del Plata Colloquium with his own draft proposal issued that July, so that when the COPUOS's Legal Subcommittee agreed to include the issue of lunar "substances, resources and products" during the 9th Session in 1970, he was prepared. On the last day of the conference, which met from June 8 to July 3, Cocca formally submitted a draft treaty of five concise articles, all devoted to the nature and proper governance of lunar resources. Its language reflected the primacy of the UN's space resolutions, the OST, and Cocca's own work on the subject since 1958:

> Article 1. The natural resources of the Moon and other celestial bodies shall be the common heritage of all mankind.

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47 Aldo Armando Cocca, "Discours," *Proceedings on the Law of Outer Space 12* (1969): 2–3.

48 Quotation from Aldo Armando Cocca, "Discours," 3. See also the papers presented by Working Group III (on celestial bodies) in the *12th Proceedings on the Law of Outer Space* (1969): "Summary of Discussion," 199–200; Silvia Maureen Williams, "Utilization of Meteorites and Celestial Products," 179–84; Enrique Eigardo Elli, "Explotacion de los Recursos en los Cuerpos Celestes," 230–38; Florencia G. Rusconi, "Regime of the Property of the Natural Resources on the Moon and Other Celestial Bodies," 185–88; Laszlo Szaloky, "Activities on Celestial Bodies Including the Exploitation of Possible Natural Resources There," 176–78; L. F. E. Goldie, "Legal Fictions in the Development of Blueprints for Laws to Govern Activities in Outer Space," 153–59; Eugene Brooks, "Legal Aspects of the Lunar Landing," 160–75; Oscar Fernandez-Brital, "Activities on Celestial Bodies, Including Exploitation of Natural Resources," 195–98; Manuel Augusto Ferrer, "Introductory Report," 141–47; Maria Eleanor Picarel, "algunas Consideraciones sobre el Producto Lunar," 189–94; C. Wilfred Jenks, "Property in Moon Samples and Things Left upon the Moon," 148–52.

49 Ferrer, "Introductory Report," 144.

50 Picarel, "algunas Consideraciones sobre el Producto Lunar," 191–92.

51 Fernandez-Brital, "Activities on Celestial Bodies," 197.

52 Ferrer, "Introductory Report," 147.

> Article 2. All substances originating in the Moon or other celestial bodies shall be regarded as natural resources.
>
> Article 3. The legal system applicable to natural resources used in their place of origin shall be distinct from that applicable to those brought to the Earth for use.
>
> Article 4. The benefits obtained from the use of the natural resources of the Moon and other celestial bodies shall be made available to all peoples without discrimination of any kind.
>
> Article 5. In distributing such benefits, account shall be taken of the need to promote the attainment of higher standards of living and conditions of economic and social progress and development, pursuant to article 55a of the Charter of the United Nations, in the light of the interests and requirements of the developing countries and the rights of those undertaking these activities. (Followed by the formal provisions or final clauses on the lines of those of the Treaty of 1967 and the Agreement of 1968).[53]

Much like Cocca's earlier proposal, the draft treaty was all but ignored. There is scant evidence—in UN documents, in the popular press, or in the archival record—that other delegations at COPUOS were receptive to the Argentine's latest overture. "Preoccupied" with other matters, the LSC did not consider the document during the 1970 session.[54] Subsequent events guaranteed that it never would. The United States, for its part, seems to have scarcely noticed the draft and was disinclined in any case to act on it.

Yet the U.S. State Department had already made one fateful decision: it authorized Cocca's "common heritage of mankind" (CHM) language as fit for future negotiations. In a message on oceanic law sent by air courier to the American delegation in Geneva that March, Secretary of State William Rogers explained the government's thinking. "The phrase," though appealing to the highest spirit of international comity, "can and should be used in the conceptual sense rather than one having or sought to be endowed with the force of law." American representatives to the UN, he intoned, should ensure that the diplomatic record reflect their government's particular interpretation of CHM: that the expression, though it would reify the principle of non-appropriation over the Moon, would "not be a ruling on property law." Until new and more detailed regulations emerged, existing international law, including the UN Charter, would have to do.[55]

In another win for Cocca, Nixon himself endorsed the CHM principle two months later in a statement on U.S. oceans policy. Amid excitement over novel oceanographic sensing technologies and the prospect of mining seabed resources, the president urged all nations to adopt a treaty renouncing "all national claims" over resources beyond a depth of 200 meters. Nixon called for these riches to be "the common heritage of mankind."[56]

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53 A/AC.105/101, Report of the Legal Subcommittee on the Work of the Eleventh Session, May 11, 1972, Annex I, 6–7.

54 A/AC.105/85, Report of the Legal Subcommittee on the Work of the Ninth Session. July 3, 1970.

55 Airgram from William Rogers to USUN, March 10, 1970, *Foreign Relations of the United States* (*FRUS*) 1969–1976, vol E–1, Documents on Global Issues, 1969–1972, eds. Susan K. Holly and William B. McAllister (Washington, DC: U.S. Government Printing Office, 2005), doc. 366.

56 Richard Nixon, Statement About United States Oceans Policy, May 23, 1970, *American Presidency Project* (*APP*), accessed March 24, 2024, *https://www.presidency.ucsb.edu/documents/statement-about-united-states-oceans-policy*.

In negotiations leading to both the Moon Treaty and UNCLOS III (see Chapter 3 of this volume), the CHM language would prove obstructive, even inimical to U.S. interests. Indeed, in just a few months' time American diplomats would rue the official transplantation of "common heritage" to the lunar question, all qualifications aside. But early in 1970 there were good reasons to pursue the exalted rhetoric of the UN's proposals on seabed resources: because a framework for such resources in common would prevent any single nation from declaring exclusive rights; because adopting CHM ensured the United States a leading voice at the negotiating table; because it would bolster Nixon's claim as a steward of the environment; and, after the oil crisis began three years later, because it would create a political justification to maintain access to Middle East crude as a "common" resource for the benefit of all humanity.[57]

57 Melani McAlister, "'The Common Heritage of Mankind': Race, Nation, and Masculinity in the King Tut Exhibit," *Representations* (Spring 1996): 88.

Chapter 2

"A Rather Clumsy Attempt"

Moscow's Moon Treaty

However strongly Aldo Cocca might have advocated on behalf of a formal structure for lunar governance, it seemed at the end of the 1960s that a Moon treaty might remain a purely theoretical exercise into the foreseeable future. Though scholars at the IISL or the budding space law centers at law schools in the United States, Canada, and Europe still debated the specifics of this or that principle, little was transformed into concrete proposals. The COPUOS took no action on either of Argentina's draft texts, and among those few countries, like the United States, who bothered to notice Cocca's submissions at all, only puzzlement and ambivalence ensued. In any case, the Outer Space Treaty appeared to answer fundamental questions about the legality of human activity on and around the Moon. Why, many reasonable lawyers and politicians asked, move so quickly from general to specific mechanisms?

Despite the lukewarm reception to Cocca's Moon treaty, however, Cold War politics and Soviet foreign policy nevertheless kept his idea afloat, albeit in new and, at times, scarcely recognizable forms. Over the course of 1970 and 1971, Soviet academicians and diplomats would take a keen interest in the prospect of a Moon treaty: as a remedy for unaccomplished negotiating goals in the OST process; as a consensus building measure in international space law; as evidence of détente; as a public relations victory; and as a hedge against American diplomatic initiatives in space.

For Moscow, space law presented an invitation and an opportunity. An established legal regime for the cosmos, begun with the Declaration of Legal Principles in 1963 and the OST four years later, was still in its infancy. The technology necessary for space activities—many areas in which the Soviet Union led—was still limited. And the number of countries with sufficient knowledge or political capital to claim a stake in space could be counted on one hand. Here was a vacuum begging to be filled.[1] The Soviet Union's leadership in space technology, and by extension space politics, ensured that its political interests would act as the engine for its space-law proposals at the United Nations. When those interests converged with Cocca's, the ball began to roll.

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1 Mark Robson, "Soviet Legal Approach to Space Law Issues at the United Nations," *Loyola of Los Angeles International and Comparative Law Annual* 3 (1980): 99.

I

The study, elaboration, and codification of international space law had been of special interest to Soviet lawyers from the beginning of the Space Age. At the behest of one pre-revolutionary lawyer, Yevgeniy Aleksandrovich Korovin, the USSR Academy of Sciences established a Commission on Legal Questions of Interplanetary Space in 1959. The new body brought together thinkers from the Institute of State and Law, the Ministry of Foreign Affairs, and the Staff of the Presidium of the Academy of Sciences, including well-known academicians such as Aleksandr Blagonravov, B. N. Federov, and Leonid Sedov, the first chairman of the Soviet Union's space program. Over the course of the 1960s, the Commission was intimately involved in the elaboration of the Soviet Union's position in the COPUOS's Legal Subcommittee and played key roles in the construction of both the Declaration of Principles and the Outer Space Treaty.[2]

Across its first decade, Soviet space law was remarkably consistent across different writers, such that outside observers could point to a distinct "Soviet" approach to space. The cardinal principles included the non-militarization of space (including, at first, satellite reconnaissance); national sovereignty over space objects; the freedom to traverse and conduct scientific research in space; equal representation in the international organizations governing exploration and technology; the illegitimacy of sovereign claims to celestial bodies; and the right to exploit space resources.[3]

Whatever their scholarly rigor, these doctrines were indivisible from Moscow's political goals. The freedom to orbit satellites in space, for instance, extended only so far as it did not jeopardize Soviet state security; the non-militarization of space only so far as it did not restrain Soviet weapons research and development. Whereas Korovin had defended *Sputnik*'s flight on grounds of the freedom of cosmic space, he denounced U.S. reconnaissance satellites as agents of espionage and thus violations of peaceful coexistence.[4] Later, the Kremlin rescinded its claims to absolute sovereignty over the space "above" its territory once its own spy satellite program had begun to return operative intelligence.[5] Soviet Prime Minister Nikolai Bulganin and First Secretary Nikita Khrushchev explicitly tied the demilitarization of outer space to their goal of "universal and complete disarmament" and tirelessly promoted arms control in space as a bargaining chip for the elimination of U.S. foreign air and naval bases. In this way, while Soviet lawyers exercised leadership in the field of space law, critics derided their theories as "valiant endeavor(s) to buttress Soviet political and military interests with juridical principles."[6] Robert D. Crane, Director of the World

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2 Gennady P. Zhukov, Vladen S. Vereshchetin, and Anatoly Y. Kapustin, "Evgeny Aleksandrovich Korovin," in *Pioneers of Space Law*, ed. Stephan Hobe (Leiden, 2013): 50–51.

3 For English-language researchers, there are several key works that provide a window into Soviet space law running from the 1920s through the middle of the Cold War. See in particular Samuel Kucherov, "Legal Problems of Outer Space: U.S.A. and Soviet Viewpoints," *2nd Proceedings on the Law of Outer Space (*1959): 64–74 and Andrew Swatkovsky, "The Soviet Attitude on Outer Space," *Problems of Communism* 9, no. 3 (May–June 1960): 19–24. Robert D. Crane provides an excellent bibliography and translated articles in "Communist Viewpoints: Guides to the Study of Communist Views on the Legal Problems of Space Exploration and a Bibliography," *Legal Problems of Space Exploration* (Washington, DC: U.S. Government Printing Office, 1961), 1011–2018. Other surveys, some more polemical than others, include: Robert D. Crane, "Basic Principles in Soviet Space Law: Peaceful Coexistence, Peaceful Cooperation, and Disarmament," *Law and Contemporary Problems* 29, no. 4 (Autumn 1964): 943–55; Robert D. Crane, "The Beginnings of Marxist Space Jurisprudence?" *The American Journal of International Law* 57, no. 3 (July 1963): 615–25; and Mark Robson, "Soviet Legal Approach."

4 Yevgeniy Korovin, "International Status of Cosmic Space," *International Affairs* (January 1959): 55–56.

5 John Lewis Gaddis, *The Long Peace: Inquiries into the History of the Cold War* (New York: Oxford University Press, 1987), Chap. 7.

6 Swatkovsky, "Soviet Attitude on Outer Space," 22.

Rule of Law Center's Space Research Institute at Duke University, perceived a broad Soviet shift "from a defensive to an offensive strategy" in international law, one designed to advance the interests of global communism.[7]

Nowhere was the contentious politics of space law more apparent than in the creation of the COPUOS itself, an episode that would later have profound implications for the Moon Treaty negotiations. At its inception, the Space Committee had been stillborn. When the United Nations met in September 1958 for the 13th General Assembly, Washington and Moscow arrived with markedly different blueprints for a new space bureaucracy. Valerian Zorin, Soviet Ambassador to the UN, proposed one consisting of two equally represented "sides": five Soviet-bloc countries, three "Western," and three "neutral." Henry Cabot Lodge, the U.S. Ambassador, balked. "There are no 'two sides' to outer space," he reminded the UNGA. "There are not, and have never been, 'two sides' in the United Nations." He insisted that membership should reflect the composition of the UN itself and should include countries most likely to engage in space exploration. Lodge proposed an expanded membership of eighteen states that limited the Soviet satellites to a minority.

Though they met several times to hash out the committee's composition, neither U.S. nor Soviet officials appeared willing to compromise. "[T]here would be no cooperation" without the mutual assent of the superpowers, said Zorin. Lodge agreed: the United States and the Soviet Union simply "work from entirely different premises about the nature of relations between states, the structure of the United Nations, and the nature of the world."[8] The American delegation proceeded with its proposal for an 18-member committee and the General Assembly voted on November 24. The Soviet proposal lost, 54 to 9, in favor of the Western composition. The Ad Hoc Committee on the Peaceful Uses of Outer Space now operated as an official United Nations body, but the Kremlin rejected its legitimacy and boycotted its future plans. Months later the General Assembly permanently established the COPUOS the following year, with an expanded membership of twenty-four nations, and affirmed its mandate—to aid cooperative space research; organize the exchange of information; and study the nature of legal problems in the space field—in Resolution 1472.[9]

The absence of one of the world's two space powers threatened to make the COPUOS a "sham committee" and give Moscow the freedom to act without regard for new international regulations emanating from the UN.[10] Something had to be done. To garner Soviet participation as quickly as possible, the new committee agreed to a controversial but unbending Soviet condition: consensus (distinguished, one should note, from "unanimity," which required a formal vote).[11] If the Ministry of Foreign Affairs could not secure advantageous numbers at COPUOS, only a unified voting rule—and hence "a de facto veto

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7 Crane, "Soviet Attitude," 685.

8 Walter McDougall, …*The Heavens and the Earth: A Political History of the Space Age* (New York: Basic Books, 1985), 184–85; "United Nations Establishes Committee on Peaceful Uses of Outer Space," *Department of State Bulletin* 40, January 5, 1959, 24–33; Telegram from the Department of State to the Mission at the United Nations, Washington, November 19, 1958, *FRUS, 1958–1960, United Nations and General International Matters, vol. II*, eds. Suzanne E. Coffman and Charles S. Sampson (Washington, DC: U.S. Government Printing Office, 1991), doc. 457; Telegram from the Mission at the United Nations to the Department of State, November 20, 1958, *FRUS, 1958–1960, United Nations and General International Matters, vol. II*, doc. 450, 872.

9 Thomas J. Hamilton, "Space-Talk Boycott Another Blow to U.N.," *New York Times*, May 10, 1959, E3; Buono, "The Province of All Mankind," 148–53.

10 Robson, "Soviet Legal Approach," 106.

11 The Soviets had proposed unanimous voting. The committee agreed to use consensus, which does not involve taking a formal vote.

power"—would do.[12] Washington assented. The Soviet Union joined and therefore legitimized COPUOS in 1961, when the full committee (including its two new subcommittees, the Legal Subcommittee and Technical Subcommittee) held its first meeting in November. But in a sign of the trouble to come, the Soviet Representative at the committee, in an opening statement months later, insisted that before his delegation could debate proposals for space cooperation, COPUOS must first unanimously declare the illegality of: 1) nuclear explosions in space; 2) space reconnaissance; and 3) free enterprise in space.[13]

II

By the time the Space Treaty arrived in 1967, it was appropriate to speak of a Soviet "formula" for space law, one that, above all, entailed an embrace of custom as the foundation for jurisprudence. The formula unfolded in predictable stages. Press releases and speeches would lead to UNGA declarations, declarations would lead to norms, and norms to treaties. The Commission on Legal Questions of Interplanetary Space, seeking to integrate space law with Soviet ideology and foreign policy, developed principles—"alternatively ambiguous and concrete"—that at once conformed to widely recognized norms and doctrines (such as the banning of nuclear weapons in space or the non-appropriation of celestial bodies) while preserving the greatest possible latitude in its national space activities.[14] Leon Lipson, then consulting for the Rand Corporation, predicted that the Soviets would attempt to have their cake and eat it too—that while abstaining from jurisdiction over the Moon, they would nevertheless claim the operative rights and benefits that might flow from that jurisdiction. "[T]hus they could reap maximum political and practical benefits."[15]

And where custom left off, treaty law began. As Vladen S. Vereshchetin and Gennady M. Danilenko, two academicians at the Institute of State and Law, would later explain, treaties predominated in Soviet legal circles because first, whereas the number of space powers had been quite limited at the outset and thus conducive to agreement, the rollcall of interested state parties was growing annually. Abstract gentlemen's agreements could no longer suffice in this more crowded scene. Second, the detailed technicalities of space technology necessitated a spelling out of the specific rights and obligations of each state. Thus, custom often stayed in the "background" because "as a source of international law, it can produce only general and broad legal obligations." Finally, treaty law, unlike norms that relied on precedent, could anticipate the needs of the law and build regulations *ahead* of national space activity. As Vereshchetin's and Danilenko's colleague P. I. Lukin put it as early as 1963, "the international law of outer space can find the reliable source of its inception and subsequent development only in international agreements."[16]

By the end of the 1960s, the contours of what a Moon treaty might look like from a Soviet perspective were readily apparent from official proclamations, law journals, and the participation of prominent academicians at the IISL's annual meetings. Central to any future treaty would be freedom of exploration;

12 Robson, "Soviet Legal Approach," 106.

13 Crane, "Marxist Space Jurisprudence?" 617.

14 Robson, "Soviet Legal Approach," 102.

15 Lipson quoted in Crane, "Soviet Attitude," 699. See also Leon Lipson, "International Political Implications of Activities in Outer Space," Report of a Conference, Joseph M. Goldsen, Chairman, Oct. 22–23, 1959, Report R-362, RC, The Rand Corp., Santa Monica, California, May 5, 1960, 79–80.

16 Vladen S. Vereshchetin and Gennady M. Danilenko, "Custom as a Source of International Law of Outer Space," *Journal of Space Law* 13, no. 1 (1985): 22–35 (Lukin quoted on p. 26).

demilitarization and non-appropriation of celestial bodies; state sovereignty over objects launched to the Moon or its orbits; and the right to construct space stations and utilize space resources.[17]

III

As it turned out, that treaty was not long in coming. In a letter to UN Secretary General U Thant on May 27, 1971, Soviet foreign minister Andrei Gromyko requested that a new item—"Preparation of an International Treaty Concerning the Moon"—be added to the agenda of the 26th Session of the General Assembly, scheduled to begin that October. Noting the success COPUOS achieved in concluding the Outer Space Treaty and the Rescue Agreement, Gromyko reported that Soviet opinion was now geared toward "further elaboration" of space law. "It is essential," Gromyko wrote, "that the activities of States on the Moon should not be allowed to become a source of conflict and that a legal basis should be established for potential uses of the Moon. The conclusion of an appropriate international treaty would serve this purpose." The foreign minister mentioned neither Argentina's recommendations for a lunar treaty nor its draft articles, submitted just the year before.[18]

Gromyko's letter, published in full by TASS, included a draft treaty. Consisting of fifteen terse articles, the document contained provisions strikingly similar to those in the OST. It reaffirmed prohibitions on installing nuclear weapons on or around the Moon and the establishment of military bases. It reified freedom of exploration. It linked lunar governance to the Charter of the United Nations. And it obliged parties to carry out lunar exploration in ways that would avoid "any adverse changes or contamination."

The draft, however, introduced new concepts that diplomats had intentionally elided when shaping the Outer Space Treaty. Whereas the OST's Article IV had promulgated the use of the Moon and other celestial bodies "exclusively for peaceful purposes," the Soviets' new treaty went one step further, explicitly prohibiting "the use or threat of force," language borrowed from the UN Charter itself. Its first article introduced the concept that exploration was to be carried out with due regard paid to the interests of future generations. And it suggested, too, that the "surface and subsoil of the Moon" could not become the property of states, international organizations, or citizens of any individual country.[19]

Why another treaty proposal when Aldo Cocca's draft was already on the books at the United Nations? How did Gromyko's draft advance the ball? There is very little evidence in the available English-language material that the Soviet Union gave the Argentinian text serious consideration. Like many U.S. officials in 1970, the Ministry of Foreign Affair's agents at COPUOS seemed to have regarded Cocca's draft as wholly inadequate. Academician Alexandre S. Piradov, lead Soviet delegate to the LSC, later argued that Cocca had focused too narrowly on the resource issue in his initial draft. Referring to the "Argentine legal scholars" who had predominated at the Mar del Plata Colloquium in 1969, Piradov complained that their

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17 Zhukov, Gennady, "Tendencies and Prospects of the Development of Space Law," *Proceedings of the 11th Colloquium on the Law of Outer Space* (1969); Robson, "Soviet Legal Approach," 109–10; G. P. Zhukov, "Problem of Legal Status of Scientific Research Stations on the Moon," *10th Proceedings on the Law of Outer Space* (1967): 60–62.

18 A/8391, "Union of Socialist Soviet Republics: request for the inclusion of an item in the provisional agenda of the twenty-sixth session," May 27, 1971.

19 A/C.1/L.568, "Union of Soviet Socialist Republics: Draft Treaty concerning the Moon," November 5, 1971; "Soviets Seek to Remove Moon From 'Arena of Conflict,'" *Washington Post*, June 9, 1971, A21; "Soviet Outlines Moon Treaty," *New York Times*, June 10, 1971; Bernars Gwertzman, "Moscow Offers Draft Treaty for Cooperation on the Moon," *New York Times*, June 9, 1971, 2; Charolette Saikowski, "Soviets ask peaceful moon," *Christian Science Monitor*, June 9, 1971, 7.

predictions had not been fortuitous. Cocca and his colleagues had "limited the wide range of problems connected with future activities on celestial bodies to a single, admittedly very important, problem." "In our view," Piradov recalled, "this [did] not appear to be sufficient."[20]

Thus came the larger, more capacious version. Whereas Argentina's draft was specific, the Soviet Union's was general. Whereas Argentina's attempted to fill the OST's loopholes, the Soviet Union's attempted to construct its "logical sequel," refining and elaborating on language already edified in the earlier agreement.[21] And while Cocca had devoted all five of his treaty's articles to the question of the Moon's natural resources, only one of the Soviet Union's fifteen articles addressed the question of property. One omission was particularly glaring: Gromyko's version did not include the "common heritage of mankind" principle; in fact, though Article VIII issued declarations about the Moon's surface and subsoil, it did not mention "natural resources" at all.

Where the historical record fails, deduction brings us closer to Soviet motivations for a Moon treaty, which extended far beyond narrow legal incentives to refine Argentina's efforts at COPUOS. Was it an olive branch intended to further ease tensions with the United States? Possibly. Gromyko's draft appeared just months after the SALT I arms reduction talks between the United States and the Soviet Union began in Helsinki, Finland. Mutual troop reductions in Europe followed in due course.[22] And détente had reached space. Early in 1970 the two countries reached a new agreement calling for the exchange of lunar rock samples. It proposed an exchange of delegations and information concerning space-based meteorological and astronautical observations, the use of remote sensing to survey Earth resources, and increased exchanges of space medicine data. Later that year they agreed to build mutually compatible docking equipment on their spacecraft. The *New York Times* reasoned that this "thaw," extended to orbit, reflected "the high cost of a unilateral space effort."[23]

Another motive: did the Soviets want to reap the "propaganda value" of their proposal?[24] Assuredly so. As Slava Gerovitch, Asif Siddiqi, and a host of others have documented, space exploration played a central role in the formation of the Soviet Union's postwar national identity—in culture, in economic life, and in politics.[25] Its spectacular space "firsts" in the 1950s and 1960s, coupled with the sheer number of space activities in which it engaged, helped the Soviet Union secure undisputed status as a space power. But technical achievements were hardly sufficient if unaccompanied by authority in the legal aspects of space. Hence Moscow's holdout over COPUOS. Hence its insistence on de-facto veto power. And hence its vanguard action on a treaty to govern the Moon. Throughout the previous decade, the leadership had sought to equate Soviet policy with both the peaceful uses of outer space and an anti-imperialist crusade against future wars, appropriation, and colonialism in the cosmos. The quality and bent of its draft treaty signaled these goals.

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20 Alexandre S. Piradov, *International Space Law* (Moscow: Progress Publishers, 1976), 118.

21 Piradov, *International Space Law*, 123.

22 "A Peaceable Kingdom," *Hartford Courant*, June 10, 1971, 22.

23 Richard D. Lyons, "U.S. Aides Unimpressed," *New York Times*, June 9, 1971, 2.

24 Dean Mills, "Russia Submits New Treaty To Fill Gaps On Moon's Use," *The Sun*, June 9, 1971, A1.

25 Asif Siddiqi, *Challenge to Apollo: The Soviet Union and the Space Race, 1945-1974* (Washington, DC: NASA History Division, 2000); James T. Andrews and Asif A. Siddiqi, eds., *Into the Cosmos: Space Exploration and Soviet Culture* (Pittsburgh, PA: University of Pittsburgh Press, 2011); McDougall, *Heavens and the Earth*; Slava Gerovich, *Soviet Space Mythologies: Public Images, Private Memories, and the Making of a Cultural Identity* (Pittsburgh, PA: University of Pittsburgh Press, 2015).

IV

Evidence suggests that at least in the public eye, Gromyko achieved his aims. Though there was "no immediate comment" from U.S. officials, and though "only a limited reaction" was forthcoming from UN headquarters in Manhattan (many delegations had yet to receive the relevant documents), the press was laudatory.[26] Many American newspapers praised the Soviet proposal, in light of its first and second articles, as a timely arms control measure, one fashioned to "avoid carrying earthbound national conflicts to the moon or the planets or the stars."[27] Others cheered the proposal as a direly needed supplement to the Outer Space Treaty, which failed to "give the moon the fullest possible protection." Gaps would be filled in, prohibitions finally "spelled out."[28]

Editors at the *New York Times* applauded the Soviets' march "toward an open moon." The draft seemed to present "a more detailed legal framework" for lunar activity than the OST offered, a welcome elaboration given the development of human spaceflight evident in Apollo and Soyuz. Lunar flight, the paper predicted, would eventually become routine. The Moon would become a vital part of the human future. "Despite the disparagement of Washington skeptics preoccupied with current problems of space cooperation," the editors wrote, "there is indeed a long-range necessity for a legal regime on the moon." And why not agree to this regime now? Consensus would "be far easier now, when that satellite still seems remote, than it will be when the journey is easier and when powerful nations will see feasible means of exploiting the moon economically and perhaps even militarily." Even if the Soviet initiative derived from less-than-genuine motives, many commentators agreed, the United States should welcome it, study it closely, and offer meaningful counterproposals.[29]

This kind of enthusiasm was harder to find among U.S. officials, who greeted Gromyko's treaty with a mix of suspicion, apathy, even incredulity. The first to read the document were American agents at the U.S. embassy in Moscow, who were "left … wondering why the Russians bothered."[30] The feeling among these diplomats was that at first glance, at least, the draft made "little substantive advance over the existing space treaty," that it differed "only in some relatively exotic detail."[31] It surprised them that the Soviet Union was so concerned about lunar governance when it was in the middle of planning for an *orbital* space station and in any case had not landed men on the Moon. Just a week before the *New York Times* published its endorsement of the proposal, federal space and diplomatic officials told one of its journalists, Richard Lyons, that Moscow's proposal politicized cooperation on other space projects. "There's not one thing new of any importance in it," said one envoy. Another was more colorful. The Kremlin had "the gall" to include in their draft an article governing the liability for damages suffered on the Moon, even though the COPUOS Legal Subcommittee had for years "fruitlessly" sought Soviet agreement on liability for damages

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26 "Soviets Seek," A21; "Soviets Propose Treaty for Moon," *Austin Statesman*, June 8, 1971, 1.

27 "Moon Treaty," *The Atlanta Constitution*, June 10, 1971, 4A; "Soviets Propose Moon Treaty," *Boston Globe*, June 9, 1971, 9.

28 Mills, "Russia Submits New Treaty"; "World Treaty Urged for Peaceful Moon," *Christian Science Monitor*, June 9, 1971, 2.

29 "Toward an 'Open' Moon," *New York Times*, June 14, 1971, 36.

30 Harry Trimborn, "Russians Offer Treaty on Peaceful Moon Use," *Los Angeles Times*, June 9, 1971, 10.

31 "Soviets Seek"; Harry Trimborn, "Russians Offer Treaty on Peaceful Moon Use," *Los Angeles Times*, June 9, 1971, 10; Mills, "Russia Submits New Treaty."

caused by falling spacecraft: "The Russians have never wanted to be held responsible for anything and they are trying to fuzz the thing in Geneva."[32]

The United Nations processed the Soviet draft over the summer and fall. When the LSC met for its 10th Session from June 2 to July 7, it recommended to its parent committee that the question of which laws "should govern man's activities on the moon" be appended to next year's agenda as a priority item.[33] The full COPUOS affirmed the motion two months later in Manhattan, before it appeared on the agenda of the General Assembly which, in turn, forwarded it to the First Committee for consideration that October.[34] The sounding gun for negotiations came on November 29, when the UNGA adopted Resolution 2779, which directed COPUOS and its legal arm to prepare an international treaty on the Moon and report back at its 11th Session the following year.[35]

V

Naturally, it also took time for the proposal—a provisional document concerning a marginal issue in U.S. foreign policy—to make its way through the organs of the American government. But closer examination there did not depart radically from the initial reaction at the embassy in Moscow. When Soviet Ambassador to the United States Anatoly Dobrynin called Secretary of State Henry Kissinger on November 19 asking him to "spare a half hour" for Gromyko's proposal, Kissinger seemed to hear of it for the first time. "What about it?" Kissinger asked. "A certain treaty," Dobrynin gestured, "… your delegation is saying … I don't know why he [Gromyko] is so interested in this treaty." "Maybe he bought some land on the moon," Kissinger quipped. "I'll look into it."[36]

A thorough analysis appeared the very next day. NSC staffer Arthur T. Downey wrote to Kissinger's assistant brigadier general Alexander Haig—later a vocal critic of the Moon Agreement as president of United Technologies Corporation—echoing the American diplomats who had read the proposal that June. Downey had read the document beginning to end and concluded that it was "generally of the 'motherhood' variety" in that "its provisions break no new ground and are generally considered meaningless or superfluous."[37] It could even prove harmful. There was always the possibility that the treaty's eighth article "might prohibit us from asserting ownership of material which we have brought back from the moon," Downey emphasized, "and there is some question whether our activities on the moon might be too restricted."[38]

Downey offered his own "best guesses" as to why Gromyko issued the draft treaty. Most reasonably it may have been an attempt to show that the Soviet Union could achieve cooperation with the United States in important areas of science and technology, even those adjacent to national defense. It was also plausible that Moscow "desired to add a little glamour to their performance" in the General Assembly during the upcoming session in New York. A third possibility—and the most interesting from a historical

32 Richard D. Lyons, "U.S. Aides Unimpressed," *New York Times*, June 9, 1971, 2.

33 A/AC.105/94, Report of the Legal Sub-Committee on the Work of Its Tenth Session, July 8, 1971.

34 A/8420, Report of the Committee on the Peaceful Uses of Outer Space, 1971.

35 William Fulton, "U.N. Assembly Acts to Get Pact for Peaceful Moon Exploration," *Chicago Tribune*, November 30, 1971, B7.

36 Telecon, Anatoly Dobrynin and Henry Kissinger, November 19, 1971, 4:45 p.m., Digital National Security Archive (DNSA).

37 Memorandum, Arthur T. Downey to Alexander Haig, Subject: Soviet Properties and the Moon Treaty," November 20, 1971, CIA Reading Room.

38 Ibid.

perspective—was that the Soviet leadership didn't care much about the issue at all but was nonetheless unobstructive to the machinery continuously churning in COPUOS. The draft, Downey speculated, "may have appeared on a Soviet intragovernmental list of possible initiatives and, in the absence of good reasons opposing it, has acquired a life of its own."[39]

In conversations with the Soviets at the UN, U.S. officials had done nothing to block consideration of the draft, although officially they had expressed that "we are not enthusiastic about it."[40] Downey thought this policy should endure, and that perhaps the United States should even try to resist it more forcefully. His concluding remarks are revealing about the U.S. position on the Moon Treaty at this early date:

> My own feeling is that we should not be bullied into actively supporting their draft. It is meaningless at best, and potentially restrictive at worst. Our joint cooperation on such a treaty would smack too much of a transparent effort to grab at anything to evidence our cooperative efforts. It would be much better if we continued to show our cooperation in the space area in the hardware field, such as the docking arrangements on which we are working.[41]

VI

From a U.S. foreign policy perspective, the Soviet draft was worthless, even counterproductive. But what about space policy? It was an open question whether the American space program would center on lunar exploration at all. When an oxygen tank explosion aboard Apollo 13 jeopardized the lives of astronauts Jim Lovell, Jack Swigert, and Fred Haise in April 1970, the public asked whether further missions were worth the risk. And there was always the matter of money. NASA had diverted increasingly limited funds to the Skylab project, cancelling Apollo 20 just months before. In the fall, the agency scrapped two more missions, citing congressional cuts to NASA appropriations in FY 1971. NASA's labor force had shrunk by half since the mid-1960s, and its leadership anticipated cutting another 50,000 jobs.[42] Nixon later proposed cancelling all remaining lunar landings—Apollos 16 and 17—only to agree, at the urging of his deputy budget director Caspar Weinberger, to keep them. Perhaps, in the absence of a program for more lunar landings, there was no need for lunar governance in the first place—at least not now.

NASA weighed in with its own analysis of the Moon Treaty draft in February 1972, three months after Downey's report. In a lengthy position paper addressed to the space agency's leadership, Arnold Frutkin, Deputy Director of NASA's Office of International Programs, registered complaints that closely resembled those the NSC had filed. Gromyko's proposal was "a rather clumsy attempt," one that "does not advance international law significantly and which, if accepted as proposed, would weaken the force of existing treaty provisions." As far as Frutkin could see, the Soviet delegation at COPUOS seemed to have simply omitted from its draft proposals that which it had not supported in the earlier Outer Space Treaty, namely

39 Ibid.

40 Ibid.

41 Ibid.

42 Kenneth Silber, "Down to Earth: The Apollo Moon Missions That Never Were, *Scientific American*, July 16, 2009, accessed March 24, 2024, *https://www.scientificamerican.com/article/canceled-apollo-missions/*.

articles on inspection and verification. "Special attention," he emphasized, should be given to "any adverse effect" the new treaty might have on NASA operations.[43]

What to do? Gromyko's draft, however ungainly, needed a response. Outright rejection meant claims of bad faith and therefore bad publicity. An independent proposal authored by American diplomats would embarrass their important counterparts at the COPUOS and sew resentment. Whatever its faults, Frutkin felt that the government should "be positive" toward the Soviet appeal. If the United States engaged honestly with the text, it could "convert the exercise into a positive one that will carry forward our interests." There was virtue, Frutkin wrote, in expanding the scope of this "purely lunar" treaty to include all celestial bodies (CBs); in proposing detailed provisions on advance notification of space missions on those bodies; the dissemination of research; and perhaps most importantly, "intelligible proposals on the use of CB resources."[44]

On this last issue in particular, Frutkin was prescient. Equipped with more experience in the international aspects of space exploration than anyone in the U.S. government, he perceived that the fate of lunar resources would become a focal point in any future negotiations for a Moon treaty. The Soviet Union addressed lunar property specifically in Article VIII of its draft text. Indeed, it had done so in comprehensive but exhaustive language: "Portions of the surface or subsoil of the Moon," Gromyko had recommended, "may not be the object of concession, exchange, transfer, sale or purchase, lease, hire, gift or any other arrangements or transactions with or without compensation between States, international intergovernmental and non-governmental organizations or national organizations having the status of juridical persons or not, or of arrangements or transactions between natural persons."[45]

As we've seen, Aldo Cocca had made the issue of property—albeit of "resources"—central to Argentina's proposals as well. During the OST negotiations just seven years prior, the developing world had pressed for the use of outer space "for the common benefit." Now, in new negotiations aimed at specific provisions for the Moon, those countries, as well as new COPUOS members from the Global South, would "likewise urge what they see as mutuality of obligations as between space and non-space powers." Preoccupation with "real exploitation" of lunar minerals meant that the United States could not shrink from the subject or forestall debate for too long. The government "must be prepared to make some proposal."[46]

Frutkin offered some ideas that would "not prejudice possible future exploitation by the U.S." but admit law under the OST. He distinguished three types of resources the United States should consider in any future negotiations. First, there were materials for scientific investigation, such as the samples returned by the Apollo missions or the Soviets' *Luna 20*, which would return fifty-five grams of regolith to Earth just hours after Frutkin submitted his report. Second, there were materials that nations, or perhaps someday private companies, would use to sustain missions on the Moon. NASA had already undertaken copious research on in situ resource utilization (ISRU) during the 1960s. Mineral stocks readily available on the surface could provide astronauts with life support, propellants, construction materials, and energy.

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43 Memorandum, Arnold Frutkin to James Fletcher, Subject: US Position on proposed space treaty, February 24, 1972; Instructions for the U.S. Delegation on the Treaty Concerning the Moon: U.S.-USSR Outer Space Bilaterals and the UN Outer Space Legal Subcommittee, February 22, 1972, folder: 15635, NASA History Office Archives.

44 Ibid.

45 A/8391.

46 Memorandum, Arnold Frutkin to James Fletcher; Instructions for the U.S. Delegation on the Treaty Concerning the Moon.

Finally, there were resources to be exploited for commerce and industry, either on the Moon itself or back on Earth.[47]

Any treaty on celestial bodies (often "TCB" in internal government communications) should "permit unilateral use of limited quantities" of resources for science and IRSU, Frutkin thought. Articles I and II of the OST indicated as much. When it came to those uses, the United States could accept a provision "along the lines of the Argentine proposal that CB resources 'shall be the common heritage of mankind.'" Such a limitation would also jibe with the U.S.-backed declaration contained in UN Resolution 2747, passed in December 1970, that the resources of the seabed and ocean floor were also the "common heritage of mankind."[48]

Resources for commercial consumption were another matter and required careful thought. The U.S. delegation should propose that parties to the treaty both agree on the need for commercial use and arrangements for exploitation "at an appropriate time," particularly methods "to protect investment, insure efficient development and provide some part of revenues to the various parties to the Treaty." Frutkin drafted new language outlining what would soon become the United States' official position on lunar resources. Much like Downey's report three months prior, it provides crucial context for the Moon Treaty negotiations throughout the 1970s and indeed the agreement's swift immolation at the end of the decade. His sample language read:

> The States Parties to this Treaty, bearing in mind the need for economic advancement and for the encouragement of investment and efficient development if utilization of the resources of the moon and other celestial bodies becomes a reality, recognize the importance of concluding agreements in this area. To this end, the Depository Governments shall promptly convene a meeting of all States Parties with a view to negotiating international arrangements for the sharing of the benefits of such utilization when one-third of the States Parties inform the Depository Governments that they consider that practical utilization of the resources of the moon or other celestial bodies is likely to begin within two years following or has already begun.

With a few caveats, Frutkin recommended that the United States "go along" if other nations showed enthusiasm. He urged replacing Article VIII in the Soviet draft with one that melded both his new language on "practical utilization" *and* the "common heritage" rhetoric favored by Argentina. Moreover, any U.S. draft should address the absence in the Soviet text of activities conducted by non-governmental entities. The right of private companies to conduct activities on celestial bodies with U.S. authorization must not be prejudiced.[49]

That month, the U.S. delegation to COPUOS told its Soviet counterpart that it was willing to take up its so-called Treaty on the Moon—TOM—"as a priority matter" in the United Nations and agreed to hold bilateral discussions before the LSC met that spring.

For all the attention the U.S. government devoted to a Moon treaty in these fitful months, there existed no ideal solutions. Indeed, the whole idea seemed utterly uninspiring. American diplomats, if

47 Ibid.

48 Instructions for the U.S. Delegation on the Treaty Concerning the Moon: U.S.-USSR Outer Space Bilaterals and the UN Outer Space Legal Subcommittee, 14. Emphasis in the original.

49 Instructions for the U.S. Delegation on the Treaty Concerning the Moon.

they noticed Argentina's initial draft at all, viewed it with suspicion or indifference. The Soviet version that appeared months later fared little better, as State Department officials considered it redundant and NASA leaders voiced concerns about the harm another treaty might have upon U.S. space activities in an already budget-conscious, post-Apollo era. But if a consensus emerged at COPUOS to seriously consider Gromyko's proposal—a likely scenario—would the United States dare refuse to participate and thus forfeit the opportunity to shape any eventual agreement? Better, the thinking went, to lean into the process and channel the text toward ends more palatable to U.S. interests. Hence the American Bar Association's warning, issued to the Senate years later, of the dangers of disengagement:

> [W]e must have sufficient national good sense and willpower to be one of the cooks without feeling compelled to eat everything that comes out of the kitchen. If we are not one of the cooks… the meal is virtually certain to be indigestible. If we are [one of the cooks], we are virtually certain to be a major force in the kitchen, and the chances for an edible if not gourmet result will be vastly enhanced. The ingredients in this treaty, conditioned by the interpretations and declarations suggested… are now both reasonable and sound. It will do us no good at all to refuse to try to turn them into universally acceptable fare."[50]

50 U.S. Senate, *The Moon Treaty: Hearings before the Subcommittee on Science, Technology, and Space of the Committee on Commerce, Science, and Transportation*, 96th Cong. 2nd Sess., July 29 and 31, 1980 (Washington, 1980), 75.

Chapter 3

New York, Geneva, New York

The United Nations Negotiations

How are treaties negotiated? It's a simple and yet maddeningly elusive question. Are they reached by leaders, as with the sachems who represented the Six Nations at Fort Stanwix? Or foreign ministers as at Versailles? Or with an impartial arbiter, as during the Belfast talks that ended The Troubles in Northern Ireland? Do they always occur at high levels of government, or do academic exchanges, environmental accords, and trade agreements prove that "treaties" lay also at humbler levels? The answers, of course, rest case by case. The process of negotiating treaties has varied widely depending on the complexity of the issues involved, the number of parties, and the venue. After the Vienna Convention on the Law of Treaties in 1969, international negotiations have tended to follow a strict formula—preliminary work, authorization by domestic governments, drafting, rounds of negotiations, redrafting, informal consultations, mediation, domestic approval, signature, and ratification—but by no means have negotiators applied this machinery evenly or consistently across time.

Space law was a curious beast in the annals of negotiation. Consider the unique conditions that framed the five space treaties, the Moon Agreement last among them, that the international community achieved during the second half of the twentieth century. All were negotiated at the United Nations on a strict, premeditated schedule, swiveling to and fro between Geneva and New York. They were presided over by a jumble of legal professionals appointed for their scholarship, diplomats appointed for their experience, and delegates who possessed neither scholarship nor experience and who otherwise carried out their assignment at random. The entire negotiating process unfolded in the COPUOS's Legal Subcommittee (LSC), where treaty text emerged only through *consensus*. No individual committee member—neither tiny Sierra Leone nor the colossal United States—could make progress on a draft without the consent of every other member.

Once the LSC agreed to a full text, the parent space committee formally adopted the treaty and forwarded it in a report to the General Assembly. Next, the UNGA's Special Political Committee discussed the report and made its own written recommendation to the plenary meeting of the UNGA, which passed a resolution either returning the treaty to the COPUOS or passing it to the Assembly for its commendation to member states.[1]

1 CRS Study, 389.

By the time negotiations for the Moon Agreement ended in 1979, this process had become a robotic affair. The procedure was programmatic, like the steps of a dance. One delegation proposed a draft treaty. The LSC poured over the document and placed [square brackets] around any terms, concepts, or provisions lacking agreement among the full membership. No notes were taken, so that any member could block a consensus and thereby guarantee continued debate. A working group was formed to iron out differences. Delegations then exchanged proposals on controversial phrases or indeed entire articles. And debate began all over again. [2]

Small wonder, then, that the negotiations took nearly a decade to complete. From the time the COPUOS first assembled in 1959 to the adoption of the Moon Agreement twenty years later, the Committee's membership ballooned from a modest twenty-four countries to nearly fifty. Many of the new rank-and-file hailed from the decolonizing world, a fact that created tensions between, on the one hand, Southern delegations bent on an economic restructuring of international relations and, on the other, the United States and the Soviet Union, who brooked no restraints on their national space programs. The two space giants, moreover, maintained their own differences on key issues. Consensus was a dubious prospect.

I

Negotiations began at the Palais de Nations in Geneva during the Legal Subcommittee's 11th session, which met from April 10 to May 5, 1972. The LSC established a Working Group (Working Group I) to consider Gromyko's draft in conjunction with a series of proposals submitted by other member states. Reluctant though the United States might have been to humor the Soviet Union's campaign for a Moon treaty, it wasted no time in rallying the requisite attention and resources to molding the draft text.

The job of making Americans "cooks in the kitchen" at COPUOS first fell to Herbert Kramer Reis, a legal counselor for the State Department and the chief U.S. representative to the LSC. The son of an eminent gynecologist, Reis was born in 1932 in Chicago. As with so many of his peers at COPUOS, his early life was marked by an intense commitment to education and scholarship. He attended the University of Chicago's prestigious Laboratory Schools and, just across town, earned his bachelor's degree in history from Northwestern, where he was a William Randolph Hearst Scholar and a prominent member of Phi Beta Kappa. In 1957 he earned his J.D. from Yale Law School, whereupon he was scooped up by State's Office of the Legal Advisor. There, he helped create the backbone of international space law during the 1960s and 1970s. Not only was Reis a negotiator for the OST; he became lead diplomat to the Legal Subcommittee for the 1967 Astronaut Agreement, a role he would maintain for negotiations that led to the Liability and Registration Conventions as well. From 1971 to 1984 he would serve as chief legal advisor to three U.S. ambassadors to the UN: George H. W. Bush, Daniel Patrick Moynihan, and Andrew Young. He was, by his own account, "a lucky man."[3]

Reis's first task was to collate his government's position on various aspects of the draft treaty. As was typical during the Nixon years, the State Department assembled an interdepartmental review of policy ultimately approved by the National Security Council (NSC) and the White House.[4] During that first,

2 Transportation Study, 8.

3 "Herbert K. Reis Obituary," *Chicago Sun Times*, July 23, 2023, *https://legacy.suntimes.com/us/obituaries/chicagosuntimes/name/herbert-reis-obituary?id=52498870*.

4 Transportation Study, 13.

optimistic session, Washington, through Reis's delegation, forwarded seventeen working papers suggesting revisions.[5]

Three stood out. Whereas the Soviet draft applied only to the Moon, in Working Paper 1 the American delegation proposed that it include "other celestial bodies." Working Paper 3 suggested that signatories must in advance inform the public, the world scientific community, and the UN Secretary-General of any mission: launch date, intended activities, locations, orbital parameters, durations, and results. Moscow's version contained no such mandate. And on April 17, Reis introduced Working Paper 12/Revision 1, which offered a new take on Article VIII. Unlike Gromyko's draft, which forbade claims to the lunar "surface or subsoil," the Americans referred specifically to "natural resources" and, per Cocca's original text, suggested they become the "common heritage of mankind."[6] Parties to the treaty, the paper also suggested, could use "appropriate quantities" of extraterrestrial resources for scientific purposes. Most notably, the new article's third paragraph was transplanted verbatim from Frutkin's instructions to NASA penned that February. With a nod to "the need for economic advancement and for the encouragement of investment and efficient development," the U.S. draft proposed that signatories convene a separate conference of the depository governments to hash out an arrangement for "the international sharing of the benefits of utilization" once exploitation of celestial bodies proved feasible.[7]

These differences were neither frivolous nor merely semantic, especially for the resource issue. On April 14, Egypt and India submitted their own version of Article VIII. Employing the CHM principle, it went further than the U.S. draft by declaring that the benefits derived from exploitation of any material "shall be made available to all peoples without discrimination of any kind," and that in the distribution of those benefits, special attention would be paid to raising living standards in the developing world.[8] It garnered considerable support, but the Soviets demurred.

On the basis of these and other documents—working papers had poured in from Bulgaria, Australia, Sweden, and Britain—Working Group I reached consensus on twenty-one articles. On May 4 it issued a revised American draft—still riddled with brackets indicating areas of disagreement—as a launching point for future work.[9] Importantly, the Soviet article on exploitation of the Moon, Article VI, was reworded by the Americans and placed further down in the new text, in Article X. That summer the full COPUOS approved the motion and expressed optimism that compromises could be struck.[10] That November, the UNGA adopted resolution 2915 (XXVII), which applauded the progress achieved by the LSC and stipulated that future work on the draft treaty should continue "as a matter of priority" at the LSC's next session.[11]

Late in March 1973, just before that new session was set to begin, U.S. delegates met privately with their Soviet counterparts such that they might align on key issues. Boris Maiorski, the Foreign Ministry's leading representative in the subcommittee, said that he had been given instructions to condition his agreement

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5 A/AC.105/196, Report of the Legal Sub-committee on the Work of Its Sixteenth Session, April 11, 1977, Annex I. U.S. working papers are numbered 1–9, 12, 14–17, 21, 23, and 26.

6 Transportation Study, 13–14.

7 A/AC.105/196, Annex I, 23–24.

8 A/AC.105/196, April 11, 1977, Annex I, 24.

9 A/AC.105/101, Report of the Legal Subcommittee on the Work of Its Eleventh Session, May 11, 1972.

10 A/8720, Report of the Committee on the Peaceful Uses of Outer Space, 1972.

11 A/RES/2915 (XXVII) Resolution adopted by the General Assembly on the report of the First Committee (A/8863), International Co-operation in the Peaceful Uses of Outer Space, November 9, 1972, 13–14.

on the treaty's scope upon other issues in the text. "We'll be flexible," he told Reis. Yet Maiorski intimated that his government "remained reluctant" on the common heritage concept. CHM had been discussed among Soviet legal experts—including authorities on the seabed—and "no one could discern its meaning." But as a compromise, the LSC could potentially link CHM with a provision for a future conference to establish norms for commercial use of lunar resources when that use became a "realistic possibility."[12]

Full debate began the next day. The LSC reestablished Working Group I under Poland's Eugeniusz Wyzner to consider the new, twenty-one-article draft alongside the stack of working papers.[13] Between March 26 and April 20, the subcommittee met sixteen times, not including fifteen additional sessions held by the Working Group.[14] The days were long and tiring. Meeting in the morning for a few hours of general exchange in plenary, the LSC would adjourn for lunch before reconvening in the smaller working groups (more working groups existed for other issues, such as registration of space vehicles) during the afternoon. Over these weeks, working papers trickled in from Argentina, Australia, Brazil, Bulgaria, Canada, Chile, Egypt, Indonesia, India, Iran, Italy, Mexico, Mongolia, Nigeria, Romania, Sierra Leone, Sweden, the United States, the Soviet Union, Britain, and Venezuela.

The three papers that Reis's team offered were consistent both with internal discussions with the State Department and the U.S.-Soviet consultations held just days before. The first paper proposed language to expand the treaty's scope such that its provisions applied not only to the Moon but to the planets and other celestial bodies in the solar system, as well as to the orbits around those heavenly orbs. The second opened the possibility for future conferences should "additional arrangements" prove necessary for other celestial bodies at a future date. And the last, it came as no surprise to the committee, forwarded new language for an article on natural resources.

II

Consistency, however, did not mean consensus. Of all the disagreements that emerged over the ensuing years, three predominated. As the first U.S. working paper attested, one cardinal problem concerned the treaty's scope: that is, whether the accord would apply only to the Moon or to other celestial bodies as well. Having already found themselves dragged to COPUOS to negotiate a treaty in which they showed little initial interest, U.S. diplomats were apprehensive about the prospect of still more treaties—and with them, still more years spent negotiating—governing Venus, Mars, and planets beyond. Each new agreement threatened to dilute the authority of the Outer Space Treaty; as we have seen, Washington had feared that a merely lunar treaty could produce just that result. Best to boil the necessary legal structures down to their purest and most general form and thereby obviate the need for novel treaties each time humanity reached a new planet or moon. The U.S. delegation, recalled one of its agents, Stephen Bond, thought "there was no sense in creating a new treaty for each planet or chuck of rock in the solar system."[15]

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12 Telegram, U.S. Mission to the United Nations to the Secretary of State, Subject: Outer Space Legal: Bilaterals with USSR, March 27, 1973, doc.1973USUNN01063, Central Foreign Policy Files, 1973–1979 (hereafter CFPF), Record Group (RG) 59, General Records of the Department of State, United States National Archives (USNA).

13 A/AC.105/115, Report of the Legal Sub-Committee on the Work if Its Twelfth Session, April 27, 1973.

14 A/AC.105/115.

15 "The Moon Treaty: Should the United States Become a Party?" *American Society of International Law Proceedings* 74 (1980): 157.

The Soviets disagreed. Every heavenly body, each "having its own specific aspects," deserved a discrete accord. Some were solid rock, others gaseous. Some were potentially habitable by humans, others not. And what of asteroids? Comets? Stars? What of other moons? Could one tableau etched in the 1970s—in the grand sweep of time the very genesis of space exploration—really govern the diversity of the cosmos?

Hardly, thought Era G. Vasilevskaya, one of the USSR's leading space lawyers and a delegate to COPUOS. The proper legal goal was not to protect the OST by failing to legislate, but to elaborate upon it and apply its principles across novel contexts. New agreements would strengthen, not weaken, the Space Treaty.[16] If the United Nations could hammer out a Moon treaty now, perhaps it could serve as a model for governance of other heavenly objects. "In our opinion," Vasilevskaya told his colleagues at the 15th Colloquium on Space Law, "this problem [treaty scope] is not so complicated as it may seem." Codifying separate agreements for the Moon, Mars, and Venus, for example, would not mean those bodies would be exempt from space law already on the books. Far from it. Nor would Soviet lawyers press to adjudicate issues for one or another celestial body before the facts were known. Negotiations would begin "only when there are more real grounds for it."[17]

During this first negotiating session, U.S.-Soviet differences over treaty expansion induced a "somb[er] mood" at COPUOS. Numerous delegations viewed the impasse "ominously" and privately confided their struggles to understand Washington's recalcitrant position on what they considered a "non-substantive issue." Although Britain was ready to support the American proposal on expansion, the Soviets, feeling that it replaced a "concrete" idea with an "abstract" one, said no. Alexandre Piradov told the U.S. delegation that "there was now no realistic way to proceed with the treaty." Others agreed. Argentina, Italy, Japan, and Brazil failed to notice much light between the British and American proposals. Differences seemed "presentational only."[18]

When the U.S. mission reported the atmosphere to Secretary of State William Rogers on April 10, he betrayed his frustration. How could the scope be a frivolous issue when the Soviets were equally stubborn? A major discrepancy between the world's two space powers had import almost by default. But no matter. "We do not believe it would be significant loss if treaty were not concluded this year," telegrammed Rogers the very next day. The "whole treaty," he reminded his delegates, "is of course Soviet initiative about which we have never been particularly enthusiastic but which we have attempted to make somewhat more meaningful, by, among other things, expanding scope." If the LSC could not, "in an unequivocal way," agree on broadening the treaty to including all celestial bodies, the issue should be carried over to next year's meeting. Perhaps Moscow's interest in "clearing the deck" at COPUOS for the other issues—an agreement on direct broadcast by satellites, for example—would compel it to accept the U.S. position on scope. "If not," Rogers shrugged, "we do not perceive any detriment to U.S. interest in failure to conclude [the] treaty" any time soon. To keep the committee's spirits high, all this was "for delegation's information only."[19]

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16 E. G. Vasilevskaya, "Legal Regulation of Activities on the Moon for the Cause of Peace and Progress," *Proceedings of the 15th Colloquium on the Law of Outer Space* (1973): 179.

17 E. G. Vasilevskaya, "Introductory Report; Legal Problems of the Moon and Other Planets," *Proceedings of the 16th Colloquium on the Law of Outer Space* 168 (1974): 168–69.

18 Telegram, U.S. Mission to the United Nations to Secretary of State, "UNUN Daily Classified Summary No. 69," April 10, 1973, doc. 1973USUNN01287, CFPF, RG59, USNA.

19 Telegram, Secretary of State to USUN, Subject: Outer Space Legal Treaty on Celestial Bodies—Scope, April 11, 1973, doc. 1973STATE067277, CFPF, RG59, USNA.

A second question—and a second obstacle—for the negotiators at this early juncture was whether, how early, and to what extent signatories would be obliged to notify the international community about missions to the Moon or other heavenly bodies. At stake was the proper balance between the prerogatives of state sovereignty on the one hand and the progressive goals of international, transparent science on the other. Article XI of the OST obligated parties to inform the Secretary-General of the United Nations and the international scientific community, "to the greatest extent feasible and practicable" of the purpose, execution, and locations of scientific missions. The Secretary-General would then disseminate that information through the organs of the UN. That treaty language had been a sticking point for Soviet negotiators, who wished to maintain the freedom to change launch dates, cancel missions, and make alterations at times and through methods of their choosing. Their position had not changed. Moscow's original draft for a Moon treaty included articles (VII and X) acknowledging the need to exchange information "on any phenomena they discover in outer space"—again, OST language—and an obligation to notify nations of observed crash landings. It failed, however, to say anything about advance notification of space missions.[20]

For the Americans and indeed several other delegations, this would not do. Advance notification was essential because it would promote the safety of missions and non-interference; because it would pool knowledge and thereby reduce duplication of efforts; and because it would maintain the existing environmental balance of a celestial body by streamlining the exchange of scientific information between the exploring nations.[21] During the previous April, the United States had submitted a working paper on the issue, one it hoped would form the basis of future debate. The paper called on parties to inform the UN Secretary-General and the scientific community of any mission to the Moon or other celestial body no less than sixty days in advance, including the purposes of the mission, its intended location(s), its orbital parameters, and its prospective duration. "Timely notice" would also be given about alterations to the mission, its termination, and "in due course," its nature, conduct, and results.[22] Another paper, submitted that same month by Bulgaria, added yet another obligation: exploring nations would do their utmost to make their mineral and other samples available to international scientists and other parties to the treaty.[23] Other ideas, playing on similar themes and deploying similar language, poured in from Sweden, Britain, Argentina, India, and Nigeria.

Again, the Soviets disapproved. Articles IX and XI of the OST provided for a sufficient exchange of information and the safety of astronauts and hardware, they argued. "Any other obligations to notify beforehand of the preparation of outer space experiments imposed on states can be regarded as an attempt to interfere with the domestic affairs of a state," Vasilevskaya complained in a paper for the IISL. "The preparation of an experiment as well as the launching of any space object is exclusively the affair of a sovereign state itself."[24] Maiorski corroborated the general mood to U.S. officials. The "key" to negotiating a successful draft, he intimated, was for the United States to abandon its demand for advance notification of lunar missions, including any impact those missions might render upon the local environment. He asked

20 A/C.1/L.569, Preparation of an International Treaty Concerning the Moon, USSR: Draft Treaty Concerning the Moon, November 5, 1971.

21 Herbert Reis quoted in Nicolas Mateesco-Matte, "The Draft Treaty on the Moon, Eight Years Later," *Annals of Air and Space Law* 3 (1978), 524.

22 A/AC.105/196, Annex I, 36.

23 Ibid., 25.

24 Vasilevskaya, "Introductory Report," 169–70.

the American delegation to modify its position. If agreement could be reached on this item, the "USSR would accept US-proposed formulations on scope, title, and reference to 'moon planets and other celestial bodies' in preamb[le] but would insist on reference to only 'moon' in op[erative] portion." Differences over common heritage, too, "could be bridged."[25] In a brief bilateral on April 2, the Soviets stressed that advance notification "in any form" was unacceptable.[26]

The U.S. State Department, while determined to see a provision for advance notification in the final draft, seemed opened to a deal. Toward the end of the 1973 session, a telegram arrived at the U.S. delegation with instructions to at once adhere to its original position and "wait for Sovs to offer trade in which we would drop our insistence on advance notification and they would accept formulation of expanded treaty scope containing reference to 'other celestial bodies' throughout operative text." If Moscow failed to come through with an offer, the delegation should "be guided by tactical situation" before deciding whether to itself propose that trade. It was an open question whether the Moon Treaty would make it to next year's LSC agenda in the first place.[27]

Troublesome as the quarrels over treaty scope and advance notification seemed to be, both paled in comparison to the issue of natural resources, which consumed more oxygen over ten years than any participant had anticipated. Between 1972 and 1977, the LSC would ultimately consider twenty-seven distinct texts on this issue alone (fifteen emerged relating to the scope of the argument, and nineteen on advance notification).[28] The first problem was that LSC members were deeply divided over whether a Moon treaty should attempt to adjudicate resource use at all, especially because the extraction and exploitation of space resources had not yet proven a viable possibility. In favor of trying to settle this controversy in the present negotiations were, generally, the United States, Britain, Canada, Egypt, India, Lebanon, Argentina, and Iran. Those in favor of creating a later, separate agreement to tackle the issue counted among them France, Bulgaria, Romania, and Mongolia. The Soviet Union, Czechoslovakia, Hungary, Poland, and Japan considered the matter entirely premature.[29]

III

If these factions could somehow agree to tackle the resource issue in a Moon treaty, then the next questions begged themselves. What was the legal nature of natural resources on the Moon and those found on other celestial bodies? If nations could not appropriate territory, could they nonetheless appropriate resources once removed from the soil? What kind of governance mechanism could adjudicate the exploitation and proper distribution of those resources? Disagreements over all these questions had been foreboded by the legal debates in the late 1950s and 1960s; by the intense focus on natural resources in Cocca's draft treaty;

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25 USUN Daily Classified Summary no. 63, USUN (NY) to Secretary of State, doc. 1973USUNN01141, March 31, 1973, CFPF, RG59, USNA.

26 Telegram 1501 from John Scali to State Dept, April 3, 1973, *FRUS 1969–76, vol E-3*, doc. 77.

27 Telegram 124445 From the Department of State to the United States Mission to the United Nations, Washington, June 26, 1973, 1538Z, Subject: Instructions to US Delegation to UN Outer Space Committee (OSC), *FRUS, 1969–1976, vol. E-3,* doc. 81.

28 Christol, "Common Heritage," 433. These texts are available in A/AC 105/196, Annex 1, pp. 2–3 for natural resources.

29 Nicholas M. Matte, "Legal Principles Relating to the Moon," in *Manual on Space Law, Vol. I*, eds. Nandasiri Jasentuliyana and Roy S. K. Lee (Dobbs Ferry, NY: Oceana Publications, 1979), 266.

and by the complete absence of the subject in the Soviet text. In 1972 alone, ten working papers from as many countries had already appeared before the LSC.

Now, at the 1973 session, debate began in earnest. On March 27, India, led by veteran diplomat M. A. Vellodi, submitted a new draft article on natural resources (at this time, Article X) that prodded the various delegations to assume their respective positions. It read:

1. The moon and other celestial bodies, their subsoil as well as their resources, are the common heritage of mankind.

2. States parties undertake to establish an international regime for the orderly and safe development and rational management of the resources of the moon and other celestial bodies and their subsoil, and for expanding opportunities in the use thereof, and to ensure the equitable sharing by all States in the benefits derived therefrom, taking into particular consideration the interests and needs of the developing countries.

3. Exploitation of the resources of the moon and other celestial bodies and their subsoil shall not be done except in accordance with the international regime to be established. For this purpose, the depositary Governments shall convene a conference of all States parties at the request of one-third of such States.[30]

The United States immediately rejected the proposal on grounds that Paragraph 3 would institute a de facto moratorium on the extraction and use of space resources until a regime was established to govern them—not a near-term prospect and therefore potentially obstructive to future space missions.[31] At numerous points over the ensuing years, India, sometimes in conjunction with other developing nations, issued calls for a moratorium; and each time, the U.S. delegation would quickly negate them. The notion of a pre-regime moratorium would prove to be an obstacle for the rest of the negotiating process.[32]

At this stage, however, the far more interesting and provocative question was whether natural resources on the Moon or other celestial bodies constituted "the common heritage of mankind." Numerous delegations had included the phrase in their initial proposals for Article X. Indeed, since Cocca had introduced the concept to COPUOS in the 1960s, it had only gained traction despite frequent allegations of its ambiguity and potential for limitless interpretation.

The American position on CHM had not changed considerably since the State Department sanctioned the concept for use in negotiations during the spring of 1970. Now, two years later, as the Legal Subcommittee poured over evolving drafts and working papers, it was high time that the various parties decide whether to enshrine CHM as an operative principle in the text. Reis spoke for the U.S. delegation on May 3. "On the broadest level of generality, it seems right to state that such resources are part of 'the common heritage of all mankind,'" he told the LSC. To classify lunar resources this way would "parallel" Nixon's stated policy on seabed resources. Yet Reis added the United States had no interest in curtailing the

30 A/AC.105/196, Annex I, 10–11.

31 Telegram, USUN (NY) to Secretary of State, Subject: Outer Space Legal: Moon Treaty – Natural Resources, doc. 1973USUNN01236, April 06, 1973, CFPF, RG59, USNA.

32 Transportation Study, 27.

use of the Moon's resources for either: 1) scientific research—the Apollo and Luna moon rock returns and exchanges made that clear enough—or 2) sustainable human missions in space. If commercially exploitable resources were found, a special conference could be organized to adjudicate proper and equitable usage. Hedging closely to the language Arnold Frutkin had privately urged to NASA's leaders the year before, Reis emphasized that participants in such a conference "would need to bear in mind not only common goals of economic advancement but the need to encourage investment and efficient development as well.[33]

To this end, on April 17 the U.S. delegation submitted a working paper on natural resources—another draft article—that simply repackaged Frutkin's language. Extraterrestrial material, Reis's team proposed, should indeed be the common heritage of mankind. But signatories would be able to use "appropriate quantities" of those materials to conduct scientific research, be that on the Moon itself or by returning the resources to Earth for analysis. When one-third of the depository governments determined that the utilization of natural resources would become "a reality" within two years, a conference would quickly convene to negotiate how they might be shared.[34]

While the Americans could agree in principle with the CHM concept—albeit in the context of future negotiations in which details would emerge—the Soviet delegation demonstrated an early and consistent allergy to common heritage. Indeed, despite later accusations that the Soviets sought to communize the Moon through the treaty, Moscow stood as CHM's most vociferous opponent during the negotiations. Its position made lunar resources "the most difficult problem" by far. Soviet lawyers, both from inside the diplomatic apparatus at the United Nations and the legal sections of the Academy of Sciences, objected to the operative, juridical meaning implied by "heritage," which they viewed as "closely connected with the right of property, possession and dispossession of a thing." "We cannot justify the attempts to consider identical legal problems of the Moon with those of the sea bottom resources," explained Era G. Vasilevskaya on behalf of colleagues, "because in many cases they greatly differ and each of them requires a special approach."[35]

This attitude had crystallized as early as 1968, in the wake of the Outer Space Treaty. Feeling that the non-appropriation clauses of the OST required "further amplification," Gennady Petrovich Zhukov, the USSR's most prominent space lawyer and vice-president of the International Institute of Space Law headquartered in Paris, penned an article for the popular magazine *Space World* laying out a position that would endure throughout the subsequent decade. Even in the absence of direct claims to the Moon, states retained inviolable sovereign rights, including the erection of space stations and the exploitation of "natural riches." The latter should include "prospecting, extraction and processing of mineral and other natural resources on the moon" and "their use and processing for 'local' needs." Rights should even extend to the delivery of resources back to Earth.[36]

Of course, the exercise of these rights by individual nations would not constitute an extension of state sovereignty to the Moon or the ability of any state to annex it. As more and more countries reached the

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33 Reis quoted in Transportation Study, 14.

34 A/AC.105 /196, Annex I, 23–24.

35 E. G. Vasilevskaya, "Introductory Report," 170.

36 Gennady P. Zhukov, "Moon for All States," *Space World* (July 1968): 44–45; Stephan Hobe, "In Memoriam: Gennady Petrovich Zhukov (1924–2014)," *Festschrift fur Luft- und Weltraumrecht - German Journal of Air and Space Law* 63, no. 4 (2014), 526. See also G. Zhukov, "The Problems of Legal Status of Scientific Research Stations on the Moon," *Proceedings of the 10th Colloquium on the Law of Outer Space*, 60, 61 (1968).

Moon, "special international agreements" would be needed to adjudicate specific issues. Skimming the various legal analogies—the 1959 Treaty on Antarctica, fisheries rights, maritime law—Zhukov favored the exclusive economic rights to the territorial continental shelf, which the United States had first exercised under President Harry Truman in September 1945:

> It should be quite clear that if any state gets down to developing natural resources at a definite lunar section, this state should preserve the right to use exclusively this section by analogy with a maritime state which has an exclusive right to the continental shelf for the purpose of exploiting its natural resources. The example of the continental shelf shows that the economic interests of a state which starts the development of lunar natural resources, can be protected without the necessity of its annexation. Thereby, our natural satellite, the moon, will be open for investigations and exploitation also by other states.[37]

The Soviet Union submitted its own working paper on the CMH principle on March 23, 1973. "Heritage," it reminded the subcommittee, did not appear in Soviet civil law. Although terms such as "inheritance" and "succession" were legally familiar, lawyers in Soviet courts used heritage "in the philosophical, rather than the legal sense."[38] At heart was the issue of property rights. Whereas both inheritance and succession were "inseparably bound up with the right of ownership," heritage was more nebulous. The OST had declared outer space, including celestial bodies, "the province of all mankind." So how could those bodies, which the treaty declared undivided and commonly usable for all States, be *owned* by any of them or jointly by all? And how could ownership transfer to mankind if there had never been any ownership of the Moon in the first place? Hence the Soviet draft's reification of the non-appropriation clause. "[P]ortions of the surface or subsurface of the moon cannot be the object of civil law transactions," the paper concluded. "A thing that belongs to nobody cannot pass into any person's possession by succession." The Soviet delegation thus declared a willingness to consider lunar resources as the common *province* of mankind—in the spirit of the OST—but heritage had no place in international law.

These differences were not merely over the proper interpretation of the legal dictionary. Soviet officials, and by extension Soviet lawyers, were deeply suspicious of common heritage. As a juridical idea CHM appeared "highly artificial."[39] Neither Cocca, nor representatives from Brazil, India, and Egypt who had clung to the phrase had ever properly defined it—in fact, the language's proponents candidly admitted and welcomed its opaqueness as a catch-all for a slew of broader ambitions. It had been conjured seemingly out of thin air. "The very notion of 'the heritage' is very general," explained legal scholar R. V. Dekanozov from his podium at the 17th Colloquia on the Law of Outer Space in Amsterdam. It subsumed everything from intellectual inheritances like scientific knowledge and religious traditions to material phenomena such as cultural artifacts and, of course, natural resources. The phrase's capaciousness permitted endless interpretation. It could be applied to areas outside of national jurisdiction and to natural resources lying within a state's territory, to resources "tangible and intangible, available at the present time and those which may appear in the future."[40]

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37 Zhukov, "Moon for All States," 44–45; Robson, "Soviet Legal Approach," 110.

38 A/AC.105/115, April 27, 1973, Annex I, 24–25.

39 R. V. Dekanozov, "Juridical Nature of Outer Space, Including the Moon and Other Celestial Bodies," *17th Colloquium on the Law of Outer Space* (1974): 202.

40 R. V. Dekanozov, "Juridical Nature," 201.

Many representatives in the Global South, Dekanozov observed, openly declared common heritage as common property. Others voiced it "in a slightly camouflaged way." But both approaches arbitrarily transferred civil law to international relations and would thereby force Soviet diplomats at COPUOS to be always "on one's guard."[41] Dekanozov put the matter bluntly: "adherents of [CHM] will try and apply it to the whole Earth and its natural resources." From statements made at the UNCLOS negotiations, the lawyer perceived the beginning of a campaign to divide not just the seabed "but … the whole thickness of the water of the world ocean, to the air space over the high seas and to some natural resources of territorial and inland waters."[42] Perhaps even Soviet economic sovereignty was at stake. As one American attorney observed years later, the Soviets determined that the "real motivation" behind CHM was "that certain global authors"—chiefly representing Argentina, Brazil, Mexico, and India—"aimed at a concept of erosion of State frontiers and at establishing a world supranational organization with plenary powers."[43]

Implicated in these suspicions was Cocca's entire edifice of a *jus humanitatis*, the doctrinal foundation upon which he had built the notion of common heritage in the first place. "Unfortunately," thought Vasilevskaya, "it should be pointed out that these theories are not well-grounded and thought over, though sometimes they influence the course of considering certain problems in the Legal Subcommittee." Better to stick to *jus cogens*—compelling law—in which common *use*, not heritage or property, already enjoyed recognition in international law. The transference by certain "Latin American authors" of maritime law to space law constituted "a serious hindrance" to the preparation of a Moon treaty.[44] Dekanozov agreed. CHM, and with it a *res omnium communis* regime for lunar resources, arbitrarily transplanted private Roman law to international relations. "The attempts to galvanize old ideas to squeeze new meaning into the Procrustean bed of these terms cannot be successful," he told the IISL. The concept simply "set the soil for different and conflicting interpretation."[45]

Argentina responded to these criticisms with its own working paper on April 17. While it was true that ownership of the entire Moon had been declared illegal under the OST, a second kind of property right, carried over from antiquity, might yet prevail. *Dominio ùtil*, or beneficial ownership, connoted "enjoyment, receipt of the fruits, profit." Exploitation of lunar resources, the Argentinian paper (most likely composed by Cocca himself) declared, clearly made those resources subject to *dominio ùtil*. But how were international lawyers to refer to this "conjunction of profits, this joint receipt of fruits and products"? The Spanish word for heritage—*patrimonio*—offered a solution. It appeared frequently in international law, most recently in the governance of the *mar patrimonial*, the patrimonial sea, in which a coastal state would retain exclusive rights over all resources in the waters, seabed, and subsoil of a strip of ocean beyond the territorial sea, but which nevertheless would allow for freedom of navigation, overflight, and the laying of submarine cables.[46]

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41 R. V. Dekanozov, "Juridical Nature," 202; R. V. Dekanozov, "Relationships Between the Status of Outer Space and the Status of Areas Withdrawn from State Sovereignty," in *Proceedings of the Sixteenth Colloquium on the Law of Outer Space* 10 (1973), 9–12.

42 Dekanozov, "Juridical Nature," 201–02.

43 Robson, "Soviet Legal Approach," 121.

44 Vasilevskaya, "Drawing Up a Draft Treaty," 101.

45 Robson, "Soviet Legal Approach,"122; R. V. Dekanozov, "Relationships Between the Status of Outer Space and the Status of Areas Withdrawn from State Sovereignty," in *16th Colloquium on the Law of Outer Space* 10 (M. Schwartz ed. 1973): 9–12.

46 A/AC.105/115, April 27, 1973, Annex I, 29–31; Andres Aguilar M., "The Patrimonial Sea of Economic Zone Concept," *San Diego Law Review* 2, no. 3 (May 1974), 581–82.

Did not the Soviets, in any case, take possession of rocks from the Moon and make use of them? There was "no need to create anything new." The notion of heritage had endured "since olden times" and always enjoyed recognition in civil and international law. Denying the American outlook expressed in Arnold Frutkin's earlier message to the NASA leadership, the working paper asserted that the CHM principle was "not philosophical but legal." The advantage of replacing the nebulous "province" (a term from Article I of the OST) with the more concrete "heritage" was that it demanded *action* and *operation*, that is, "replacing an abstract statement [with] a specified framework" for extraction and sharing. To be sure, the regime of negative space law (prohibiting bad behavior in space) deserved applause, but states were entitled to positive rights and considerations as well. Among these were:

> The need to link to the exploration and use of space and celestial bodies the exploitation thereof; The search for profit, with an attempt to ensure its results; Equitable sharing of the profits derived; Consideration of the needs and interests of developing countries; Supervision of this activity with a view to equitable distribution; The institution of an international régime; The establishment of appropriate procedures for such a régime; The existence of international machinery or an international authority to give effect to all the expectations that have been voiced.

Ultimately the question of lunar resources hinged not on semantics and terminology but on "the essence of the problem" and prevailing law. That the General Assembly had adopted the resolution (2749) on seabed resources without a dissenting vote proved the general agreement of the international community on this issue, "irrespective of their special internal features, their philosophical ideas[,] or their policies."[47]

IV

The chasm between Argentina and the USSR was long and deep. As a legal construct CHM seemed stuck between the *res communis humanitatis* principles espoused by "the Latin American authors" and the needs of state—read Soviet—sovereignty expounded by the likes of Dekanozov and Vasilevskaya.[48] And while the American delegation had adopted common heritage in its own language, it too pondered the implications an article on natural resources might have for the freedom of U.S. space activities. In the early months of 1973 alone, these players were joined by Bulgaria, Nigeria, Egypt, Mongolia, India, and Iran in submitting to COPUOS discrete draft language on natural resources.[49]

It was into this morass that Italy's principal negotiator, Francesco Capotorti, intervened. A longtime professor of law and political science at the Universities of Bari, Cagliari, Rome, and Naples—where he received his juris doctorate in 1945—Capotorti, like Aldo Cocca, was already an internationally recognized jurist when he arrived at the United Nations in 1960 as the Italian representative to the General Assembly. He had authored key studies on the laws of war, private international law, and freedom of information.[50] In the early 1970s he had helped generate a definition of "aggression" in international law and would go

47 A/AC.105/115, April 27, 1973, Annex I, 29–31.

48 Vasilevskaya quoted in Christol, "Common Heritage," 459.

49 These texts are available in A /AC.105 /196, April 11, 1977, Annex I, 9–18.

50 *L'occupazione nel legge di guerre* (1949); *The nationality of companies* (1953); *Premises and functions of private international law* (1961); *The United Nations Prospects for Action on Freedom of Information* (1964).

on to do the same for the term "minority" as Special Rapporteur to the Sub-commission on Prevention of Discrimination and Protection of Minorities.[51] From 1976 he would serve as a judge, and later Advocate General, for the Court of Justice of the European Communities in Luxembourg. Throughout his career he also laid the legal groundwork for European integration.[52]

Capotorti understood the centrality of CHM to the Moon Treaty negotiations, for he had been Italy's lead delegate in the LSC since Argentina first proposed its draft treaty, which, as we've seen, had narrowed in on the natural resources issue. On April 3—before Cocca issued his reply to the Soviet working paper—Capotorti waded into the already contentious debate over resources with a new, five-paragraph article. It blended the language from previous working papers and attempted to balance the interests of the developing world delegations and the original conceptions of property contained in the 1971 Soviet text. Capotorti's version established: 1) the illegitimacy of national sovereign claims; 2) that neither the surface, subsurface, "their parts," or natural resources would become the property of states, organizations, or individuals; 3) equal rights to the exploration and use of the Moon; 4) the obligation of states to establish an international regime to govern the exploitation of natural resources of the Moon; and 5) that a conference of the Treaty's parties would convene at the request of one-third of the depository governments to implement the regime, and would proceed on the principle that the resources of the Moon are the common heritage of mankind.[53]

In the ensuing days, the U.S. mission to COPUOS engaged in a hurried (and somewhat rankled) dialogue with the State Department over "the Italian text."[54] The purpose of Capotorti's draft article, complained one memo, was to "prohibit any exclusive claim to exploit a particular area or a particular

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51 Francesco Capotorti, Study on the rights of persons belonging to ethnic, religious and linguistic minorities, UN Sub-commission on Prevention of Discrimination and Protection of Minorities, 1979.

52 Paolo Varvaro, "Capotorti, Francesco," *Historical Dictionary of European Integration* (2010); Council of the European Communities General Secretariat, Press Release 99/76, January 20, 1976.

53 A /AC.105 /196, April 11, 1977, Annex I, 17–18.

The full text of the Italian working paper is as follows:

1. The moon is not subject to national appropriation by claims of sovereignty, by means of use of occupation, or by any other means.
2. Neither the surface or subsurface of the moon, nor, subject to the provisions of article V, paragraph 2, their parts and natural resources shall become property of any State, international intergovernmental or non-governmental organization, national organization or agency or non-governmental entity, or of any natural person. The placement of personnel, space vehicles, equipment, facilities, stations and installations on or below the surface of the moon, including structures connected with its surface or subsurface, shall not create a right of ownership over parts of the surface or subsurface of the moon.

   The foregoing provisions are without prejudice to the international regime referred to in paragraph 4 of this article.
3. All States have an equal right to the exploration and use of the moon without discrimination of any kind, under the conditions stipulated in this Treaty.
4. States parties to this Treaty undertake to establish an international regime governing the exploitation of the natural resources of the moon, when such exploitation will become technically feasible.

   The main purposes of the international regime to be established shall be to ensure the orderly and safe development and rational management of the natural resources of the moon, to expand opportunities in the use thereof and to determine an equitable sharing by all States in the benefits derived therefrom, taking into consideration, in particular, the interests and needs of the developing countries.
5. A conference of all States parties to this Treaty shall be convened by the depository Governments at the request of one-third of such States, in order to implement the provision of paragraph 4 of this article, on the basis of the principle that the natural resources of the moon are the common heritage of mankind.

54 Telegram, USUN (NY) to Secretary of State, Subj: Outer Space Legal—TOM and Registration Issues, doc. 1973USUNN01279, April 9, 1973, CFPF, RG59, USNA.

resource on the moon as against another would-be exploiting state." And, according to the draft treaty's non-interference provisions, Capotorti's language "would deny any exclusive right to exploit on the part of a first-arriving state." "We do not believe," the delegates continued, "that question could be reasonably raised as against possible future U.S. pre-regime exploitation on the ground[s] that it was incompatible with ensuring orderly and safe development and rational management of natural resources, that it was inconsistent with purposes of expanding opportunities in the use of such resources, or that it would somehow prevent the negotiation of a regime characterized by equitable sharing of benefits."[55] They recommended to William Rogers that the government consider making "an anti-moratorium statement," either in the Legal Subcommittee at the current session, the full COPUOS, or perhaps even the UN's First Committee, for each maintained full verbatim records.[56]

But several delegations in the LSC had already voiced support for Capotorti's formulation of natural resources as a workable compromise; aside from the inclusion of the CHM principle in Paragraph 5, even the Soviets "grudgingly approved." The United States was the only nation to reject it. Perceiving in the Italian text an implied moratorium on the use of space resources, Reis and company quickly generated an alternative article that made one small, but crucial, change. In Paragraph 2, the article stipulated that neither a celestial body's surface, subsoil, or natural resources "*in place*" could become property—if removed from their original location, lunar materials, for instance, could be appropriated.[57] Maiorski intimated that Moscow was inclined to accept Capotorti's proposal, but would be willing to support the United States' efforts to delete the allusion to "natural resources" in Paragraph 2 of the Capotorti text.[58]

Other allies, however, were harder to come by. Brazil, Egypt, and especially India found the American language unacceptable. India's Krisna Rao said that the Italian text "constituted a fairly delicate balance" between the various factions competing on the resource issue. In any case, he added, nothing in the text implied a moratorium; the United States had been "quite clear" in its objections to the Indian moratorium proposal forwarded earlier.[59] Only two delegations—Britain and Japan—showed any support to the American variant of the article. "If these del[egation]s persist in their objections," U.S. Ambassador to the UN John Scali warned in a memo to the State Department, "[it's] hard to see how issue can be resolved."[60]

On April 12 the LSC's Working Group on the Moon Treaty spent the "entire day" on the natural resources article but failed to get anywhere. During the morning session, the U.S. delegation proposed modifying paragraphs 5 (adding "international community" to "all states" as beneficiaries of future exploitation) and 6 (expanding "common heritage" to the entire Moon) of Capotorti's draft but met a "broad negative response." Numerous delegates voiced objections about reopening debate over this language, which they regarded as settled. The Soviet Union, now joined by Japan, opposed extending "common heritage" to the entire Moon rather than merely its resources. The "non-aligned," reported Reis, "while mildly gratified by

55 Telegram, USUN (NY) to Secretary of State, Subject: Outer Space Legal: Moon Treaty – Natural Resources, doc. 1973USUNN01236, April 06, 1973, CFPF, RG59, USNA.

56 Ibid.

57 A/AC.105/196, Annex I, 16–17. Author's emphasis.

58 USUN Daily Declassified Summary No. 68, April 7, 1973, CFPF, RG59, USNA.

59 Telegram, USUN (NY) to Secretary of State, Subj: Outer Space Legal—TOM and Registration Issues, doc. 1973USUNN01279, April 9, 1973, CFPF, RG59, USNA.

60 Telegram 1501, John Scali to State Dept, April 3, 1973, *FRUS* 1969–76, vol. E-3, doc. 77.

U.S. suggestion, did not support it with any vigor in the face of strong Soviet and Japanese statements on question."[61] Both items were dropped.

The "major impasse," of course, was the notion of a moratorium. The United States moved to delete "natural resources" from Paragraph 2 in Capotorti's draft. Although some in Reis's group had not understood this article as imposing a moratorium per se, it was "in view of possible contrary interpretation[s]" that it insisted on removing the reference. Rao replied that this deletion would make the Indian position on Article X "complicated and extremely difficult" and would "force India to reintroduce its earlier resources proposal," which the United States clearly viewed as imposing a pre-regime moratorium.[62]

The session had to be extended. Most delegations at once rallied against American motions to expunge "natural resources" from the text and reassure Reis, S. Neil Hosenball, and the others that its inclusion did not imply a moratorium. Reading the room, the Americans tried a different tack: perhaps "natural resources" could remain in the treaty if Article X included an explicit provision that nothing in the article could "be construed as imposing a moratorium." That motion failed as well, falling to dissent by India and Egypt, which intoned that pressing too hard on this issue might cause home governments to "take still more rigid" positions. The delegates broke off for informal consultations, but these "proved fruitless" too. The afternoon session convened "in [a] pessimistic atmosphere."[63]

This bleak climate hung over the future of the negotiations. While Working Group I did manage to approve the text of six provisions (admittedly low hurdles: much of the language had been pilfered directly from the OST), and while many delegates voiced hopes that the three major differences could be ironed out at the following year's LSC session, a cursory reading of the tea leaves presaged a long and hard-fought battle ahead.[64] The COPUOS's consensus rule would assure that the United States could block India over a moratorium; that Argentina could block the Soviet Union on CHM; and that the Soviets, in turn, could refuse any strong language on advance notification. To complicate matters further, an idea began to circulate in many delegations that governance of natural resources on celestial bodies could profit from principles laid out during the upcoming United Nations Law of the Sea Conference (UNCLOS III), set to begin that December in New York. The resulting conflicts—generally between the Global South, which conceptually tied the Moon Treaty negotiations with UNCLOS III, and the Global North, which thought it was "premature to draw parallels"—hamstrung the process for years.[65]

V

A full rendering of the labyrinthine UNCLOS negotiations is beyond the scope of this report. Yet to understand the relationship between the Law-of-the-Sea process and the one from which the Moon Treaty eventually unfolded, a brief word is due. The United Nations convened the first UNCLOS III session from December 3–15, 1973. Years in the making, this new set of negotiations set out to create a powerful

61 Telegram, USUN to Secretary of State, Subject: Outer Space Legal: Moon Treaty—Natural Resources, April 13, 1973, doc. 1973USUNN01338, CFPF, RG59, USNA.

62 Ibid.

63 Ibid.

64 A/AC.105/115, 5.

65 USUN Daily Declassified Summary No. 67, doc. 1973USUNN01230, April 6, 1973, CFPF, RG59, USNA.

international body—"the Authority"—to preside over the exploitation of the sea's resources and distribute the resulting wealth with an eye toward justice and the development of poorer nations.

The United Nations had been developing new conventions on sea law since 1958, when its first conference (UNCLOS I) produced four agreements that entered into force during the subsequent decade.[66] But developments in the mid-to-late 1960s propelled a new round of interest in international maritime law, particularly regarding seabed resources. In 1965 John L. Mero, a consultant with the Newport News Shipbuilding and Drydock Company, published an influential book entitled *The Mineral Resources of the Sea*.[67] In it, he painted a vivid picture of the ocean as the "boundless, inexhaustible storehouse of the material stuff of civilization." Of particular interest was the presence—first discovered by the British *Challenger* expedition (1872–1876)—of phosphorite and manganese dioxide concretions on the ocean floor. The manganese nodules, naturally abundant in zinc, iron, nickel, copper, and cobalt, prodded industrial fantasies of oceanic abundance.[68]

Of particular note was that Mero's book piqued the interest of Arvid Pardo, UN Ambassador of the tiny island nation of Malta, ninety miles off the coast of Sicily. On November 1, 1967, Pardo delivered a marathon speech—nearly three and a half hours—before the General Assembly calling for the creation of a new international regime to govern the resources of the ocean, including the seabed beyond national jurisdiction, before a neo-colonial competition made impossible a judicious and equitable apportionment of the ocean's "untapped wealth." Pardo dreamed of a treaty that would prevent: 1) the militarization of the sea; 2) pollution borne from national and commercial exploitation; and 3) conflict over resources reminiscent of the "scramble for Africa" during the nineteenth and early twentieth centuries. "Some countries," he warned, would be tempted to use national competence in military and mining technology "to achieve near-unbreakable world dominance through predominant control over the seabed and the ocean floor."[69]

The repercussions for world order promised to be "very grave: at the very least a dramatic escalation of the arms race and sharply increasing world tensions, also caused by intolerable injustice that would reserve the plurality of the world's resources for the exclusive benefit of less than a handful of nations." "The strong will get stronger," he cautioned, "the rich richer, and among the rich themselves there would arise an increasing and insuperable differentiation between two or three and the remainder." To prevent such an exploitative international market, Pardo recommended that the UN direct "preferential consideration" to the needs of poor nations, and that claims to sovereignty be "frozen" outside the territorial shelf until an authoritative definition of its limits emerged. He urged, too, an international body with the power and resources necessary to govern the ocean's riches, what he considered, notably for our purposes, "the common heritage of mankind."

Subsequent events appeared to legitimate Pardo's concerns. When in April 1968 the Soviet Union lost a nuclear-capable submarine in the North Atlantic, the Nixon administration, as cover for a CIA mission to recover the vessel, asked Howard Hughes to design a submersible—what became the *USS*

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66 The four treaties were the Convention on the High Seas (1962), the Convention on the Territorial Sea and Contiguous Zone (1964), the Convention on the Continental Shelf (1964), and the Convention on Fishing and Conservation of Living Resources of the High Seas (1966).

67 John L. Mero, *The Mineral Resources of the Sea* (London: Elsevier, 1965). On Mero, see "In Memoriam," *Marine Georesources and Geotechnology* 20, no. 1 (2002): 85–86.

68 Nina W. Cornell, "Manganese Nodule Mining and Economic Rent," *Natural Resources Journal* 14, no. 4 (October 1974): 520.

69 "First Statement to the First Committee of the General Assembly, November 1, 1967," in Arvid Pardo, *The Common Heritage: Selected Papers on Oceans and World Order, 1967–1974* (Msida, Malta: Malta University Press, 1975), 1–41.

Halibut—capable of mining the underwater manganese nodules.[70] The rouse turned into a feeding frenzy: investments amounting to more than a half a billion dollars flowed to research identifying potential deposits and the development of technology to mine and process the nodules. Four multinational consortia—composed of U.S., Canadian, British, Belgian, Dutch, Italian, and Japanese companies—predominated, but these were swiftly joined by groups of private companies and agencies from France and Japan, as well as publicly funded entities in the Soviet Union, India, and China.[71]

Meanwhile, political action leading to UNCLOS III was occurring at a rapid pace. In December 1967 the General Assembly established a thirty-six-member ad-hoc committee to study Pardo's ideas; it held three sessions in 1968 and presented a study to the 23rd General Assembly, which quickly converted the ad-hoc committee into a full Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jurisdiction, now consisting of forty-two states. By December 1970 the UN had issued a formal Declaration of Principles (Resolution 2749, XXV), which declared the seabed, the ocean floor, and its subsoil ("the Area") beyond the limits of national jurisdiction and its resources "the common heritage of mankind." The document also declared that a global conference of member states would, through a treaty, create an international regime to govern the Area and its resources. The Committee acted as a preparatory body for the upcoming conference: between 1971 and 1973 it held six meetings, skipping like the COPUOS between New York and Geneva.[72]

While UNCLOS III promised a revolution in *oceanic* governance, its implications for lunar questions were profound, if not outright decisive. Treaty language shifted back and forth between the two negotiations. Each proceeding was considered a model for the other, and each eyed the progress of its counterpart. Indeed, the two accords evolved in parallel. Both tackled issues of title, ownership, sovereignty, resources, and jurisdiction. Both were couched in the ethos of demilitarization that swept Cold War diplomacy during the late 1960s and 1970s. And both bulged with the political and economic aspirations of the Third World and, in no small quantities, the measured calculations and suspicions of the First.[73]

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70 M. Todd Bennett, *Neither Confirm Nor Deny: How the Glomar Mission Shielded the CIA from Transparency* (New York: Columbia University Press, 2023); David H. Sharp, *The CIA's Greatest Covert Operation: Inside the Daring Mission to Recover a Nuclear-Armed Soviet Sub* (Lawrence, KS: University Press of Kansas, 2012).

71 Gangale, *Development of Outer Space*, 80–84; Allen L. Hammond, "Manganese Nodules (II): Prospects for Deep Sea Mining," *Science* 183, no. 4125 (February 15, 1974): 644.

72 United Nations Convention on the Law of the Sea, Procedural History, accessed March 11, 2024, *https://legal.un.org/avl/pdf/ha/uncls/uncls_ph_e.pdf*.

73 Patricia Minola, "Moon Treaty and the Law of the Sea," *San Diego Law Review* 18, no. 3 (April 1981): 455–72; Isaak I. Dore, "International Law and the Preservation of the Ocean Space and Outer Space as Zones of Peace: Progress and Problems," *Cornell International Law Journal* 15, no. 1 (Winter 1982): 1–62.

Chapter 4

The Doldrums

Limping Toward the Finish Line

Steadfast differences—between U.S. and Soviet delegates, between Soviets and Argentinians, between North and South—presaged a new, tiresome saga in the Moon Treaty negotiations. Gone was the spirit of '66, in which COPUOS, mandated to seek alternatives to cold warring and space racing in the cosmos, had secured agreement on the major elements of the Outer Space Treaty in a matter of months. Language that was so recently applauded as inspiring, subversive to old patterns, and generative of lasting principles was now subject to unceasing debate and legal scrutiny.

For the next three years—1974 to 1977—the negotiations resembled the infamous "doldrums" sailors referred to when traversing oceans in the age of sail: without wind to push the ship, scurvy, starvation, and delirium closed in. Far from softening their positions, all sides clung more tightly. More working papers. More private consultations. More extended sessions. More telegrams rushed to capitals. All to no avail. The Soviets grew "extremely doubtful" that a treaty could be achieved anytime soon.[1] Another delegate told the Americans that he could no longer see "the end of the road."[2]

The U.S. State Department captured the growing pessimism in a white paper distributed to staff on May 3, 1974, just before the LSC was set to meet for its 13th Session. The Soviet Union, for all the diplomatic capital it had poured into a Moon treaty over the last three years, had begun to tire. Piradov, Maiorski, and others had begun "downplaying" the treaty. There was even talk of subordinating the negotiations to agreements on two other issues before the subcommittee: direct broadcasting by satellite and remote sensing of Earth resources by the same. "In fact," the paper warned, "apart from the personal involvement of a small number of officials, we do not believe that major Soviet interests are engaged in the treaty." Whatever U.S.-Soviet gulfs existed on the Moon Treaty had had "no discernible effect" on other cooperative projects in space between the two countries. In any case, both sides concerned themselves with the potential impact a moratorium on exploitation of lunar resources might have for mining in other contexts, the seabed in

1 Telegram, U.S. Mission to the United Nations (NY) to the Secretary of State, Subject: Outer Space: Legal Issues: Attitudes and Intentions, March 6, 1974, doc. 1974USUNN00773, CFPF, RG59, USNA.

2 Telegram, U.S. Mission to the United Nations (Geneva) to the Secretary of State, Subject: UN Outer Space Legal Subcommittee (OSLC): General Debate May 7–8, 1974, doc. 1974GENEVA02864, CFPF, RG59, USNA.

particular. Though "some possible tactical advantage" remained in seeing a treaty through to the end, the report's authors wondered whether a warm fire was worth the fumes:

> Even if all issues were resolved in a manner satisfactory to us, we would regard the treaty as quite limited in value, although it would then represent a modest advance in the international law of outer space. We are prepared to continue negotiations in the Legal Subcommittee on that basis. On the substantive merits, however, completion of the treaty is of no urgency whatsoever and we perceive no reason not to stick to our previous position on the unresolved questions.[3]

Private consultations with the Soviets four days later confirmed this ambivalence. "Putting [the] idea forward on a personal basis," Reis suggested to Piradov that the entire draft be reorganized and the issue of natural resources dropped altogether. Exploitation had been a scourge to the negotiations, the "most difficult" question by far. Reis nurtured the hope that without it, the other issues would swiftly resolve on their own. Piradov and Maiorski agreed it was a good idea but doubted it could be done. The interest of the developing world in the use of lunar resources was simply "too keen." The Kremlin had itself considered the abandonment of the resources issue (indeed, it had not appeared in the USSR's original 1971 draft), but considering the "touchiness of [the] subject," had not sounded out the idea among key members of the COPUOS, for instance Egypt and India. Piradov had also pondered the possibility of divorcing the resource issue—and with it the CHM concept—from the inadmissibility of territorial claims, but again failed to act at the United Nations. But no matter. Reis assured Piradov that the U.S. government "did not perceive any urgency" in completing a treaty before the Apollo-Soyuz mission scheduled for the following year. Both men wondered just how long the negotiations could go on.[4]

I

The LSC met May 6–31 in Geneva, where many expressed a "burning desire" to conclude the negotiations.[5] In 1974 nine new countries were admitted to COPUOS, seven of which—Chile, Indonesia, Kenya, Nigeria, Pakistan, Sudan, and Venezuela—were developing nations (the Federal Republic of Germany and German Democratic Republic were the other two).[6] Despite the more crowded room, there did exist signs of possible conciliation. That spring, for example, it became increasingly clear that a "preponderance" of the delegations now favored expanding the treaty's scope to include all celestial bodies in the solar system.

This was in no small measure attributable to S. Neil Hosenball, NASA's chief legal counsel and an alternate representative to the LSC (he would replace Reis as the lead U.S. delegate in 1975) who had been a member of the American delegation *ab ovo* and who had been serving the space agency for nearly fifteen years. His resumé spoke for itself. After army service in Europe during World War II, Hosenball graduated from Michigan and, three years later, Harvard Law School. He practiced privately in Cleveland

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3 Paper Prepared by the Department of State, Washington, May 3, 1974, "Moon Treaty," *FRUS 1969–76*, *vol. E-3*, doc. 94.

4 Telegram, U.S. Mission to the United Nations to the Secretary of State, Subject: Outer Space Legal: Consultations with Sov. Del, May 8, 1974, doc. 1974GENEVA02863, CFPF, RG59, USNA.

5 Transportation Study, 33; Telegram, US Mission Geneva to Secretary of State, Washington, DC, Subject: Outer Space Legal – General Debate and Registration Convention, May 8, 1974, doc. 1974GENEVA02892, CFPF, RG59, USNA.

6 A/AC.150/133, Report of the Legal Sub-Committee on the Work of Its Thirteenth Session, June 6, 1974.

before joining NASA in 1961. He ascended quickly. Four years into his role at NASA's Lewis Research Center (also in Cleveland), he became assistant general counsel for procurement matters. A year later, the agency promoted him again to deputy general counsel, a role that allowed him to attend all the early Moon Treaty negotiations as an advisor. Indeed, Hosenball's tenure at the Legal Subcommittee—1970 to 1979—matched the Moon Treaty's exactly. His star was hitched firmly to the accord's wagon.[7]

At a meeting on May 13, Hosenball presented NASA's views to the LSC "in some detail."[8] The United States had to stand firm on treaty scope, he reported, for its space agency had no further crewed missions to the Moon; planetary excursions, including solar exploration, were next. NASA's joint Helios mission with West Germany—conceived to investigate solar winds, magnetic and electric fields, and cosmic rays among other phenomena—was set to launch that November. The Soviet Union had sent four probes to Mars the previous year alone.

"Under these circumstances," Hosenball explained, "it would be very difficult to persuade U.S. legislators to give advice and consent to ratification of a treaty which stated its applicability to other bodies of the solar system besides [the] moon in so conditional a manner." Inclusion, therefore, of the phrase "and other celestial bodies" throughout the treaty text was "the minimum" the U.S. delegation could accept. "On merits," Hosenball added, NASA found nothing in the draft texts that would not apply with "equal force" to all celestial bodies. If conditions on other heavenly bodies call for "special treatment," the COPUOS could address the problem though protocols to an existing Moon Treaty rather than creating a separate accord. If the negotiations to date were any guide, the supplementation of new treaties for each stop in the solar system would produce "awkward drafting problems," in particular the "hazard of repeated redundancy of provisions" already laid down in the Outer Space Treaty. "We continue to maintain," Hosenball concluded, "that [the] OST must remain [the] primary document governing space activities."[9] By the end of the session Soviet delegates, though they warned that the question of scope would be settled last, after advance notification and the resource question, seemed to have "tacitly agreed" to an expanded scope for the treaty.

Still, for the resource issue, COPUOS's consensus rule—emerging from the tense negotiations "slightly frayed but in one piece"—was becoming a liability.[10] India remained insistent on a pre-regime moratorium; the United States, in turn, would not budge from its refusal.[11] The Eastern bloc forwarded linguistic alternatives to CHM—the Czechs offered the OST's terminology that resources should be used "for the benefit of all countries," and Piradov suggested they be the "object of common use by all states"—but both

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7 *NASA News*, July 11, 1985, release no: 85-104, folder 1098, Hosenball, S. Neil (Biog.), NASA History Office Archives; Obituaries, S. Neil Hosenball, *Washington Post*, December 26, 2009.

8 Telegram, U.S. Mission to United Nations (Geneva) to Secretary of State, Subject: Outer Space Legal: Scope of Moon Treaty, May 15, 1974, doc. 4GENEVA03045, CFPF, RG59, USNA.

9 Ibid.

10 Telegram 2488 From the Mission to the United Nations to the Department of State New York, July 19, 1974, 1543Z, Subj: UN Outer Space Committee (OSC) 1974 Session: UN Delegation Appraisal, FRUS, vol. E-3, doc. 96.

11 Telegram, U.S. Mission to the United Nations (Geneva) to the Secretary of State, Subject: UN Outer Space Legal Subcommittee (OSLC): General Debate May 7–8, 1974, doc. 1974GENEVA02864, CFPF, RG59, USNA.

proposals quickly fell flat.[12] Egypt, India, and "the Latin Americans" remained unbending in their loyalty to common heritage.[13]

Continued reticence about CHM frustrated and perplexed Aldo Cocca, for as he explained in a meeting on May 15, the concept had first emerged not from Pardo or the seabed issue but from the COPUOS itself! In a triumphant January 1967 meeting—the first to be held after the signing of the OST—Argentina's delegation had emphasized that the new accord introduced "the concept of a patrimony differing from all preceding ones." The Spanish *patrimonio comun* was translated neatly into English as "common heritage" or "common property." José Luis Vallarta identified the same translation for the French *patrimoine*. Adoption of the CHM principle was non-negotiable, because once the high seas had been declared *res communis*, "their resources (res nullius) had been exploited by the only countries having the capacity to do so."[14] That was why, shortly after the OST ceremony, the World Peace Through Law Center (based in Washington, D.C., no less) drafted a treaty governing the exploration and use of the seabed that adopted, verbatim, several basic tenets of the Space Treaty.[15] By ratifying the OST, the space powers had proven "that they were willing to abandon their individualistic approach and to respect the interests of the international community." "The same principle of renunciation," Cocca reasoned, "was embodied in the provisions of the draft treaty relating to the Moon so far agreed"—CHM included. For the Argentinian delegation and numerous others besides, the idea that space constituted "the province of all mankind"—reified in the OST's first article—meant "that the benefits to be derived from the moon and celestial bodies would be enjoyed by mankind as a whole in conformity with 'the common heritage of mankind.'" The two phrases were twins.[16]

II

By this time, the debate over common heritage had become more complicated, for the position many delegates took vis-à-vis natural resources became more intimately bound up with broader North-South tensions then bursting out in the General Assembly and in international politics generally. On May 1, 1974—just before the LSC assembled in Geneva that year—the UNGA adopted the Declaration for the Establishment of a New International Economic Order (NIEO) in which "equity, sovereign equality, interdependence, common interest and cooperation amongst all States" would redress "the exploitation and arid depletion" experienced under centuries of European colonialism.[17] A second resolution issued that December would formally recognize state sovereignty over the possession, control, and disposal of natural

12 Telegram, U.S. Mission to the United Nations (Geneva) to Secretary of State, Subject: Outer Space Legal—General Debate and Registration Convention, May 8, 1974, doc. 1974GENEVA02892, CFPF, RG59, USNA.

13 Telegram, U.S. Mission to the United Nations to Secretary of State, Subject: Outer Space Legal Sub-Committee: General Debate, May 9–10, May 11, 1974, doc. 1974GENEVA02398, CFPF, RG59, USNA.

14 A/AC.105/C.2/SR.212, COPUOS Legal Subcommittee: Summary Records of the Two Hundred and Eighth to Hundred and Twenty-Fifth Meetings, October 4, 1974, 36.

15 A/AC.105/C.2/SR.212, 45.

16 A/AC.105/C.2/SR.212, 30–31. That Cocca's introduction of "common heritage" preceded Pardo's is corroborated by the United Nations records. See A/AC.105/C.2/SR.75 (November 13, 1967); John E. Noyes, "The Common Heritage of Mankind: Past, Present, and Future," *Denver Journal of International Law and Policy* 40, no. 1–3 (2011–2012): 457; Bradley Larschan and Bonnie C. Brennan, "Common Heritage of Mankind Principle in International Law," *Columbia Journal of Transnational Law* 21, no. 2 (1983): 318, n. 45.

17 United Nations General Assembly, A/RES/S-6/3201, Declaration on the Establishment of a New International Economic Order, May 1, 1974, *http://www.un-documents.net/s6r3201.htm*.

resources found within its borders, as well as a state's right to regulate foreign investments, supervise the activities of multinational corporations, and transfer ownership of foreign property.[18] At heart, the NIEO's purpose was to radically alter economic relations between rich and poor nations by restructuring trade agreements, setting price controls, and redistributing wealth and technology from consumers to producers. Post-colonial nationalists envisioned the erection of a "welfare world" that would enhance the bargaining power of the Global South, internationalize economic planning, and coordinate the equitable distribution of resources and indeed political power.[19]

For many, the declaration of the NIEO was long overdue. Prices for commodities such as coffee, tea, cotton, and cocoa had sharply declined in the late 1960s and early 1970s, leaving post-colonial states, which relied on export of these products, with crippling foreign exchange shortages. Debt and foreign aid (which lending nations attached to strict conditions) could only mitigate, not close, the resulting budgetary gaps. Politicians and economists in developing nations quickly identified the cycle of indebtedness the situation engendered and began developing projects in what political scientist Adom Getachew has called "anti-colonial worldmaking."[20]

The NIEO was only the most recent and ambitious example. From the mid-1960s, the "Third World," fed up with the inadequate attention of the International Monetary Fund and the World Bank, leveraged its numerical superiority in the United Nations and its control of vital raw materials to force a political and economic reckoning with the industrialized nations of the First. In 1964 seventy-seven non-aligned countries had bound themselves together at the UN Conference on Trade and Development and called for "a new and just world economic order" that would finally privilege the needs of the "darker nations." This Group of 77 was but one manifestation of what social scientists called the revolution of rising expectations, a mounting desire among Southerners for land, resources, and power driven by a growing agitation over their subordination in the international system. By 1973 it was clear that this revolution was in full swing. That October the Arab members of the Organization of Petroleum Exporting Countries (OPEC) responded to U.S. support for Israel in the Yom Kippur War by imposing an embargo against the United States, slashing production of oil and hiking prices. The NIEO declaration arrived six months later.[21]

As a consciously laid political campaign, the NIEO manifested itself visibly in international negotiations of all kinds. The Law-of-the-Sea proceedings—from the beginning a vital NIEO project—were a case in point. The minutiae of UNCLOS III mapped neatly onto the developing world's economic goals. As the talks wore on, Southern delegates pushed for the institution of fees for administrative costs, production charges based on the amount of metal attained from seabed production, and a share of net profits. It negotiated, too, for new terms of technology transfer in which reforms to the existing patent system would accommodate an "international code of conduct" that would provide "a more equitable balance" between suppliers and recipients. And to remedy the economic ravages of shifting commodity prices, G-77 countries strove to build an integrated commodity program (ICP) capable of fixing the relationship

18 UNGA Res 3281 (XXIX), Charter of Economic Rights and Duties of States, December 12, 1974.

19 Adom Getachew, *Worldmaking After Empire: The Rise and Fall of Self-Determination* (Princeton, NJ: Princeton University Press, 2019), 144–45.

20 Getachew, *Worldmaking After Empire*, 143–44.

21 Vijay Prashad, *The Darker Nations: A People's History of the Third World* (New York, 2008); James Chowning Davies, "Toward a Theory of Revolution," *American Sociological Review* 27 (1962): 5–19; Nick Cullather, *The Hungry World: America's Cold War Battle Against Poverty in Asia* (Cambridge, MA, 2010), 2.

between commodity prices and those of manufactured goods, thus stabilizing the position of nations reliant on exports.[22]

The NIEO ethos pervaded COPUOS negotiations as well, albeit in less obvious ways. While the Soviets were beginning to disengage, representatives from the Global South, buoyed by the activity at the General Assembly, became more vocal and active in the LSC. On May 8 Vallarta proposed that further discussion on the Registration Convention (of Objects Launched into Space) be postponed to give G-77 members time to consult, the first reference, according to one U.S. State Department communique, to specific meetings among the Group of 77 in the UN's space committee ("not an especially welcome development," the telegram continued).[23] Vallarta called for a similar caucus to discuss the remote sensing issue as well. Five days later, Egypt, India, and Nigeria submitted a joint working paper suggesting that property in mineral samples or "other substances" be vested in the United Nations, igniting a terse exchange that shook the emotions of both the Soviets, who objected, and the Mexican and Indian delegations, which defended the idea.[24] And that October, Kuwait suggested sending out a questionnaire to the industrialized members of the LSC that would take stock of how each was willing to help developing nations in space technology.[25] Fear spread in U.S. policymaking circles that the "current discussions in Geneva" on lunar resources "might set relevant precedents" for the seabed.[26]

Of course, the Global South's connection of the Moon Treaty negotiations to UNCLOS III was itself the starkest evidence of the NIEO's transplantation to space politics. From its 13th Session in 1974, the LSC's developing-world members linked governance of lunar resources to that of seabed resources more and more explicitly.[27] Far from the "philosophical" connotation Arnold Frutkin had given the CHM principle when the United States first committed itself to the negotiations, Egypt, India, Nigeria, Kenya, and other countries referred to UNCLOS as a legal model. In his "most extensive exegesis yet," Vallarta, who served as one of Mexico's representatives to UNCLOS (and who would eventually serve as president of the International Seabed Authority) propounded the "alleged linkage" between the riches of the Moon and those of the ocean floor. Citing Pardo and President Lyndon Johnson, Vallarta explained that

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22 Juda Lawrence, "UNCLOS III and the New International Economic Order," *Ocean Development and International Law* 7, no. 3 and no. 4 (1979): 221–56.

23 Telegram, U.S. Mission to the United Nations (Geneva) to Secretary of State, Subject: Outer Space Legal – General Debate and Registration Convention, May 8, 1974, doc. 1974GENEVA02892, CFPF, RG59, USNA.

24 A/AC.105/196, Annex I, 9; Telegram, U.S. Mission to the United Nations to Secretary of State, Subject: Outer Space Legal: Indian Proposal on Conditions for Experimental Exploration of Celestial Bodies, May 14, 1974, doc. 1974GENEVA02990, CFPF, RG59, USNA.

Several delegations, including Canada, Austria, and the Soviet Union spoke of "troublesome possibilities" in this proposal. The USSR asked how the proposal would square with (draft) Article X's stipulation that an exploring state disseminate samples to all requesting states. The Soviets' questions "produced [a] hot reaction from Mexico," which characterized them as in "such bad taste as not to deserve an answer from the Indian or any other del[egation]." "Deeply saddened" Mexico's representative, the Soviets claimed that Vallarta had "misunderstood their efforts to clarify both meaning and practical effects of Indian proposal." Telegram, U.S. Mission to the United Nations (Geneva) to Secretary of State, May 29, 1974, doc. 1974GENEVA03174, CFPF, RG59, USNA.

25 Telegram, U.S. Mission to the United Nations to Secretary of State, Subject: USUN Unclassified Summary no. 042, October 17, 1974, doc. 1974USUNN04165, CFPF, RG59, USNA.

26 Telegram, May 23, 1974, U.S. Mission to NATO to Secretary of State, Subject: Law-of-the-Sea: May 24 NAC Meeting, doc. 1974ATO02859, CFPF, RG59, USNA.

27 Telegram 2488 From the Mission to the United Nations to the Department of State New York, July 19, 1974, 1543Z, Subj: UN Outer Space Committee (OSC) 1974 Session: UN Delegation Appraisal, *FRUS, 1969–1976, vol. E-3*, doc. 96.

marine resources constituted the "common heritage of mankind and said [the] moon and its resources are [the] same." There was nothing philosophical, aspirational, or abstract about "heritage," he added. On the contrary, it harbored a "precise legal content," that is, "the totality of a person's goods.[28]

III

All this had a chilling effect on the negotiations. At the end of the 1974 session "positions remained frozen on both sides of [the] 'common heritage' controversy and on resource exploitation generally."[29] The United States and the Soviet Union continued to float recommendations that the resource question be dropped "in toto."[30] The two delegations promoted the treaty as one governing navigation, exploration, and scientific cooperation and urged the LSC to "put aside vexed questions regarding what after all was at best [a] long-term future contingency."[31] But Southern delegates scoffed. When Maiorski reintroduced the idea during a full COPUOS meeting in July, Iran's delegate said that promises to later adjudicate the resource issue could not be trusted: the superpowers, for instance, had failed to follow through on the commitment, laid out in the Limited Test Ban Treaty a decade prior, to agree on a *comprehensive* ban on nuclear weapons tests.[32] In a general appraisal of the session, the U.S. mission reported that negotiations had been "marked … by [a] degree of irritation, much of it aroused by repeated picky and insensitive USSR interventions." In an "especially sharp" exchange, Sweden's representative accused Maiorski of abusing the consensus procedure to "assert veto prerogative."[33]

Not a yard was gained toward a treaty over the next two years, either in the full COPUOS or in the Legal Subcommittee. The Moon Treaty remained a "high-priority item" throughout, and session after session the LSC reconstituted Working Group I to reassess the various articles and whittle down the number of brackets reflecting disagreements. During its 14th Session in February and March 1975, the

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28 Telegram, U.S. Mission to the United Nations (Geneva) to Secretary of State, Subject: Outer Space Legal, Subcommittee: General Debate May 9–10, May 11, 1974, doc. 1974GENEVA02938, CFPF, RG59, USNA; Telegram, May 23, 1974, U.S. Mission to NATO to Secretary of State, Subject: Law-of-the-Sea: May 24 NAC Meeting, doc. 1974ATO02859, CFPF, RG59, USNA.

"Under no circumstances," Johnson had said upon the commissioning of the *Oceanographer*, a new oceanic research vessel, "must we ever allow the prospects of rich harvest and mineral wealth to create a new form of colonial competition among the maritime nations. We must be careful to avoid a race to grab and to hold the lands under the high seas. We must ensure that the deep seas and the ocean bottoms are, and remain, the legacy of all human beings. Remarks at the commissioning of the new research ship *Oceanographer*, July 13, 1966. Quoted in Steven Kotz, "'The Common Heritage of Mankind': Resource Management of the International Seabed," *Ecology Law Quarterly* 6, no. 1 (1976): 71–72.

29 Telegram, U.S. Mission to the United Nations (Geneva) to Secretary of State, May 29, 1974, doc. 1974GENEVA03174, CFPF, RG59, USNA.

30 As they did ahead of the 1972 LSC, the U.S. and Soviet delegations met informally in 1974 and collaborated on how to persuade other delegations to drop the "contentious" issue of natural resources. See Telegram, U.S. Mission to the United Nations (NY) to Secretary of State, Subject: UN Outer Space Affairs: Consultations with USSR, July 3, 1974, doc. 74UNN02342, CFPF, RG59, USNA; Telegram, U.S. Mission to the United Nations (NY) to Secretary of State, Subject: UN Outer Space Committee: Moon Treaty Consultations, July 5, 1974, doc. 1974USUNN02354, CFPF, RG59, USNA.

31 Telegram, U.S. Mission to the United Nations (Geneva) to Secretary of State, May 29, 1974, doc. 1974GENEVA03174, CFPF, RG59, USNA.

32 Telegram, U.S. Mission to the United Nations (NY) to Secretary of State, Subject: UN Outer Space Committee: Moon Treaty Consultations, July 5, 1974, doc. 1974USUNN02354, CFPF, RG59, USNA.

33 Telegram 2488 From the Mission to the United Nations to the Department of State New York, July 19, 1974, 1543Z, Subj: UN Outer Space Committee (OSC) 1974 Session: UN Delegation Appraisal, *FRUS, 1969–1976, vol. E-3*, doc. 96.

LSC, after a series of informal consultations, did take one forward step: it split the natural resources article into two distinct draft texts labeled "Article X" and "Article X *bis*." Whereas both included the CHM principle (though of course, that language and much else besides remained in brackets), only X *bis* provided for an international regime. Crucially, X *bis* also included language stipulating that "special consideration" be given to space powers.[34] The contours of Article X *bis* opened a potential compromise: not presuming to establish the regime itself, the text merely provided an outline "for what such a regime should be."[35]

But this progress reflected a cleavage, not a consensus. It was becoming increasingly apparent that the introduction of the NIEO had put the Soviets on their heels. Piradov complained that if regulations for lunar resources arrived before technology for mining them became feasible, "there was a danger that legal norms lacking any practical value might be adopted, norms that would have no relationship to the real tasks and trends of moon exploration and would therefore hamper rather than stimulate activity, thus having a retrogressive effect." "Nor," he intoned, "was there any justification for the recent tendency to transplant automatically to space law principles and norms from other branches of international law."[36]

A revealing episode occurred on June 6, just before the COPUOS was set to meet for its 18th Session. At the American embassy in Moscow, Boris Maiorski told U.S. agents that the Space Committee was an important forum for cooperation between their two countries, especially considering what he perceived as more aggressive activism from developing-world members. He "hinted that the U.S. and USSR should cooperate more to prevent Third World countries from introducing extraneous issues." His delegation had considered the resource issue "superfluous" from the beginning, as reflected in the absence of the issue in the original Soviet draft. "Mournfully," Maiorski mentioned that the United States had sponsored the CHM principle in the LSC and had thereby "opened Pandora's box." Egypt, India, and their allies in the Subcommittee had "very little real concern about the moon but have introduced questions which parallel the exploitation of seabed resources." He complained that the Americans had insisted on making explicit their position that individual countries had the right to extract resources, for such open proclamations "brought about firmer opposition" from the G-77 voting bloc.[37]

These fears were not entirely unfounded. Draft texts excluding proprietary rights over natural resources—whether they implied a moratorium or not—continued to crop up in the LSC. During the 1976 Session (May 3–28), Italy proposed language declaring that lunar resources "cannot be transferred on to the earth by any country for its exclusive economic profit," and that those products could only be brought to Earth under the conditions set out by the proposed international regime. A joint working paper submitted by eight, mostly developing, nations called for parties to undertake the exploitation and use of natural resources only "in a manner compatible with" the international regime to be established in the future, including "an equitable sharing in the benefits derived" from exploitation.[38]

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34 A/AC.105/147, Report of the Legal Sub-Committee on the Work of Its Fourteenth Session, March 11, 1975; Transportation Study, 34.

35 Matte, "Legal Principles Relating to the Moon," 266–67.

36 A/AC.105/C.2/SR.226, COPUOS Legal Subcommittee: Summary Records of the Two Hundred and Twenty-Sixth to the Two Hundred and Forty-Fifth Meeting, May 12, 1975, 8.

37 Telegram, American Embassy (Moscow) to Secretary of State, Subject: UN Outer Space Meeting in New York: Soviet Views, June 6, 1975, doc. 1975MOSCOW07788, CFPF, RG59, USNA.

38 A/AC.105/196, Annex I, 4–6. The eight countries were: Argentina, Brazil, Chile, Indonesia, Mexico, Nigeria, Romania, Sierra Leone, and Venezuela.

Three basic facts undergirded the moral and political import that Southern delegations assigned to the proposed international regime and to the CHM principle generally. The first was a profound fear about being subordinate players in space technology and the consequences that status might have on economic development. Popular culture and government image-making in the United States and the Soviet Union had connected space exploration with glistening prosperity, increased military power, continued technological revolution, and masculinity. As Colombian delegate Hector Charry Samper put it, developing nations wanted to be "participants rather than spectators" in this feast. It was a mistake, added India's delegate, to "think that developing countries were interested only in the benefits accruing from space programmes; their horizons were much wider and their aspirations much higher." But the adventure would remain out of reach for most of the world's people unless "they could be made to feel a greater sense of involvement."[39]

The second fact was also a fear—that of a colonial resurgence born from space technology. For the COPUOS's newly independent members, dangers lurked around every corner. Might post-colonial governments have to share remote sensing data regarding their natural resources, for example, if that data were collected by satellites engineered in industrialized states? Would direct satellite broadcasting be a tool of education and uplift, or of propaganda and "cultural invasions"? Did equatorial countries such as Kenya, Colombia, and Indonesia have any say over the geosynchronous orbit hovering over their territory? And who would foot the bill if a fallen spacecraft killed civilians or damaged property? Domination of the Moon's resources by the technological hegemons who got there first was the most evocative of this list. Iran warned of "less altruistic motives" on the Moon, India of pure "extraterrestrial colonialism." Venezuela's Simon Alberto Consalvi hoped that traditional rules of conquest and possession, "which had prevailed on Earth for so long," would stop at the edge of the atmosphere.[40] Pakistan's comments during the 1975 Session were indicative of general opinion:

> … most of the developing countries were poor and also anxious to improve the quality of life in their countries. They could not, therefore, afford to invest their resources in a space race, but all urgently desired to share in the benefits of the technological achievements of the developed States. His delegation felt that the errors which had led to colonialism must not be repeated in outer space and that the principle of the common heritage of mankind would avert a repetition of the follies of the past. The moon was an uninhabited body; if it was to be owned, it should be owned by all States—rich or poor, strong or weak, developed or developing—for the benefit of all.[41]

Finally, the "main purpose" of the South's negotiating posture, as several delegates openly acknowledged, was realization of the NIEO. It was understandable that space powers such as the United States sought to protect their right to exploit the Moon's resources. How else might their governments justify the prodigious investments necessary for research and development, startup costs, and the maintenance of far-flung facilities? But those powers "had obligations towards the rest of mankind whenever they engaged in activities in outer space." Samper summed it up best: "The items on the Sub-Committee's agenda

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39 A/AC.105/C.2/SR.291, Committee on the Peace Uses of Outer Space (COPUOS) Legal Subcommittee (LSC), Summary Record of the 291st Meeting, March 21, 1978, 6; A/AC.105/C.2/SR.308, COPUOS LSC, Summary Record of the 308th Meeting, 18th Session, March 20, 1979, 4.

40 A/AC.105/C.2/SR.291, 6; A/AC.105/C.2/SR.269, COPUOS LSC, Summary Records of the 269th Meeting, March 22, 1977, 4.

41 A/AC.105/C.2/SR.226, 53.

should be viewed from the standpoint of equity: hence, the initial inequality between States should be taken into account and they should not all be treated in the same way. The formula "'common heritage of mankind' implie[s] that the methods hitherto commonly employed on the earth should be replaced by a spirit of solidarity in the exploitation of outer space. … that formula [is] the exact opposite of 'first come, first served.'"[42]

IV

Aldo Cocca, though he advocated for due consideration of how the benefits of space exploration could be shared with poorer nations, stood somewhat apart from the economic ambitions of the NIEO. Argentina stood at crossroads between the major political factions at COPUOS. Having gained its independence from Spain in the early nineteenth century, it was not caught up in the anti-colonial rhetoric of LSC members who had more recently achieved self-determination. Cocca's motives, especially, hedged closer to the broad professional goals of the international space-law community than any national or regional interest. His aim, as we've seen, was a *jus humanitatis* that encompassed the whole world, not a political project to redress European vampirism.

Despite his more neutral posture, Cocca found himself incredulous at Soviet stubbornness on common heritage. He betrayed his frustration to the full COPUOS on June 25, 1976. Over seven long years consensus on a Moon treaty had proved "impossible." If a draft could not be furnished during the current session, he said, "we would prefer that this matter be relegated to a secondary position or not considered further." This stung, no doubt. Cocca had been calling for a distinct treaty to govern the Moon since the late 1950s—nearly twenty years. He had nurtured it from a juridical experiment in the *Proceedings of the Colloquium on Space Law* to its current status at the United Nations. But his complaint reflected the seriousness of his position and that of the other members of Argentina's sizable voting bloc. The nine-country proposal recently submitted to the LSC on natural resources "represents the maximum concession that can be made by a considerable group of representatives of legal systems." Developing members had "reached the outer limit of the concessions that we can make, [and] it would be senseless to keep the item on the agenda either at our present meeting or in future meetings."[43]

In this latest appeal, Cocca, no less than the Global South delegates, referred to UNCLOS III as both a mirror to the Moon Treaty negotiations and a model for transcending "our repeated failures." On May 6, the Sea Committee had completed a "Revised Single Negotiating Text," which included special provisions for an Authority that would administer and distribute the benefits of seabed mining. By comparison the LSC seemed to have gotten nowhere. Indeed, Cocca said, a "yawning chasm" had opened between the accomplishments of the two bodies. Non-spacefaring countries thus felt "duty bound" to expand Articles X and X-*bis* because the next UNCLOS session would convene just one month after the COPUOS was set to finish its debate. "It would be right," Cocca told his colleagues, "that it should be our Committee, the pioneer in this matter, the body which elaborated the concept of the 'common heritage of mankind,' and which incorporated it in the first text of an international instrument known to the United Nations, that develops this concept."[44]

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42 A/AC.105/C.2/SR.288, COPUOS LSC, Summary Record of the 288th Meeting, March 16, 1978, 8; A/AC.105/C.2/SR.291, 6.

43 Cocca quoted in Transportation Study, 34–35.

44 Ibid., 35.

The LSC's struggles to achieve compromise that summer were not widely published, but neither were they a secret.[45] It was in light of the rapidity of space law's development during the late 1960s and early 1970s—the OST (1967), the Rescue Agreement (1968), the Liability Convention (1972), and the recently negotiated Convention on Registration of Objects Launched into Outer Space (1974)—that the "great dispute" characterizing the Moon Treaty deliberations were put into stark relief. As some of the delegates themselves had begun to wonder, many commentators asked whether it was "far too early" to adjudicate the use of the Moon's resources especially.[46] One British MP questioned the entire affair given arms races, proxy wars, and famines back on Earth: "What the world needs is peaceful treaties for the problems of earth before we get worried about problems of the moon."[47]

V

It's a fallacy, of course, that things always get worse before they get better. But the cliché proved true for the Moon Treaty negotiations, for it was just as pessimism and irritation seemed to have taken hold over the LSC that a crack in the dam first broke out. When the LSC reconvened in March 1977, Working Group I arrived to find that the UN Secretariat had prepared an impressive document collection to facilitate further discussion. It included three reference papers containing every proposal made to date on the unresolved questions of the Treaty, as well as the 1972 and 1973 draft texts. Together Canada and Australia appended a working paper that might facilitate informal consultations.[48]

And there was more. Though consensus on any of the important differences remained elusive during the 1977 session, the following year's meetings in Geneva offered a new beginning. To supplement the Secretariat's materials, Austria's delegation, led by Helmut Tuerk, forwarded another complete draft treaty.[49] Tuerk's version melded the U.S. and Soviet texts that had kicked things off at the beginning of the decade: it included an international regime to govern resources, "different details about moon missions," and brackets around all instances of "and other celestial bodies."[50] It also stipulated that the agreement would apply to other celestial bodies within the solar system.

Every voting bloc found something it could hold on to. The Soviets found an expression on reporting that they could accept: signatories would inform the Secretary-General of the UN, as well as the public and the global scientific community, "to the greatest extent feasible and practicable" of any missions to and use of the Moon. In Article VI, the Americans get an explicit approval of the right "to collect on and remove" lunar material for scientific investigation. Cocca and the Global South delegates happily found the CHM principle intact in Article 11, which included the American's preferred language regarding natural resources "in place."

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45 "UN meeting fails to reach accord on moon treaty," *Times of India*, June 11, 1976, 15.

46 Uvedale Tristram, "Clutching at space," *The Guardian*, September 22, 1976, 13.

47 "Goodwill on earth first," *The Guardian*, July 27, 1976, 5. See also Charles Dick, "Down-to-Earth Politics of Moon and Man-Made Satellites," *Washington Post*, August 1, 1977, A13.

48 Transportation Study, 36.

49 Tuerk, like Cocca and Capotorti, is a curiously neglected character in the Moon Treaty's long saga. Not only had he been an Austrian representative to the LSC since 1973; he had been an envoy, from that same time, to UNCLOS. Later, he would become Vice-president for the International Tribunal for the Law of the Sea.

50 Transportation Study, 36.

Ironically "the Austrian text," as it became known, had been available for years. Vienna had submitted the document in 1973, when it had gone all but unnoticed. Nor was it appended to the UN Secretariat's collection of negotiation papers. Nonetheless, it quickly became the basis for the LSC's last thrust toward a finalized text.

Though there was insufficient time to evaluate the Austrian text (and in any case the approval of home governments was as yet unforthcoming), it was annexed to the 1978 LSC report of the Working Group, "giving it a status it had not had before." The full COPUOS took up the matter when it met for its 21st Session that June under the chairmanship of Austria's Peter Jankowitsch, who established an informal working group of the entire space committee to examine the outstanding issues.[51]

Rather suddenly, there emerged "a slight, almost imperceptible movement" toward consensus.[52] Many delegates observed that the talks were now "characterized by a spirit of compromise."[53] The Soviets were a case in point. In June 1978 Y. M. Kolossov, now Moscow's lead delegate, continued to express doubt about the CHM principle but said the LSC was "very close to completion of [the] work," and that his delegation felt the Austrian text was "not a bad basis for a compromise solution" on natural resources.[54] The Soviets, as Robson observed, had grown "accustomed to the notion that 'common heritage of mankind' was ambiguous" and ultimately "recognized that attribute as its strength."[55] None of the draft texts had truly adjudicated the resource issue; they had merely promised the establishment of an international regime some time down the line. The Ministry of Foreign Affairs could thus rely on a future international conference to restate its positions. That new set of negotiations would do the real work.

By the end of the 1978 Session, then, delegates from nearly fifty nations had: 1) a draft treaty with square brackets and 2) a clean text from the Austrian delegation without brackets.[56] And, like any good compromise, neither side walked away satisfied. To the Soviets' chagrin, the U.S. delegation supported the South's insistence that lunar resources be regarded the "common heritage of mankind," though profound disagreements remained as to whether that phrase was a philosophical or a legal one. India, for its part, did not get a moratorium; the United States, which had always emphasized "the encouragement of investment," would never back down on that count. Lastly, though Northern delegations sought to limit comparisons with the law of the sea, they conceded that an international regime was the best assurance of a settlement. All these disappointments huddled together in the treaty's eleventh article, the most controversial ever since. Adopting much of the Soviet Union's original language from 1971, the article nevertheless allowed for lunar resources to become property so long as they were not "in place," so long, in other words, as a government or corporation first removed them. The international regime that Article XI authorized promised not only to rationally manage the Moon's resources but ensure their equitable division by all signatories.[57]

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51 Transportation Study, 37.

52 Ibid., 36.

53 A/AC.105/218, Report of the Legal Sub-Committee on the Work of Its Seventeenth Session, April 13, 1978.

54 A/AC.105/PV.185, July 11, 1978; Transportation Study, 37.

55 Robson, "Soviet Legal Approach," 122–23.

56 Transportation Study, 37–38.

57 Christol, "Common Heritage," 464.

VI

The final shove took place in the spring and summer of 1979. The LSC met in New York for its 18th session from March 12 to April 6. Assembling as a working group, the LSC held five meetings, reviewing each article of the Austrian draft in an attempt to remove the final brackets. But still there was no agreement. As one might have expected after seven years of obstinance on all sides, the delegates placed square brackets around the entire text of Article XI. The subcommittee recommended that the full COPUOS "consider whether the elaboration of a draft treaty could be concluded, or whether further progress could be achieved during that session."[58] When ambassador Jankowitsch gathered the parent committee at UN headquarters on June 18, he observed that not only had the LSC failed to make progress but actually took "some steps backwards." The problem, it was plain to see, was that most delegations had not budged from initial positions established in 1971. Even at this late date, some delegations wanted to throw in the towel. A treaty would result, Jankowitsch said, only when the delegations "display[ed] an active desire and … a stronger political will to achieve the necessary compromises."[59] "The psychological attitude of delegates," explained a later study, "was that enough time had been spent trying to formulate the text of a draft moon treaty and either a consensus should be reached or the subject should lose its priority or even be dropped from the agenda."[60]

The Moon Treaty, in short, needed to be "resurrected."[61] COPUOS established another informal working group of the whole committee (the LSC, it seems, had been found wanting), and appointed Hungary's Gyula K. Szelei as chairman. The working group held four meetings between June 26 and July 3, 1979, and to nearly everyone's surprise, these four meetings, after dozens and dozens of previous sessions, broke the decade-long stalemate on the key negotiating issues.[62]

First, the Soviets finally caved on the scope of the treaty, agreeing that the phrase "other celestial bodies" should be added to the text with the understanding that the door would be kept open to the negotiation of other, more targeted agreements in the future.[63]

The Americans, for their part, conceded to Kolossov on the question of advance reporting, which the committee resolved in Article V. Whereas in 1972 the U.S. delegation had forwarded robust and specific language on reporting on space missions "well in advance" of the launch date, the final language mandated that this information be publicly disseminated to the "greatest extent feasible and practicable," compromise language left over from the Outer Space Treaty.

Finally, the Soviets proved critical to a final compromise on natural resources by assenting to the inclusion of the CHM principle. Moscow was "willing to go along" with a Brazilian working paper in which Article XI would stipulate that although lunar resources would constitute the common heritage of mankind, that concept "finds its expression in the provisions of this agreement and, in particular, in paragraph 5 of this article." Thus, any definition that phrase might hold for UNCLOS III was untransferable to the Moon Treaty. In any case the Soviet delegation had come to accept CHM as language cloudy enough

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58 Transportation, 39.

59 Jankowitsch quoted in Transportation, 39.

60 Transportation, 39.

61 A/AC.105/PV.192, June 19, 1979, 18.

62 A/AC.105/PV.190, COPUOS: Verbatim Records of the One Hundred and Nineteenth Meeting, June 18, 1979, 7–8.

63 Transportation Study, 41.

that it wouldn't preclude exploitative activity on the Moon sometime down the road, should that become a policy goal. (As early as 1975, a Ministry of Foreign Affairs official had told an American agent at the Moscow embassy that the only way "differences" in the Moon Treaty negotiation could be resolved was through "acceptance of ambiguous language on exploitation of moon's resources").[64]

At long last, the Treaty appeared to be heading for success. The Special Committee of the General Assembly adopted the final draft on November 2, 1979. The entire UNGA followed suit three days later—by consensus and without a vote. UN Secretary General Kurt Waldheim, who had himself served as a chair of the COPUOS, opened the treaty for signature on December 18.

It was far from certain, however, whether individual governments would ratify. Only six nations signed the agreement on that first day: Chile, Romania, the Philippines, Morocco, Austria, and France. That only the last two had space programs of their own was the first sign of trouble. All eyes looked to the world's richest and greatest space power, the United States, where the treaty, and with it the South's dream for an equitable division of lunar resources, still had to jump political hurdles. "As we understand it," one official in the UN Outer Space Affairs Division reported, "the Soviet Union will sign as soon as the United States signs it … And another 20 or 30 countries will sign it then."[65]

64 Telegram, American Embassy (Moscow) to Secretary of State, Subject: UN Outer Space Meeting in New York: Soviet Views, June 6, 1975, doc. 1975MOSCOW07788, CFPF, RG59, USNA.

65 Ronald Brownstein, "Corporations Battle Moon Treaty," *Multinational Monitor* 1, no. 4 (May 1980).

Chapter 5

"Armageddon for the Free Enterprise System"

The Moon Treaty in the American Scene

Before long the treaty's victory at the United Nations proved chimerical. How could Americans—heirs, their culture told them, to a unique, pioneering ethos—countenance a treaty that threatened to distribute the fruits of whatever pioneering they might do on the Moon? How could American firms amass the investment capital necessary to realize space colonies, the Shuttle, deep space exploration, and mining operations themselves without proper incentives, or in the face of a "wealth gap tax"? In short, they could not. By the end of the 1970s, sustained economic crises and frustration with New Deal-style central planning had made the United States an inhospitable place for notions about "obligations," to the Third World or otherwise. These were the years when free-market think tanks proliferated like Springsteen albums: the Heritage Foundation, the Mercatus Center, and the Adam Smith, CATO, and Manhattan Institutes. Friedrich Hayek and Milton Friedman enjoyed their widest readerships yet. Almost prophetically, neoliberal paragon Ronald Reagan announced his campaign for president mere days after the UN adopted the Moon Treaty. He would go on to defeat Jimmy Carter, who had initially supported the accord, in a landslide.[1]

The pro-space movement, growing despite the downturn in crewed spaceflight, soaked up the free-market conservatism that eventually propelled Reagan into office. Science writer Trudy Bell noticed that spaceflight boosters "woke up to politics" at the turn of the 1980s—they did so on the Right side of the bed. They viewed space as the new military high ground, space technology a shining badge of the United States' right to world leadership, and the Moon a pristine frontier bubbling with economic potential. "It's not as crazy as it sounds," the *Washington Post*'s editors wrote of mining the Moon. "The world's drive for development virtually assures that these resources will be sought when the technology, markets, and costs are in line." "Within less than a century," predicted G. Harry Stine, "Earth will have become a paradise

1 Daniel S. Jones, *Masters of the Universe: Hayek, Friedman, and the Birth of Neoliberal Politics* (Princeton, NJ, 2014): 8–9, 161–73.

and Space a vast industrial park." Commentators variously understood space as "the practical equivalent of a thousand new earths," "an economic treasure-trove," even "our most valuable natural resource."[2]

For American space boosters, the Moon Treaty was a socialist fly in the cosmic ointment. Article 11's provisions regarding the equitable sharing of lunar resources, particularly along lines that would benefit the developing world, threatened to squash any incentive to invest in space research among industrialized nations. "[N]o one from Rockwell International or Boeing is going to manufacture Moon-mining equipment when they know that control and profit from such technology will be shared with countries such as Sri Lanka," implored one enthusiast. Capitalism was the only force capable of enticing rich nations like the United States to invest the resources necessary to colonize the harsh space environment. If such nations perceived that returns on their investment would be redistributed by "an international socialist regime," what hope was there of ever getting off the launch pad again?[3]

I

The Moon Treaty frightened no one more than the dreamers of the L-5 Society, a coalition of spaceflight enthusiasts, science-fiction authors, and aerospace interests that sought to make space colonization a reality. The organization drew its name from the Lagrange Points, or "L" Points, between two celestial bodies where gravitational balance made it possible to "park" vehicles in space and therefore build a floating colony. The Society's founders, Carolyn Meinel and her husband Keith Henson, had been inspired by Gerard O'Neill's seminal 1974 *Physics Today* article in which the scientist promoted the construction of a cylindrical, self-sustaining space colony capable of housing 10,000 inhabitants. After O'Neill invited them to a conference at Princeton University the following year, the couple founded the Society to raise money for and spread awareness of his ideas. Over the next several years it attracted a motley collection of space advocates; its board of directors included Timothy Leary, Barry Goldwater, physicist Freeman Dyson, and sci-fi legend Robert Heinlein.[4]

When Congress prepared to review the treaty in the waning months of 1979, L-5ers mobilized. To kickstart a lobbying campaign against the Moon Treaty, the Society retained Leigh Ratiner, a partner at the powerhouse firm Dickstein, Shapiro and Morin who over a dozen years had served four U.S. agencies as an advisor and diplomat for UNCLOS III. After leaving government in 1977, he had lobbied against the Sea Treaty on behalf of the Kennecott Copper Corporation. He would rejoin public life under Reagan, influencing the new administration's position on sea issues, particularly mining.[5]

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2 Michael A. G. Michaud, *Reaching for the High Frontier: The American Pro-Space Movement, 1972–84* (Westport, CT: Praeger, 1986), 163, 168; "Way Out," *Washington Post*, October 31, 1979, A20 (emphasis in original); G. Harry Stine, *The Third Industrial Revolution* (New York: Putnam, 1975); Milton Hirsch, "Against a 'Silly' Treaty," *CT*, April 19, 1980, 10; K. Eric Drexler, "Dangerous Defects in the Draft for a 'Moon Treaty,'" *New York Times*, October 9, 1979, A22; Citizens Advisory Council on National Space Policy, Report of the Spring, 1981 Council Meeting, ii.

3 William J. Broad, "Earthlings at Odds Over Moon Treaty," *Science, New Series* 206, no. 4421, November 23, 1979, 915.

4 Ed Zuckerman, "Homesteading in Space," *BG*, July 15, 1979, 78. See also Patrick McCray, *The Visioneers: How a Group of Elite Scientists Pursued Space Colonies, Nanotechnologies, and a Limitless Future* (Princeton, NJ: Princeton University Press, 2012), chap. 3; Michaud, *Reaching for the High Frontier*, chap. 4; Thomas B. Edsall, "Moon Wars: U.N. Pact Opposed as Pro-Socialist," *The Sun*, January 7, 1980, A1.

5 Gangale, *Development of Outer Space*, 77–78.

"Your good gray diplomat, he is not," wrote the *Washington Post* of Ratiner. The ex-negotiator drove motorcycles and a sports car. His neck glittered with a gold chain, and he reputedly answered to the nickname "Black Prince." Later, in his office at the U.S. mission across from the United Nations, Ratiner could be found chain smoking Dunhills in blue jeans and loafers.[6] By all accounts the Brooklyn-born lawyer was an intelligent and competent operator. To his enemies, he was an unpredictable wild card. As one White House insider complained, "it is unclear for what Ratiner is working. He has no clear ideology, no open personal agenda, no apparent loyalty to anyone or anything. It is not clear that he has any principled, or even pragmatic, objection to the current [LOS] treaty. Instead, the negotiations simply appear to be a game to be 'won.'"[7]

Ratiner moved quickly. He reached out to the *Washington Post*, which published a mostly flattering article on the Society's lobbying efforts. In November he instructed a L-5 contingent from Boston in the art of congressional persuasion. The group created a packet of materials to educate politicians on the treaty's pitfalls. "Our targets," recalled one member, "were the Senate Foreign Relations Committee, the Senate Commerce, Science and Transportation Committee, and the House Science and Technology Committee." It was imperative that the Society gain an audience with the committees' leadership and convince it that if the United States ratified the Moon Agreement, "space will become the home of Big Brother."[8]

II

Congressional hearings on the Moon Treaty took place on July 29 and 31, 1980, hosted by the Subcommittee on Science, Technology and Space, an organ of the larger Committee on Commerce, Science and Transportation. Nevada's Howard Cannon and Illinois's Adlai Stevenson presided over the proceedings, which assembled a laundry list of important witnesses: NASA administrator Robert Frosch; State's legal advisor Robert Owens; Ronald Stowe, the American Bar Association's chairman for Aerospace Law; IISL director Eilene Galloway; and S. Neil Hosenball.

Hosenball had the unenviable job of convincing American politicians that the treaty's provocative language—particularly "the common heritage of mankind"—had a deep history tied to the negotiations themselves and thus could not be read literally. Foregrounding potential liabilities to the United States, Stevenson and New Mexico Senator (and former Apollo astronaut) Harrison Schmitt immediately put him to the test. What concessions did the Soviet Union and the United States have to make to finally create a consensus, Stevenson asked, and how would the treaty affect U.S. technology development? Why hadn't Hosenball asked for the support of a non-governmental advisory group, or anyone with experience in the mining industry? Schmitt inquired.[9]

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6 Paul Taylor, "U.S. Envoy Makes Waves at Sea Talks," *Washington Post*, April 21, 1982, A1.

7 Memorandum from Doug Bandow, Special Assistant to the President, Office of Policy Development, Executive Office of the President to Michael Uhlmann, Office of Policy Development, Executive Office of the President, March 18, 1982, *FRUS, 1981-1988, Volume XLI, Global Issues II*, ed. Alexander O. Poster (Washington, DC, 2017), doc. 146.

8 Helen Dewar, "Congress to Battle in Own 'Star Wars,'" *Washington Post*, November 4, 1979, 2; Helen Dewar, "Would-Be Space Colonists Lead Fight Against Moon Treaty," *Washington Post*, October 30, 1979, A3; Chris Peterson, "Learning to Make the System Work for Us: Boston L-5 Lobbies in Washington," *L-5 News* 4, no. 12 (December 1979): 4; Carolyn Henson, "L-5 Sparks Moon Treaty Opposition," *L-5 News* 4, no.11 (November 1979): 12.

9 Moon Treaty Hearings, 51–53.

For Schmidt—a geologist by training—the mining question was central, and one that the Moon Treaty had fundamentally failed to answer. There was a tension between, on the one hand, the agreement's provisions against claims of national sovereignty and, on the other, provisions that purportedly allowed a nation or company to mine a particular area at the exclusion of others. Schmitt pressed the lawyer:

Schmitt: "I guess the thing I am getting at is that a mining operation has to be defined in terms of available reserves for whatever period of time the stockholders expect a return on investment, minimum amount of reserves, and if there isn't some more explicit definition. Somebody—you could start your operation and somebody parks down next to you and forecloses the development of sufficient reserves to make the operation economically feasible but you already started it when that happened."

Hosenball: "There is nothing in the treaty that requires you to give up the location within any particular time as long as you are using it."

Schmitt. "The location is a much broader area than the specific mining operation."

Hosenball: "If you circumscribe an area…"

Schmitt: "That means you lay claim to it."

Hosenball: "In effect, you have a right to use that area and to exclude others."

Schmitt: "Without the ability to lay legal claim internationally, that is precluded by the treaty. Right? How can you define a mining operation?"

Hosenball: "You are not laying claim of ownership to the underlying area. You in effect have the right within the area you circumvent to remove the natural resources in that area."

Schmitt: "If I haven't removed it, how can I lay claim to it?"

Hosenball: "Because you are there and you established a location where you are intending to carry out activities."

Schmitt: "Let's leave this but this is an area we must clarify. It may take an understanding of the treaty to clarify it. There is this basic conflict between not being able to lay internationally valid legal claim and conducting an operation that is going to exploit resources.

The fact that mining law developed over a century or two is not accidental. It's there for a purpose. It's there in order to allow the exploiter to define enough available resources in order to have a viable economic operation. In the treaty we are saying that wouldn't happen in space. So there has to be a very clear understanding that if there is a claim, there is a de

facto claim. Otherwise you wouldn't exploit that resource. You wouldn't get anybody within 10 million miles of that resource."

Hosenball: "I think there is a de facto claim."

Schmitt: "It better be darn clear there is…"

Ratiner, representing the L-5 Society alongside its president Gerald Driggers, was the first to testify on the second day of the hearings. He had been "astounded" by Hosenball's testimony, he told the committee, "because it was so out of tune with reality, particularly since he negotiated the treaty." Hosenball's argument that the Moon Treaty allowed for free access to space resources—he had cited free access to mineral resources in an 1872 U.S. mining law—was "absurd on its face." The United States, he argued, should not "buy a pig in a poke" by rushing to ratify the agreement. First, the government should seek to make clear exactly what "common heritage" implied in space. For Ratiner the term connoted the redistribution of resources culled by the developed West for the benefit of the Third World. Exploiting space for the benefit of all implied that "certain parts of mankind should be severely restricted in their access to the resources—particularly the industrialized countries, and more particularly the United States of America." What company, Ratiner asked, would invest the billions of dollars necessary to establish mining operations on the Moon or on an asteroid before agreement was reached as to the rules and regulations governing the extraction of resources? At this early stage, the United States could still withdraw from the treaty without being the "bad boys" at the UN; the government should assemble an international vote for a protocol on CHM, or better yet, "kill this treaty dead."[10]

In that effort L-5ers enjoyed the support of American technology firms, who piled on to protect long-term investments. In its research on extraterrestrial materials, after all, the U.S. Bureau of Mines had cooperated with Westinghouse, Northrop Space Laboratories, and Martin Marietta on lunar drills. In the late 1970s Rockwell International, TRW Inc., General Electric, and Boeing were each exploring the profit potential of gravity-free factories in space. Edward Block, a project engineer with General Dynamics Corporation, provided senators with details of his division's 1978 study on lunar resource utilization. The United Technologies Corporation, led by soon-to-be Reagan nominee Alexander Haig, published a page-length diatribe against the Moon Treaty in the *Washington Post*. "There are sound ways to help bring the benefits of space to all people," it read. "Socializing the moon isn't one of them." The agreement would establish "an OPEC-like monopoly … guided by the Eastern bloc" that would "bring western nations to heel." Haig wrote a letter to the State Department that the common heritage concept was clearly designed to achieve a redistribution of global wealth. In forwarding *res communis*, Haig argued, the Third World countries had "indicated they intend to gain control of critical raw materials and to gain access as a matter of right to the technology needed to exploit them."[11]

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10 Moon Treaty Hearings, 105–07, 111, 113; "Way Out," *Washington Post*, October 31, 1979, A20.

11 R. L. Schmidt, "Developing a Lunar Drill: A 1969 Status Report," *Proceedings of the Seventh Annual Working Group on Extraterrestrial Resources* (Washington, DC, 1970); "Ways Sought to Tap Resources on Moon," *Washington Post*, November 20, 1969, A18; Walter Sullivan, "What Earthly Use in the Moon? What Earthly Use is the Moon?" *New York Times*, August 28, 1966, 228; Edsall, "Moon Wars"; Moon Treaty Hearings, 156–60; United Technologies, "Stranglehold on the Moon," *Washington Post*, February 14, 1980, A2; Drexler, "Dangerous Defects," A22; Letter, Alexander Haig to Robert B. Owen, June 4, 1980, Moon Treaty Hearings, 219–20;

Haig's article betrayed the condescension, even disdain, with which many commentators wrote of the Third World's lunar politics. In many ways, criticism of the Moon Treaty appeared an international corollary to the "welfare queen" rhetoric then driving Reagan's campaign for president. L-5ers and their allies testifying in Congress considered Southern governments manipulative, deceptive, thankless, greedy, and wasteful. Their diplomats in the COPUOS acted "as if the rest of the world owes them a living," said B'nai B'rith, an Israeli advocacy group. The North continued to play host in a "parasitic relationship" with developing countries, who hoped to continue "leaching" wealth from industrialized states. The Third World, it warned senators, possessed a "rankling sense of inferiority that could make it want to 'get even' and to get its just due" from the North. The entire NIEO campaign was rife with such emotions, editors agreed, ones "animated more by envy than by common sense." Such sentiments went all the way from the *New York Times* to minor-league dailies like the *Cincinnati Enquirer*, which asked:

> "Who would have undertaken the financial risk, much less the frequent physical privation, to dig for gold in California or the Klondike, to drill for oil in Texas or Oklahoma, to search for iron ore in Minnesota or copper in Montana, if anything found had been tossed into some vague common hopper from which the unimaginative, the uninventive and the unadventurous would draw equally?"

The paper wondered how the United States would have discovered, much less developed, the resources of the North American continent had they become the common heritage of mankind. Why should Americans negotiate exploitation of lunar resources, it asked, with those who wanted to "share the bounty, but not the risks"?[12]

These assaults convinced the public—and, crucially, the Senate—that the Moon Treaty was but the first plague of an impending "Armageddon for the American free enterprise system." In tandem with the international seabed authority and the NIEO, Article 11 threatened to stifle economic growth, squelch innovation, and condemn would-be space settlers "to a colonial, share-cropping existence." L-5's Rodney Schroeter thought the treaty "downright immoral." "Very few businessmen would risk their investments," he wrote, "if … each had to fill 10 open Third World palms." Permitting the developing world to dictate the pace and quality of space exploration, Henson analogized, made "about as much sense as fish setting conditions under which amphibians could colonize the land." "If space resources are developed under this Treaty," he continued, "the inhabitants of space may have no place to work to save the 'Regime,' no place to spend their wages except the Company Store, and no place to live but the Barracks." Outside the space lawyers and diplomats who had helped usher the treaty through the United Nations, most observers hoped the Senate would "assign the treaty to the dusty State Department shelf it deserves."[13]

Timothy G. Nelson, "The Moon Agreement and Private Enterprise: Lessons from Investment Law," *ILSCA Journal of International and Comparative Law* 17, no. 2 (2011): 402, n. 42.

12 Moon Treaty Hearings, 241–42; "Outer Space: U.N. Agreement Would Divide Up Its Resources," *Cincinnati Enquirer*, May 6, 1980, A10.

13 Dewar, "Congress to Battle," 2; Drexler, "Dangerous Defects," A22; Rodney Schroeter, "Looney Moon Treaty," *Chicago Tribune*, May 9, 1980, D2; Keith Henson, "Bulletin from the Moon Treaty Front," *L-5 News,* vol. 5, no. 1 (January 1980), accessed March 26, 2024, *https://space.nss.org/l5-news-bulletin-from-the-moon-treaty-front/*; Charles Sheffield, "AAS Against Lunar Agreement," *L-5 News*, vol. 5, no. 1 (January 1980), accessed March 26, 2024, *https://space.nss.org/l5-news-aas-against-lunar-agreement/*; "Outer Space: U.N. Agreement Would Divide Up Its Resources," A10.

III

The critics got exactly what they wanted. Though State Department officials attempted to shirk the perceived threat to neoliberalism—"You can still make a buck off the moon, if there's a buck to be made," one aide said—ratification of the treaty was in serious jeopardy. Letters from agitated spaceflight enthusiasts poured into legislative offices. Staffers saw a "small army" of L-5 lobbyists prowling the halls of Congress. In the House, several representatives began circulating a resolution against the treaty. Pressure from Ratiner and aerospace companies compelled Senators Jacob Javits (R–NY) and Frank Church (D–ID) to write a letter to the Secretary of State urging restraint. The treaty's provisions on resource extraction, they insisted, would benefit the Soviet Union by erecting barriers to economic development. Because the United States relied on industrial and business interests to engage in exploration, the Kremlin would be free to exploit space under the guise of scientific investigation. "Seen from a long-term geopolitical perspective," wrote the senators, "we believe this outcome could be damaging to fundamental American security requirements." In the end a third of the Foreign Relations Committee had committed in writing to oppose the treaty.[14]

Lousy press coverage and the aggressive lobbying in Congress forced the State Department to suspend action on the treaty, blocking a signature. When Lee Dembart of the *Los Angeles Times* asked for an official comment as to whether the treaty had any support, one senior State bureaucrat replied, "I don't have anyone knocking down my doors."[15] Charles Sheffield, president of the American Astronautical Society, was more forthcoming. "All they're doing is guaranteeing that they'll annoy a group of people, and it's not clear who they'll please," he told Dembart over the phone. "It makes no sense politically to try and sign it this year."[16] In July 1980, State's legal advisor, Robert Owens, implied that no formal decision would materialize until sometime the following year, that is, *after* the presidential election. In fact, U.S. officials intimated that Jimmy Carter had "virtually ruled out signing the document this year, let alone sending it to the Senate for ratification."[17] Instead, the administration formed an interagency task force to conduct further study. Just as the Society had hoped, the government hoisted the issue onto the highest shelf, where it would rot in neglect.[18]

Shortly afterward Carl Q. Christol, a longtime authority on space law and political scientist at the University of Southern California, penned an autopsy in the *International Lawyer*. Misconceptions, misinterpretations, and outright myths had pervaded the Moon Treaty's passage through Congress, Christol thought. Three prevailed. The first was that Hosenball had confused the treaty's language and by extension the purposes to which certain unsavory actors would apply it. He had, the thinking went, been duped into accepting a moratorium on the use of extraterrestrial material. Second, the Kremlin and the Third

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14 Edsall, "Moon Wars," A1; Dewar, "Would-Be Space Colonists," A3; Letter, Jacob Javits and Frank Church to Secretary of State Cyrus Vance, *L-5 News* vol. 4, no. 12 (December 1979): 5; Arel Lucas, "Ratiner Attacks Treaty," *L-5 News* 4, no. 12 (December 1979): 7.

15 Lee Dembart, "Moon Treaty Waiting for Signatures," *Los Angeles Times*, April 18, 1980, 1.

16 Ibid.

17 Nossiter, "Treaty on Moon Is It Too Soon?" E8.

18 Michaud, *Reaching for the High Frontier*, 91–92; J. M. Spectar, "Elephants, Donkeys, or Other Creatures? Presidential Election Cycles & International Law of the Global Commons," *American University International Law Review* 15, no. 5 (2000): 1032–33; Nossiter, "Treaty on Moon Is It Too Soon?" E8. According to Nossiter, the interagency review was rumored to include the Defense Department, Central Intelligence Agency, National Aeronautics and Space Administration, Arms Control and Disarmament Agency, and the Departments of State, Treasury, and Commerce.

World were in cahoots, conspiring to prevent private and/or exclusively American exploitation of celestial bodies. And third, the Moon Treaty was "hostile" to free-market states and therefore would scare future investment away from space-related industries.[19]

All were falsehoods, often advanced in fear but at times in bad faith as well. Hosenball, for one, had for years loudly—and in official forums—proclaimed the United States' opposition to a moratorium. Neither the Indians, nor Brazilians, nor Egyptians, nor any other delegation at COPUOS had any illusions about where the American delegation stood on the issue. NASA's top lawyer had been a participant from the very beginning, and his interpretation of the treaty text was as firmly grounded in the massive corpus of negotiating documents as any person involved.[20]

The Soviet Union's behavior, as we have seen, exploded the second myth as well. Not only was Moscow not an ally to the Global South; it was an antagonist—consistently fighting against Cocca, Vallarta, and the others over the inclusion of the common heritage principle. In fact, the Soviet-Argentinian dispute over CHM was the hardest fought battle of the entire process. But most outsiders were ignorant of these details. As one observer complained to the *Times*, the Global-South-as-Kremlin-stooge theory had garnered so much traction so quickly because it fit neatly into the "already too prevalent American paranoia" that "the Communist bloc and the third world are everywhere engaged in a vast concert against a beleaguered United States."[21]

Beyond that, there existed a "tendency" among many politicians, lobbyists, and commentators "to grasp at the presumable literal meaning of words" in the Moon Treaty. Although Article 11 stipulated that the CHM principle would find its expression in the provisions of the treaty itself—indeed, in that very same article—in political debate the phrase "the common heritage of mankind" came to take on whatever definition a particular individual wanted it to have depending on his goals.[22] In the American political scene, CHM meant a straitjacket on free enterprise and free markets. State Department lawyers hoping to usher the agreement through review and ratification found themselves drained by the experience of trying to ground the CHM principle in the negotiating history itself. They complained that the L-5 Society and its allies had failed to appreciate the realities of living in a pluralistic, interdependent world order. "Land grabs are no longer fashionable," one told the *New York Times*. "We have 1,000 economic and political interests that intersect with all the nations of the world. The demand of others for a shared approach must be accommodated."[23]

IV

The Moon Treaty's collapse in Washington has all the trappings of a Hollywood political drama. Dreamers of space travel descend upon the seat of government to protect their vision of the future—"to apply the principles of Adam Smith to the world of Buck Rogers"—and against all odds snatch victory from defeat. Lobbyists perform backroom maneuvers. A savvy lawyer penetrates the hearts and minds of the Senate.[24]

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19 Christol, "Common Heritage," 475–76.

20 Ibid., 476.

21 Charles Biblowit, "Letter to the Editor" ("Opponents of the Moon Treaty Twist a Point"), *New York Times*, December 4, 1981 (published Dec. 10), A30.

22 Christol, "Common Heritage," 476.

23 Nossiter, "Treaty on Moon Is It Too Soon?" *New York Times*, March 9, 1980, E8.

24 Ibid.

The partisan color of the saga is even more narratively engaging. Alongside Carter's drubbing and Reagan's triumph (the Republican won 489 of 538 electoral votes and all but five states), pro-business, pro-technology forces dealt a death blow to the globalist bureaucrats at the United Nations and the jealous redistributionists of the Third World. After years of high rhetoric, the movement to fold the Moon into the New International Economic Order ignites like the Hindenburg.

But the truth is far more pedestrian. While the L-5 Society's lobbying campaign was certainly an important variable in the demise of the agreement, it was not the decisive one. For starters, many in the public simply felt that the time was not ripe for a Moon treaty and were disinclined to support a document with such far-reaching applications, regardless of whether one or another provision proved deleterious to U.S. interests. Indeed, lunar exploration seemed at a standstill. The last two Apollo missions, 18 and 19, never flew. Saturn V rockets became museum exhibits. Many wondered why NASA had continued the program after Apollo 11 in the first place. For its own part, the Soviet Union scrapped its L3 crewed lunar landing program in 1972 and, two years later, development of its N1 launch vehicle.[25] Nary a robot approached the Moon during the subsequent decade. When George H. W. Bush announced the Space Exploration Initiative—to construct "Space Station Freedom" and send humans back to the Moon and on to Mars—in July 1989, Congress immediately balked at the half-*trillion*-dollar price tag. The proposal was shortly forgotten.[26]

And so the question begged itself: why, if no plans to return to the Moon were in the offing, was a Moon treaty necessary at all? Julian Levine, a spokesperson for the Aerospace Industries Association, told reporters that "an Apollo-like commitment" was required to make mining celestial bodies a reality. "And we just don't see that.… We're talking beyond the year 2000 for any test of the Moon Treaty."[27] In March 1980 the *New York Times* ran a political cartoon depicting a troubled Moon looking down upon ebullient, be-suited men. The caption read: "Treaty on Moon: Is It Too Soon?" The uncomfortable truth for the agreement's proponents was that over the seven years the accord was negotiated at the United Nations, "no one [had] paid much attention."[28]

The only reason many Americans had even heard of the Moon Treaty was because of the far-more ponderous Law of the Sea negotiations. The lobbyists in D.C. who testified against the agreement only pushed the Senate Foreign Relations Committee further along a path on which it had already begun to travel because of UNCLOS III. As Ronald Stowe attested, the treaty's opponents based their diatribe on the idea that the United States had "been taken to the cleaners in the Law of the Sea negotiations, and we should therefore refuse to participate in any comparable exercises."[29] To be sure, that other ceaseless arbitration—UNCLOS III—hung over nearly all commentary on the Moon Treaty, both in and out of Congress. The ABA's report showed a deep knowledge of the seabed proceedings, for instance, but general nescience of the LSC's negotiating history or of important contextual documents.[30] The foreign press,

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25 Gangale, *Development of Outer Space*, 84–85.

26 Thor Hogan, *Mars Wars: The Rise and Fall of the Space Exploration Initiative* (Washington, DC: NASA History Division, 2007).

27 Dembart, "Moon Treaty Waiting for Signatures," 1.

28 Ibid.

29 Stowe quoted in Gangale, *Development of Outer Space*, 79.

30 Gangale, *Development of Outer Space*, 79.

which claimed the treaty forbade exploitation and parroted Ratiner's warnings about "Third World pressure," fared little better.[31]

Hence all the oxygen consumed over the CHM principle, for it appeared so often in reference to the seabed. Ratiner, it should not be forgotten, was a delegate to UNCLOS and a key policy advisor to two presidents on ocean law, not to mention counsel for Kennecott Copper. His battle was not *for* lunar mining but *against* common heritage in all its iterations.[32] As Thomas Gangale has put it, the L-5 Society churned out "useful foot soldiers and a few platoon leaders" for Washington's war against UNCLOS III. Aerospace engineer Thomas Heppenheimer, author of a dozen books on space technology, attested that it "was the tail on a very large dog."[33]

31 V.D.T., "Current Topics: Moon Treaty Perspective," *Times of India*, December 8, 1979, 8; Barbara Mitchell, "Over the Moon," *The Guardian*, January 3, 1980, 12.

32 Gangale, *Development of Outer Space*, 78–79.

33 Heppenheimer quoted in Michaud, *Reaching for the High Frontier*, 92–93.

Conclusion

This report, if it is as useful to NASA as I intended, has provided a history of the Moon Treaty more nuanced and complicated than its politization in the 1980s may have at first suggested. I have sought to illuminate the deep origins of the treaty; the contributions of international space lawyers to its intellectual maturation; the details of the negotiating process; as well as the role played by the United States in shaping the final text. As NASA prepares to launch humans to the Moon once more, it is my humble wish that the narrative presented here proves meaningful to the administration's continued work on space governance.

To that end, and to conclude, allow me to summarize what, to my mind, are the most significant findings of this endeavor. An initial observation concerns the proper amplitude for the Moon Treaty's history. As the geographic contours of this report suggest, the story is a global one that extends far beyond those countries then engaged in lunar exploration, that is, beyond the United States and the Soviet Union. The campaign for the Moon Agreement originated neither from Apollo nor Soyuz. It emanated from the budding scholarly community of space lawyers and, at key junctures, from contexts marginal to Cold War rivalry in space. The published documentary record supports this more capacious reading: the proceedings of the IISL's annual colloquia on space law, Cocca's *Teoria*, and translations of key foreign commentary provide just a few examples of a fuller and richer source base for this history. Hopefully, future researchers will make use of declassified Russian-language material, as well as diplomatic records from foreign archives that might provide a more robust account of the Global South's negotiating posture.

Southern delegates, no doubt, played a central role in the trajectory of the Moon Treaty negotiations, one that underscores the globality of early lunar governance. Developing members of the LSC submitted key working papers throughout the negotiations and registered decisive veto powers. In but a few instances they voted as a bloc, and their declarations highlighted and reaffirmed identical political and legal principles. Their insistence on adoption of the CHM principle was a thorn in the side of the Soviet mission. Their efforts, too, to link the Moon Treaty negotiations with UNCLOS III worried both superpowers and repeatedly threatened to upend the entire process. Especially troublesome for the United States was India's insistence on a moratorium on the exploitation of lunar resources until a regime to govern them was established. Any future study of the Moon Treaty—either its past or its implications for the future—must reckon fully with the relationship between the negotiating goals of these delegations and the broader political and economic gestalt resulting from decolonization and, more precisely, the New International Economic Order.

Then, of course, there is Aldo Armando Cocca, who can fairly be judged the Moon Treaty's single most important author. Cocca and the other "Latin American authors" to which Piradov referred showed that notions of a discrete treaty to govern the Moon emerged first not as a political question but as a scholarly

one. Cocca was uninterested in the contextual geopolitics of the Moon Treaty—demilitarization, space-for-peace propaganda, the NIEO—and instead remained committed to space law as a progressive and humanistic discipline. Recall that Argentina occupied an ambiguous space between the de-colonizing world on one hand and the U.S.-Soviet binary on the other. The nation had won its independence from Spain at the beginning of the nineteenth century, and so stood apart from the wave of decolonization that swept Asia and Africa in the decades after World War II. Cocca's idea for a Moon treaty, therefore, emerged not from post-colonial ambitions but from his own beliefs about the unifying potential of space exploration and the potentially transformative impact it would have on international law and inter-human relations generally. It is especially in light of the political controversy that the Moon Treaty later caused that the treaty's origins in Cocca's legalistic and temperate approach to space law must be borne in mind.

A second, and quite surprising, conclusion concerns the United States. For all the energy NASA and State Department lawyers devoted to the negotiations during the 1970s, for all the press coverage devoted to the matter after 1980, and for all the effort expended justifying the agreement to the Senate, the United States had little interest in a Moon treaty in the first place. Indeed, its lukewarm embrace of a separate accord was in abundant evidence at the Moon Treaty's genesis. U.S. officials paid scant attention to Cocca's activities at the United Nations, or else connected his 1970 draft treaty to the suspicious rhetoric swirling around seabed resources. When the Soviets proposed their own draft a year later, American agents inside and outside of COPUOS considered it useless, redundant, even harmful to the authority of the Outer Space Treaty: "a rather clumsy attempt."[1] Recall that William Rogers had corroborated this early insouciance amid the hair-pulling discussions with Alexandre Piradov's team over the scope of the accord in 1973. The "whole treaty," he wrote, was a Soviet program about which the United States had "never been particularly enthusiastic."[2]

American apathy did not prove a significant obstacle, however. Once it committed itself to being an active participant in the negotiations, the United States proved an honest and eager broker. It proposed several working papers (more than any other delegation) that helped formalize the final text. From the mid-1970s, the diplomatic correspondence between the State Department and the U.S. delegation at COPUOS reflects a keen interest in the treaty's success and a genuine wish for compromise.

Ironically, the role of the Soviet Union changed in the opposite direction. Having kickstarted the entire negotiating process in 1971, Maiorski, Piradov, and the MFA's other delegates to the United Nations found themselves repeatedly on the defensive: over the introduction of the CHM principle; over the scope of the treaty; and over advance notification of space missions. While it was the Soviet Union's willingness to compromise in 1979 that ultimately secured a modicum of victory for the accord, Moscow's delegation had by then sparred continuously and often emotionally with its counterparts from the Global South. This friction belies the notion—widespread in popular American discourse about the treaty—that the Kremlin had been in league with the developing world to "socialize the moon," that international communism and the NIEO were two halves of the same coin.

Another conclusion is self-evident: the heart of the Moon Treaty negotiations was the question of natural resources. Questions about lunar mineral wealth—how to define it, whether it could be legally mined and processed, what regime if any might govern it—dominated academic debates about the Moon

1 Memorandum, Arnold Frutkin to James Fletche; Instructions for the U.S. Delegation on the Treaty Concerning the Moon.

2 Telegram, Secretary of State to USUN, Subject: Outer Space Legal Treaty on Celestial Bodies—Scope, April 11, 1973, doc. 1973STATE067277, CFPF, RG59, USNA.

throughout the 1960s and 1970s. The absence of clear answers, both in the Outer Space Treaty and in the wake of the Apollo 11 landing, propelled Cocca to formally recommend that the United Nations take up the task of a Moon agreement in 1969. Recall as well that resource use was the central focus of Argentina's draft treaty, the first of many, submitted just a year later. Adjudicating the extraction and exploitation of lunar resources was by far the most difficult obstacle to overcome during the nearly decade-long negotiations. Not least, it was the issue that American lobbyists leveraged to squelch the Moon Treaty in Congress. And once the United States failed to ratify, nearly the rest of the dominoes fell in turn. The role that resources, particularly the CHM principle, played—politically, diplomatically, and in the imagination—is nearly impossible to overstate.

Taken together, the roadblocks encountered by the Moon Treaty's architects—over the NIEO, over UNCLOS III, over a moratorium, over common heritage, over reporting, over scope—might fairly lead one to believe that the agreement was doomed to fail, that power politics at the United Nations had strangled it in the crib. This brings us to one final observation: that this view, however abundantly obvious looking back on the denouement of the negotiations and the treaty's tepid reception in international law, is ahistorical. The Moon Treaty was the sum of hundreds of small decisions and indeed the efforts of hundreds of people. The COPUOS's consensus procedure meant that tiny variations in national policy could produce wildly disparate outcomes. A treaty might not have emerged at all were it not for Aldo Cocca's early advocacy, the Soviet Union's influence in international space law, or later, Austria's crucial diplomatic intervention. By the same token, the treaty might have succeeded were it proposed at a more hospitable moment and amidst friendlier conditions. The coincidence of the negotiations with UNCLOS, with the expansion of United Nations membership (seen dramatically in the COPUOS itself), and with the ascendance of neoliberal economics in the United States guaranteed a quarrel between North and South.

The Moon Treaty, then, was primarily a victim not of its own textual flaws (I leave it to the lawyers to determine that) but of its peculiar historical moment. As so many episodes of the negotiations demonstrate, the various parties were not really squabbling about the Moon at all. They were fighting about economic justice. They were fighting about national sovereignty. And since continued lunar exploration presaged the extension of humanity to the Moon, they were fighting about the future of international politics in space. As NASA prepares to send people back to the Moon once again, the future of the treaty itself will no doubt resurface as a meaningful question. "Perhaps," Gangale has wondered, "the agreement is not dead, but merely sleeping."[3]

3 Thomas Gangale, "Myths of the Moon Agreement," *American Institute of Aeronautics and Astronautics (AIAA) SPACE 2008 Conference & Exposition* (September 2008): 1.

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Author Stephen Buono provides a nuanced history of the unratified Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, more commonly known as the Moon Treaty. The monograph illuminates the treaty's deep origins, the contributions of international space lawyers, the details of the negotiating process, the role played by the United States in shaping the final text, and the contributions of the treaty's single most important author, Aldo Armando Cocca.

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