

Global Roots of a Gilded Space Age

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On October 10, 1967, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space Including the Moon and Other Celestial Bodies entered into force at the United Nations. Over half a century later, the Outer Space Treaty (OST) endures as the key binding international code governing human activity in the vast expanse beyond Earth's atmosphere. Subsequent multilateral agreements from the Moon Treaty to the Artemis Accords defer to standards set by the OST, adapting new priorities to the treaty's core principles with varying levels of success.

Criticism of the current international governance system often characterizes the Outer Space Treaty as a product of a bygone era. Such assessments highlight the treaty's Cold War origins and contend that an agreement designed to moderate a binary conflict between superpowers cannot efficiently accommodate an influx of powerful new national and non-state actors.

Much about the space industry and the broader international political order has indeed changed dramatically since the late 1960s. A larger club of state and wealthy private actors wield the power to shape the international space industry and space landscapes, testing the limits of the extant governance regime. However, the full global dimensions of the first decades of the cultural and political paradigm known as the Space Age should be accounted for in any assessment of contemporary internationalism. Furthermore, some Cold War era norms that might seem outmoded in the present

technosocial moment of accelerated space industry expansion could be worth revisiting—not as obsolete relics to be corrected or abandoned, but as potential resources for addressing current policy challenges from orbital debris mitigation and spectrum allocation to lunar resource management. While this essay is necessarily limited in scope, a closer look at the historical foundations of the current paradigm might productively inform efforts to fashion more equitable, sustainable methods of international space governance.

The Global Space Age

The Outer Space Treaty came into being during a time when national governments—particularly those of the nuclear superpowers and their wealthy industrialized allies—were the sole entities to possess the capital, networks of expertise, and resources necessary to build and maintain robust space industries. While nations outside the central binary conflict signed the OST, and some initiated space programs during this time, the growing satellite infrastructure in orbit remained principally the domain of a small club of states.

This inequity manifested materially on the ground. Lofty visions of extraterrestrial conquest animating the race to the Moon coincided with the extension of geopolitical hierarchies into space industry infrastructures constructed into deep-set colonial grooves, from French Guiana to Woomera.¹ It also rapidly extended into outer space itself.

Latecomer disadvantages, unequal access to satellite services, and uneven risk of exposure to reentering space debris threw into ever sharper relief the gulf between nations with independent space industries and those without—which often replicated the divide between colonial powers and new and newly independent states.

The creation of the Outer Space Treaty reflected this deep power disparity. Although egalitarian in rhetoric, the OST was both produced by and reinforced Cold War hegemonies and postcolonial hierarchies. Its language reflects concurrently emerging international priorities of resource egalitarianism, even as dominant geopolitical actors operating under the treaty benefitted from entrenched inequalities. It was not lost on some observers that two of the treaty's three depository nations—the United States and the Soviet Union—had also played an outsized role in its formulation. From its initial drafting through subsequent attempts to refine its principles, citizens of nations at the periphery of or unaligned with the Cold War conflict have criticized the OST itself as a tool of neocolonial hegemony.²

Beyond committee memberships at the UN, a range of government and non-government actors also participated in the articulation of laws and norms in moments of resistance to the Space Age status quo. A group of equatorial nations declared sovereignty over geostationary orbit in 1976, an effort that drew upon the OST's deficiencies in defining the division between Earth and space to criticize the uneven allocation of valuable orbits as limited natural resources.³ Dene and Inuit individuals living along the debris path of the Cosmos 954 reentry of 1978

contributed affidavits to the Canadian government's compensation claim against the Soviet Union, participating in early debates about liability, value, and damage in the context of space artifacts and extreme environments.⁴ The Moon Treaty of 1979, an endeavor shaped by representatives of non-spacefaring nations, met resistance from private and public space powers opposed to its reappraisal of the OST's nonspecific egalitarian language to explicitly advance political and economic equity.⁵

Incidents like these yielded some discursive shifts—such as the perennial renewal of discussion about fair use of geostationary orbit at each annual meeting of the United Nations Committee on the Peaceful Uses of Outer Space since 1977. However, even as membership in the club of spacefaring states expanded, the material gulf between the haves and have nots in outer space endured.

The roots of the current governance paradigm emerged from the postcolonial substrate of the postwar period, but subsequent articulation, enactment, and resistance from the late 1960s onward reveal participation in space governance that extended well beyond the powerful national actors typically privileged in historical views of the Space Age.⁶ These are not new voices in the space policy arena, but rather perspectives that have been undervalued and underrepresented as uninvested actors. Even states and communities without independent space industries—including Indigenous nation—have long participated in international space governance. As current policy discussions highlight the growing status of state space programs like those in China and India, any truly global approach to space governance

should center these overlooked histories in plotting a more egalitarian course.⁷

The Gilded Space Age

Nations remain the primary governing and governable entities in the present international space regime. As with earlier colonial exploitation of presumed terra nullius, however, governments did not act alone to build and maintain the normative status quo for human activity in outer space. Government-backed private industry has long played an important political role beyond the development of space technology. Even the ascendance of private individuals as power players in the international space industry has been in motion for decades.⁸

The character of private space power has continued to transform in conjunction alongside widening social and economic disparity. Much like 19th century America, the current state of the international space industry is characterized by government-assisted private construction of new infrastructure, enrichment of industrialists, low regulation, and an ever-widening gap between rich and poor. Hyper-wealthy private individuals now helm proprietary aerospace companies and have cultivated an astonishing position of power comparable to or even surpassing that of national governments beholden to international treaties and norms. With billionaire rocket barons battling over bragging rights to technological milestones, we have truly entered a Gilded Space Age.

Private companies and the individuals that helm them are of course not exempt from following rules agreed upon by the international community. National

governments maintain responsibility for regulating the actions of private actors operating within their jurisdiction. However, even minimal regulatory frameworks have not discouraged the launch of cherry red electric convertibles, highly reflective satellite megaconstellations, and microsattelites too small to be tracked for collision avoidance. Such controversial projects would have faced stronger vetting—and may never have taken off—in a Cold War era industry accountable to taxpayers and bureaucracy.

The startup has attained a celebrated cultural position in the 21st century industrialized world. Bureaucracy has accordingly become a dirty word, anathema to the speedy innovation and economic efficiency of the Silicon Valley ideal. The startup model has influenced the international space industry to the point where even leadership of conservative European nations have conceded pressure to adopt an American model of accelerated, privately-funded innovation even while acknowledging risks of economic exploitation and decreased oversight.⁹

For better or worse, capitalist or communist, bureaucracies built and launched the first generations of satellites and spacecraft. While not without delays, failures, or controversy, the Cold War model of public-private partnerships was also not without valuable norms, among them the capacity for responding to outside criticism and expertise. In the early 1960s when the international astronomical community protested an experimental American military communications satellite system that some believed might obscure observations, the DOD made changes to

the payload to reduce the likelihood of negative effects. Subsequently Article IX of the OST codified the requirement for international expert assessment of any project that might contaminate outer space. While nearly identical in many respects to this prior conflict, the recent controversy over the Starlink constellation has not yielded the same accountability or regulatory response.¹⁰

As this Gilded Space Age continues to shape landscapes on Earth, in orbit, and beyond, conversations on the future of international space policy might also include reflection upon the contingencies of plutocratic power and advantages of government oversight. We might even do the unthinkable in a culture of deregulation and innovation: revisit the utility of bureaucracy as a safeguard against a spectrum of risk.

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Endnotes

1 See for example Peter Redfield, *Space in the Tropics: From Convicts to Rockets in French Guiana* (Berkeley: University of California Press, 2000); Lisa Parks, *Cultures in Orbit: Satellites and the Televisual* (Durham, NC: Duke University Press, 2005); Alice Gorman, "Beyond the Space Race: The Material Culture of Space in a New Global Context," in *Contemporary Archaeologies: Excavating Now*, ed. Cornelius Holtorf and Angela Piccini (New York: Oxford, 2011), 161–80.

2 Nina Wormbs and Lisa Ruth Rand, "Techno-Diplomacy of the Planetary Periphery, 1960s-1970s," in *History of the International Telecommunication Union: Transnational Techno-Diplomacy from the Telegraph to the Internet*, ed. Andreas Fickers and Gabriele Balbi (Berlin: De Gruyter Oldenbourg, 2020); Luca Follis, "The Province and Heritage of Humankind: Space Law's Imaginary of Outer Space, 1967–79," in *Limiting Outer Space: Astroculture After Apollo*, ed. Alexander C. T. Geppert (London: Palgrave Macmillan, 2018), 183–205.

3 Wormbs and Rand, "Techno-Diplomacy of the Planetary Periphery, 1960s-1970s"; Haris A. Durrani, "The Bogotá Declaration: A Case Study on Sovereignty, Empire, and the Commons in Outer Space," *Columbia Journal of Transnational Law - The Bulletin*, 2017.

4 Ellen Power and Arn Keeling, "Cleaning up Cosmos: Satellite Debris, Radioactive Risk, and the Politics of Knowledge in Operation Morning Light," *The Northern Review*, October 18, 2018, 81–109; Lisa Ruth Rand, "Falling Cosmos: Nuclear Reentry and the Environmental History of Earth Orbit," *Environmental History* 24, no. 1 (January 2019): 78–103.

5 Follis, "The Province and Heritage of Humankind: Space Law's Imaginary of Outer Space, 1967–79," 193.

6 Asif A. Siddiqi, "Competing Technologies, National(Ist) Narratives, and Universal Claims: Toward a Global History of Space Exploration," *Technology and Culture* 51, no. 2 (2010): 425–43.

7 See Margaret Huettl on legacies of exclusion in outer space governance in *Why Go to the Moon?, Historical Perspectives On Contemporary Issues* (Consortium for History of Science, Technology and Medicine, 2019).

8 See for example Martin J. Collins, *A Telephone for the World: Iridium, Motorola, and the Making of a Global Age* (Baltimore: Johns Hopkins University Press, 2018); D. Whalen, *The Rise and Fall of COMSAT: Technology, Business, and Government in Satellite Communications* (London: Palgrave Macmillan UK, 2014);

John V. Langdale, "East Asian Broadcasting Industries: Global, Regional, and National Perspectives," *Economic Geography* 73, no. 3 (1997): 305–21.

9 Tamara Alvarez, “The Eighth Continent: An Ethnography of Twenty-First Century Euro-American Plans to Settle the Moon” (Doctoral dissertation, New York, The New School, 2020).

10 For more on Project West Ford, Starlink, and the brighter side of bureaucracy, see Lisa Ruth Rand, “A Fight for the Purity of the Night Sky,” Scientific American Blog Network, July 8, 2019, <https://blogs.scientificamerican.com/observations/a-fight-for-the-purity-of-the-night-sky/>.