

Replace the Outer Space Treaty

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Abstract - The Outer Space Treaty is a failure and is all but abrogated by its principal signatories. It provides an ineffective legal framework for humanity's emigration into space. The Outer Space treaty should be replaced with a constitution for space, which provides legislative, taxation, executive and judicial authority and power to a democratically elected, representative body empowered to ensure access to space, build infrastructure in space, govern activities within space and preserve space as humanity's common inheritance.

Origins of the Outer Space Treaty

Practical space travel originated with, and was motivated by, the desire to make war more effectively. The first object to traverse space under human control was the V2 ballistic missile of the Second World War. In the years following World War II, space access and missile technology matured under the flags of rival powers whose motivation was to deliver thermonuclear bombs to civilian population centers. Both sides assembled the power to destroy the other. Dread of mutual destruction, delivered through space, was sufficient to maintain the international balance of power that history calls the Cold War.

A blow was struck in October 1957, meant not to knock-out the opponent, but knock them off balance; a threat in the guise of peaceful activity. An artificial satellite was put into orbit using the very missiles designed to carry nuclear warheads. The presence of artificial satellites brought fear of observation and attack from space and ushered in the space age. Against the backdrop of Mutually Assured Destruction and the potential of space travel, the Outer Space Treaty was ratified by the United Nations.

The Treaty Has Failed and is Impotent

The intent of the treaty is to prevent the spread of conflict to outer space, but it has failed. The treaty's orbital nuclear weapons ban is hollow; physics favors basing weapons of mass destruc-

tion, including nuclear weapons, on the ground. The principal Space-Faring Nations have rejected the main provisions of the outer space treaty in the following particulars:

- They maintain nuclear arsenals intended to traverse space at a moment's notice, to attack other nations, flouting the treaty's intent to prohibit space as an arena of conflict.
- They launch and maintain classified reconnaissance and communications payloads, explicitly not using outer space "... for the benefit and in the interests of all countries ...", but to facilitate a favorable outcome to conflict.
- They have developed and launched anti-satellite weapons, demonstrating the ability and willingness to deny space access to other nations.
- They have created military branches dedicated to space activities, explicitly not seeking the peaceful use of space for all mankind but to further their own interests.

The Outer Space Treaty is Deficient as a Framework for Governance

- While the treaty implicitly acknowledges that space presents a single environment and useful asset, control of that environment is dispersed among the using nations. No entity is empowered to make and enforce laws for the preservation and use of space as an asset for all of humanity.

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- Participation in the treaty is voluntary. No nation is required to sign or remain in compliance with the treaty.
- Because the treaty bases consequences on existing, Earthbound laws, which differ from nation to nation, there is no mechanism for making or enforcing laws for the use of space that binds all participants equally.
- All “laws” under the treaty are ex post facto laws. To be effective deterrents to anti-social behavior, the law must be proactive, but the Outer Space Treaty is reactive. Only if one party objects to the action of another is its acceptability assessed.
- Operation of the treaty favors accepting *faits accomplis*. As a result, “*Might makes right*” in space, counter to the basic civilizing principle of rule of law. The reactive nature of the treaty is unacceptable in space, where remoteness, the harsh environment and high energies mean that a deed that is done often has unrecoverable, disastrous consequences.
- There is no physical means to remove spacecraft operated in a non-compliant manner.
- The treaty does not provide for leadership to human activity in space.
 - The treaty disperses initiative among using nations with conflicting values and goals.
 - The treaty generates no funding or direction to build infrastructure supporting space access and safe use.
 - The treaty does not provide for maintenance of the orbital environment around Earth but tolerates proliferation of uncontrolled objects that pose hazards to navigation.
- Private corporations have the means to conduct space operations independent of any terrestrial government. Between these organizations and any nations not a party to the treaty, space is subject to co-option by “bad actors” who can ruin it for the “good guys.”

The Outer Space Treaty includes irreconcilable conflicts

- Article II prohibits claims of sovereignty by occupation, but Article VIII requires that states maintain jurisdiction over objects launched into (occupying) space. These terms are subtly different to a legal scholar, but in practical terms they are synonymous.
- Article VII requires that states shall retain control of objects launched into space, but many objects in space are not controlled and pose hazards to navigation
- Article II states, “Outer space, including the moon and other celestial bodies, is not subject to national appropriation ... by means of use or occupation ...”. An artificial object occupies the four dimensions of volume and time. This article can be interpreted to prohibit all permanent human activity in space, since that activity occupies space that must be appropriated for that activity.

A Solution

The nations of Earth should establish a constitution establishing a democratically elected, representative government for space, with sovereignty extending to the limits of human expansion in space. This constitution should embrace the dignity and equality of all people, place checks and balances on government, corporate and individual power, and guarantee free communication.