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# The United States of Sol: Privatization as a Tool of American Hegemony in the Solar System

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THE UNITED STATES OF SOL:  
PRIVATIZATION AS A TOOL OF AMERICAN HEGEMONY IN THE SOLAR SYSTEM

A Thesis Presented

by

EDWARD C. HENRY

Submitted to the Office of Graduate Studies,  
University of Massachusetts Boston,  
for the degree of

MASTER OF ARTS

August, 2018

International Relations Program

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## ABSTRACT

# THE UNITED STATES OF SOL: PRIVATIZATION AS A TOOL OF AMERICAN HEGEMONY IN THE SOLAR SYSTEM

August 2018

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Directed by Professor Leila Farsakh

American outer space exploration has been progressively privatized since the end of the Cold War. The choice of privatization was a strategic geopolitical decision in the interest of maintaining American hegemonic leadership on Earth and in the solar system. American Congressional legislation and presidential speeches in the nearly three decades since the collapse of the Soviet Union and the “victory” of the American neoliberal form of capitalism, show support for the expansion of free-market principles into lower-Earth orbit and beyond. However, this is not a new trend. From the beginning of the American entry into the space race, the goal has been to achieve and maintain the dominant position in outer space. The aim of this thesis is to argue that the move towards American privatization of outer space aligns with the American quest for hegemonic leadership. This thesis draws on the historical development of the past 60 years and

relies on presidential speeches and congressional legislation to reveal how American governments has justified and explained changing trends in US space policy. The thesis assesses the ability of two key international relation theories, Realism and Marxism, to help explain the different factors behind the American privatization trend and its implications for US power.

## ACKNOWLEDGEMENTS

This thesis would not be possible without the tireless support of my family and friends: answering phone calls, keeping me fed and hydrated, and offering comfort through multiple bouts of crying and panic. To all future scholars, students, and researchers: don't be afraid to cry, it helps the process.

I want to write a special thank you to my advisor Dr. Leila Farsakh. From the beginning of this project, Dr. Farsakh has been my advocate, supporter, and mentor. I approached her with an out of this world topic and she encouraged me to pursue it. Thank you Leila.

## DEDICATION

This thesis is dedicated to robust and FREE public education. I hope that public education institutions can become a bastion of hope, exploration, and growth. May we never stop asking – "why?"

## TABLE OF CONTENTS

ACKNOWLEDGMENTS.....	vi
DEDICATION.....	vii
CHAPTER	Page
1. INTRODUCTION: THE FINAL FRONTIER .....	1
Context: A War so Cold.....	4
The Five Outer Space Treaties.....	13
2. AMERICAN OUTER SPACE RHETORIC.....	23
Eisenhower to Carter.....	26
Reagan and Beyond.....	34
3. INTERNATIONAL POWER PLAY OR CAPITAL EXPANSION.....	48
Balance of Power Politics.....	49
Space Marxism.....	54
4. CONCLUSION: PRIVATIZATION IS A TOOL.....	62
BIBLIOGRAPHY.....	68

## CHAPTER 1

### INTRODUCTION: THE FINAL FRONTIER

Gene Roddenberry, the creator of *Star Trek*, described the series as follows: “*Star Trek* speaks to some basic human needs: that there is a tomorrow – it’s not all going to be over with a big flash and a bomb; that the human race is improving; that we have things to be proud of as humans.”<sup>1</sup> Outer space captures the wonderment of individuals and communities across the globe and through the course of history. It has been a key piece of American foreign policy since the early days of the Cold War. Space exploration during the Cold War was a state led endeavor with significant financial and political support directed to reaching new heights.

American outer space exploration has been progressively privatized since the end of the Cold War. The choice of privatization was a strategic geopolitical decision in the interest of maintaining American hegemonic leadership on Earth and in the solar system. American Congressional legislation and presidential speeches in the nearly three decades since the collapse of the Soviet Union and the “victory” of the American neoliberal form of capitalism, show support for the expansion of free-market principles into lower-Earth orbit and beyond. However, this is not a new trend. From the beginning of the American entry into the space race, the goal has been to achieve and maintain the dominant position

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<sup>1</sup> Gene Roddenberry, “Mission Logs: Year Five,” “A Tribute to Gene Roddenberry,” *Star Trek: The Next Generation* Season 5, DVD 7, Interview, 20 September 1988, 0:26:09.

in outer space. With that in mind, the question is, why did the United States choose to privatize its space exploration efforts to assert American hegemonic leadership?

The move towards American privatization of outer space aligns with the American quest for hegemonic leadership. This thesis draws on the historical development of the past 60 years and relies on presidential speeches and congressional legislation to reveal how the American government has justified and explained changing trends in US space policy. The thesis assesses the ability of two key international relations paradigms (realism and Marxism) to help explain the different factors behind this privatization trend and its implications for US power.

Prior to the 1991 privatization shift, American leadership, reflected in presidential speeches and Congressional legislation, utilized the language of common heritage to promote American space efforts. Presidents Eisenhower and Kennedy established a framework for scientific advancement in space for the betterment of humanity, but always through American leadership. The first space treaty was signed under President Johnson, who heralded the international treaty as the next step in mitigating global conflict and, at a minimum, preventing the spread of human conflict into orbit and the wider solar system.

Americans entered the space race in second place, trailing the Soviet Union in several space “firsts.”<sup>2</sup> Early Soviet achievements included: the first satellite successfully

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<sup>2</sup> The space race began in 1957 with the successful launch of the Soviet Sputnik satellite. The Americans entered the following year with the successful launch of the Explorer 1 satellite. The space race concluded (arguably) with the successful 1969 American lunar

launched into orbit (Sputnik 1, October 1957), the first human launched successfully into orbit (Yuri Gagarin, April 1961), and the first woman to orbit Earth (Valentina Tereshkova, June 1963). The Americans followed Sputnik a year later with the 1958 launch of the Explorer 1 satellite. Alan Shepard, the first American in outer space, followed Gagarin not a month later. The first American women in space, however, would not occur until Sally Ride successfully launched into orbit in 1983. Though the United States started behind, it ultimately won the space race with the successful 1969 Apollo Moon Landing - a crowning achievement for the National Aeronautics and Space Administration (NASA). The Moon served as the ultimate goal of the space race, carrying a significant symbolic weight: “for the United States, coming in first in the moon race would tend to confirm the general disposition to believe that once the United States makes up its mind to do something it follows through.”<sup>3</sup> By the end of the Cold War, the United States was the clear leader in space technology and low-Earth orbit. If NASA was so successful in achieving American national security goals and enshrining US orbital leadership, why did the federal government push privatization so strongly?

Realist scholars of International Relations theory would argue American unilateral action to privatize outer space exploration is a natural act of the hegemon, freed from the constraints of balance of power politics under a bipolar world. Marxists would

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landing, Apollo 11 landing. History.com Staff, *The Space Race*, History.com, A+E Networks, 2010, <https://www.history.com/topics/space-race>.

<sup>3</sup> National Security Policy Planning Paper: Implications of Outer Space in the 1970s, May 1963, Box 308, Folder 6/63, Space Activities General, John F. Kennedy Presidential Library, 18.

argue that privatization was deliberate act during the rise of the neoliberal practice of capitalism. By critiquing the rise of neoliberal capital to hegemonic status, Marxism highlights key pieces that are missed by the realist explanations of the privatization of outer space: the role of private property, the influence of commercial interests in American government, and the constructed definition of “freedom” and deregulation.

This chapter will establish the international legal context necessary to understand Space policy more generally and the regulations set out in international treaties to define and guide state led outer space exploration. It provides an important context for understanding US space policy as well as the following two chapters. What follows is a discussion of the five international outer space treaties that sought to apply what came to be known as the common heritage principles that were developed during the height of the Cold War. The common heritage principles were drafted with the idea of closing the inequalities among the various states and containing conflict (particularly in light of the global nuclear threat).

### **The Context: a War so Cold**

Between 1967 and 1979, five international space treaties were drafted, signed, and ratified to varying degrees by the international community. The backbone of the treaties, the ethos of the treaty system, are the Common Heritage Principles of Humankind. In short, the common heritage principles define four main principles to guide and be maintained by all states in their quest to conquer outer space. These are: a ban on the extension of state sovereignty claims over the moon and any celestial body, the redistribution of any scientific and economic benefit to all states, a demilitarized peaceful

exploration, and a nuclear weapons free outer space. The aim of these principles is that, “all of humankind must benefit from sharing the natural resources that are subject to this policy.”<sup>4</sup> The inclusion of the common heritage principles into the outer space treaties is the result of efforts by members of the Non-Aligned Movement (NAM) representing the Third World.<sup>5</sup> The treaties, as written, act as a constraint on the two superpowers to preserve resources and territory for the wider global community, namely the developing world.

Common heritage was proposed on a global stage in the U.N. General Assembly by the Maltese Ambassador, Arvid Pardo in 1967.<sup>6</sup> Ambassador Pardo argued for the inclusion of the common heritage principle in the Law of the Sea Treaty; laying the groundwork for adoption into the space treaties. Pardo urged the classification of the deep sea as common land, requiring equal redistribution of economic benefit across the state system. At the time, “both the deep seabed and outer space were believed to contain untold riches that were years or decades away from human reach, and by asserting a pseudo-beneficial ownership right over them, developing nations hoped to effect a redistribution of their benefits that would result in sharing of wealth.”<sup>7</sup> Developing

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<sup>4</sup> Ian Hedges. “How the Rest was Won: Creating a Universally Beneficial Legal Regime for Space-Based Natural Resource Utilization.” *Vermont Law Review* 40, no. 2 (Winter2015), 376

<sup>5</sup> In this context, the *third world* refers to recently independent countries following political decolonization, largely developing countries, with a neutral stance during the Cold War. Bernard W. Greene, *Toward a Definition of the Term Third World*, 1 *B.C. Third World L.J.* 13 (1980), <http://lawdigitalcommons.bc.edu/twlj/vol1/iss1/10>.

<sup>6</sup> Melchin, “You can’t take the sky from me,” 147.

<sup>7</sup> Melchin, “You can’t take the sky from me” 147.

nations were staking a partial ownership, over the unclaimed resources. The ownership worked within the established state based system, respecting the sovereignty of borders by claiming resources falling within national territory. Deep sea and space resources were beyond state borders and thus were untouchable. A state could be (and appeared to be by the treaty signatures) more willing to restrict access to resource if their extraction was inconceivable. Fighting for the economic redistribution of the common resources, Pardo, and by extension Malta as a member of the Non-Alignment Movement, presented the views and fears of other recently independent and developing states, particularly those in the Global South.<sup>8</sup> Namely, the fear of continued wealth accumulation by the Global North at the expense and exclusion of the Global South. As the concept of common heritage evolved and was incorporated into subsequent treaties, interpretations clashed, particularly over the redistribution principle and its impact on notions of private property and property classification.

In the early stages of the space race, the Soviet Union and the United States were locked in a balance of power competition, striving to maintain the same level of technological advancement and political influence. Further, the United States was actively practicing a containment foreign policy, aimed at the Soviet Union. The international system was operating under a bipolar structure, however other states still wielded influence and international pressure. NAM is but one example. The two superpowers work to court influence and support NAM members and other third world

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<sup>8</sup> Melchin, “You can’t take the sky from me” 147.

countries. The United States presented its leadership role in moralistic terms, tying liberal economics and politics together as the promotion of freedom. Outer space speeches by American presidents during the Cold War reaffirmed the United States commitment to the advancement of humankind, as led by the United States. Related legislation, namely the NASA authorization acts, provided the action for such grand speeches, declaring the driving mission as scientific pursuit (always through American leadership). American hegemony has remained tied to a moral stance, that the United States is the leader of the “free world,” meaning liberal democracy and liberal markets.

The US discursive shift occurred clearly and forcefully in 1991. No longer forced to balance a competing superpower, American hegemony spread across the wider globe, namely through American market practices. American presidential speeches post-1991 lead the shift, calling for the commercialization of outer space exploration, in the name of cost cutting and budgetary responsibility. The presidential tones are set in legislation with NASA authorization acts and new legislation on space commercialization calling for financially efficient maneuvers, the privatization of American launch capability, and the deregulation of outer space access. The new language of outsourcing and commercial benefit is a drastic deviation from the pre-shift language (Eisenhower to Carter) which promoted scientific advancement for the betterment of humanity (under American leadership). However, what is consistent is the language of American leadership and protecting the strategic interest of outer space: defending the hegemon.

American administrations, including NASA, have publicly stated that the commercialization of low earth orbit frees government resources, allowing for NASA to

focus on exploration of the rest of the solar system. The reduction in investment for NASA has allowed the reallocation of state resources to other sectors back on Earth. American private industry has been more than willing to accept the invitation. SpaceX, in particular has met the invitation with gusto, shattering a number of records in recent years with ambitious plans to lead the human colonization of Mars.<sup>9</sup> If humans will (relatively) soon reach the red planet on a permanent basis, a question has to be answered: who does outer space belong to? Does the American government possess the international legal right to allow its private companies to exploit outer space resources and permanently place humans of their choosing out there? The answer depends on the theoretical approach used to explain the shift from an approach more in line with the common heritage principles (scientific advancement for the betterment of humanity) to privatization.

Debate over legal interpretations of the international outer space treaty system provides insight to the motivations of states and regional blocs. One camp, led by the United States, adheres to the property classification of *res nullius*, in regards to the potential resources in outer space. Under this interpretation, resources are non-exclusive by nature, meaning they do not belong to a single entity. But, the resources are attainable and capable of possession by an entity, such as a private corporation enjoying state

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<sup>9</sup> SpaceX was founded in 2002 by the PayPal billionaire founder Elon Musk with the state mission “to revolutionize space technology, with the ultimate goal of enabling people to live on other planets.” “SpaceX – Company,” accessed April 22, 2017, <http://www.spacex.com/about>.

support.<sup>10</sup> The other main interpretation is that of *res communis* which classifies a resource as beyond individual possession by nature, capable of capture only by joint, international ventures.<sup>11</sup> The interpretation favored by the Americans, *res nullius*, provides a clear path for commercial exploitation. Technically, both interpretations satisfy the ban on the extension of state sovereignty - from a strict government perspective. Meaning, neither interpretation allows for a state to plant a flag on Ceres and declare a new territory.<sup>12</sup> However, the *res nullius* interpretation allows for American companies and other private actors to extract resources from an asteroid or a planet (for example), remove them, claim them, and, *ideally*, profit off of the resource. This becomes a route for the expansion of American influence through the solar system. This is evident in the post-1991 privatization shift where Congressional legislation states outer space must be developed under the principles of free market capitalism.

Outer space and the celestial bodies were not the first realms to fall under the common heritage principles. The principles have been applied "...to areas beyond the limits of natural jurisdiction and to natural resources found there..." such as the unclaimed deep sea and Antarctica.<sup>13</sup> The Law of the Deep Sea and the Antarctic Treaty also embodied various forms of the common heritage principles sharing a common ban

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<sup>10</sup> Hedges, "How the rest was Won," p383.

<sup>11</sup> Hedges, "How the rest was Won," p382.

<sup>12</sup> Based off of Ian Hedge's article: Both classifications, *res nullius* and *res communis* refer to the commons themselves, which by definition are beyond national claim. It is a question of, claimed territory as the commons or unclaimed territory that can sectioned off as private property at a later date. See Hedges, p382.

<sup>13</sup> John Noyes, "The Common Heritage of Mankind: Past, Present, and Future." Denver Journal Of International Law & Policy 40, no. 1-3 (September 2011): 449.

on sovereignty claims, nuclear free zones, demilitarized, and with some goal of shared knowledge.<sup>14</sup> The technological and geo-political limits of the time effectively protected unclaimed territory from unilateral claims of ownership and extraction. The intention is to preserve access to resources (and wealth) beyond current political and technological reach, until a mechanism for redistribution is established. It was a delay tactic. The deep sea was beyond the reach of the exclusive economic zones and Antarctica was remote enough that no country could secure it against rival claims. And humans had only just barely touched outer space.

The question becomes, why would such a diverse group of states ban together and demand redistribution? The nuclear conflict was at its peak, under the policy of mutually assured destruction. Common heritage, and the treaty systems it inspired, was an attempt to counter the superpower dominance and to mitigate escalations in conflict. Essentially, the developing world sought to prevent the international legalization of the colonial structure in space. The global legal structure under the UN was still new, growing through adolescence. One wing of NAM advocated for redistribution of the planet's resources; pointing to colonialist capitalism as the cause for global inequality.<sup>15</sup> Protecting resources from unilateral exploitation granted NAM members time to develop, time to close the gap between developed and developing states. From a realist

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<sup>14</sup> The Antarctic Treaty entered into force in 1961, before Ambassador Pardo advocated for the common heritage principles in 1967. However, elements of what will be known as the common heritage principles appear in the Antarctic Treaty.

<sup>15</sup> Vijay Prashad, *The Darker Nations*, The New Press, New York (2007), 209.

perspective, protecting unfeasibly exploitable resources increases the chances of the developed states agreeing to the binding rules of the space treaties.

The Republic of India is a member of the Non-Aligned Movement and played an instrumental role in the promotion of the NAM agenda throughout the Cold War. India is a successful and rising space power, currently committed to a public led space development process. From the founding of the Indian Department of Space (DOS), the union government has been committed to the practice of the common heritage principles.<sup>16</sup>

Uniquely, the DOS was founded, in 1972, with the primary objective to promote “development and application of space science and technology to assist in all-around development of the nation.”<sup>17</sup> The DOS was a civilian endeavor where other space agencies grew out of military organizations. To accomplish its founding mission, the DOS created the Indian Space Research Organization (ISRO) which has met and continues to meet its original objective of domestic development, while shattering global space records. Launching of satellites, for example, has facilitated critical infrastructure development from “linking stock exchanges to relaying cricket broadcasts from around to

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<sup>16</sup> Granted, there is a question over just how committed the union government will remain with increased outer space success in light of the increased liberalization of the Indian economy, but that is for a different paper.

<sup>17</sup> Narayan Prasad Nagendra. “Demystifying space business in India and issues for the development of a globally competitive private space industry,” Space Policy 36 (2016), 2.

the world” to providing real time data on weather systems.<sup>18</sup> India reached the Moon with the Chandrayaan-1 satellite in 2008.<sup>19</sup> In 2013, India became the first Asian state to reach Mars with the successful launch of the Mangalyaan satellite. Mangalyaan also carries the distinction of the world’s cheapest, successful Martian mission. And, India is the first state to reach the red planet on a first attempt.<sup>20</sup> Indian space efforts are certainly increasing. But, India is not necessarily a contender for space dominance, at least not yet.

Cold War competition forced the United States to simultaneously cooperate and compete with its Soviets rivals while considering the demands of the developing world. The 1990s shift in American rhetoric and posturing allowed for a cooperative foreign policy, on the hegemon’s terms. Collaboration on the International Space Station and the decommissioning the American space shuttle program are examples of such a foreign policy and the level of self-assurance felt in the halls of Washington. Allowing private capital to shoulder the funding burden at this point in time revealed Washington’s confidence in its leadership in lower earth orbit and permitted the reallocation of resources to others realms of the hegemon’s leadership priorities. Privatization was a strategic move. American corporations are now responsible for developing lower earth orbit with room to reach the Moon and Mars. Washington’s resources are now focused,

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<sup>18</sup> Narayan Prasad Nagendra, “Diversification of the Indian space programme in the past decade: Perspectives on implications and challenges,” *Space Policy* 36 (2016), 44.

<sup>19</sup> Nagendra, "Demystifying space business in India" 39.

<sup>20</sup> BBC, “India’s first Mars satellite ‘Mangalyaan’ enters orbit,” September 24, 2014, <http://www.bbc.com/news/science-environment-28268186>.

space wise, on expanding to the asteroid belt and beyond, such as through the Orion project. The American state fostered the domestic space industry for its own interests.

### **The Five Outer Space Treaties**

The common heritage principles form the ethos of the five outer space treaties. This next section examines each of the five treaties, highlighting the common heritage aspects in the treaties. The *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*, the Outer Space Treaty, of 1967 is the progenitor of current international space law and frames the treaty system and has been ratified by 104 states.<sup>21</sup> The Outer Space Treaty begins by “reaffirming the importance of international cooperation in the field of activities in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, and the importance of developing the rule of law in this new area of human endeavor.”<sup>22</sup> From the beginning, common heritage asserts itself side by side with the need for international cooperation. It asserts that a single state should not explore space on its own; from a cooperation viewpoint as well as a balance of power view point. The treaty enshrines the “common-interest” of humanity in the peaceful exploration of outer space, which should benefit all of humanity over specific nations and peoples.<sup>23</sup> As,

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<sup>21</sup> Committee on the Peaceful Uses of Outer Space. “Status of International Agreements relating to activities in outer space as at 1 January 2016.”4 April 2016.

<sup>22</sup> Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. United Nations. December 19, 1966.

<sup>23</sup> Treaty the Activities of States in the Exploration and Use of Outer Space, 1966.

Article 1 states in the first paragraph, “The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.”<sup>24</sup> Article 2 expressly bans “national appropriation by claims of sovereignty, by means of use or occupation, or by any other means.”<sup>25</sup> From the opening of the treaty, the authors classify outer space and all celestial bodies as international domain, protected from sovereignty claims. As an international domain, any benefits reaped by one nation are to be shared with all, for the betterment of the global community. The legally binding treaty enforces the ideals of common heritage banning any and all nuclear weapons, weapons of mass destruction, and the placement of military personnel and equipment (except to aid peaceful, scientific exploration) in outer space. Space exploration is to be pursued strictly for peaceful purposes and discoveries are to be shared with the international community, in addition to the United Nations.<sup>26</sup> The treaty promotes an ideal of cooperation among the states, with the intention, the hope, of growing “friendly relations between States and peoples.”<sup>27</sup> The Outer Space Treaty sets the tone for the space treaty system – seeking to stave off military conflict in Earth’s orbit while recognizing the structural inequalities of the international system.<sup>28</sup> The treaty also mentions that space resources are an opportunity

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<sup>24</sup> Treaty the Activities of States in the Exploration and Use of Outer Space, 1966.

<sup>25</sup> Treaty the Activities of States in the Exploration and Use of Outer Space, 1966.

<sup>26</sup> Treaty the Activities of States in the Exploration and Use of Outer Space, 1966.

<sup>27</sup> Treaty the Activities of States in the Exploration and Use of Outer Space, 1966.

<sup>28</sup> The treaty language repeatedly addresses scientific and economic disparities in the global system. Example: The annex includes: “Believing that the exploration and use of

for a technological and scientific boom; the treaties recognize this by requiring redistribution of knowledge acquired to all states equally. The redistribution is an effort to ensure segments of the global community are not left behind and continue to face domination by the dominant states.

*The Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched into Outer Space*, the Rescue Agreement, of 1967 was ratified by 94 states.<sup>29</sup> The treaty opens with a call for peaceful exploration of space. Its preamble adding a “sense of urgency” to the development of the liability treaty, recognizing the need for codified space law.<sup>30</sup> The agreement requires all members to notify the respective state and the U.N. in the event of astronaut distress and to render all possible assistance<sup>31</sup> Mirroring similar rules on the high seas; the Rescue Agreement establishes a community a space travelers. Regardless of state agenda, astronauts are human explores, perusing an exploration mission for humanity. State and corporate squabbles should not interfere with rescuing astronauts in distress.

*The Convention on the International Liability for Damage Caused by Space Objects*, the Liability Convention, of 1971 (ratified by 92 states<sup>32</sup>) begins in a similar

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outer space should be carried out for the benefits of all peoples irrespective of the degree of their economic or scientific development.” Treaty the Activities of States in the Exploration and Use of Outer Space, 1966.

<sup>29</sup> Committee on the Peaceful Uses of Outer Space.

<sup>30</sup> Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space. United Nations. December 19, 1967.

<sup>31</sup> Agreement on the Rescue of Astronauts.

<sup>32</sup> Committee on the Peaceful Uses of Outer Space.

fashion, “reaffirming the importance of international cooperation in the field of the exploration and peaceful uses of outer space,” continues with “recognizing the common interest of all mankind in furthering the exploration and peaceful uses of outer space.”<sup>33</sup> The treaty assigns liability, in the case of damage of a space object, to the launching state, requiring compensation.<sup>34</sup> Article 5 provides for joint-missions, including countries that provide the facilities for launching.<sup>35</sup> Article 21 opens the door for third state intervention in the case of a catastrophic accident, yet still respecting the state-based system by requiring permission from the impacted state.<sup>36</sup> This is effectively a compromise with the state based system to encourage more states to sign the treaty, borders will be respected. The Liability treaty allows for the intervention of the international community, while respecting state sovereignty. This again reaffirms the treaty system as a product of the state system.

The *Convention on Registration of Objects Launched into Outer Space*, the Registration Convention, of 1974 was ratified by 62 states.<sup>37</sup> The treaty begins by “reaffirming the importance of international cooperation in the field of the exploration and peaceful uses of outer space” and recognizes “the common interest of all mankind in

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<sup>33</sup> Convention on International Liability for Damage Caused by Space Objects. United Nations. November 29, 1971.

<sup>34</sup> Convention on International Liability.

<sup>35</sup> Convention on International Liability.

<sup>36</sup> Convention on International Liability.

<sup>37</sup> Committee on the Peaceful Uses of Outer Space.

furthering the exploration and use of outer space for peaceful purposes.”<sup>38</sup> The treaty requires all nations to register objects launched into outer space and to provide identifying data when feasible to a central, international registrar under the authority of the Secretary General of the United Nations.<sup>39</sup> All states, regardless of scientific advancement are entitled to full and equal access to the register of launched space objects.<sup>40</sup> This provision ensures the redistribution of scientific knowledge, facilitating peaceful exploration by limiting the need for competition over scientific discoveries. According to the U.N.’s Office for Outer Space Affairs, 92% of all craft launched into outer space have been registered on the Register of Objects Launched into Outer Space.<sup>41</sup> Only 62 states have ratified the convention, but compliance is high due to the high registration rate. The treaty carries legitimacy.

Ratified by sixteen non-space faring states, the *Agreement Governing the Activities of States on the Moon and Other Celestial Bodies* of 1979 is considered a failed treaty.<sup>42</sup> Known as the Moon Treaty, the language in the agreement follows its predecessors by reflecting the ethos of the Common Heritage principle.<sup>43</sup> The treaty opens with stating the importance of the natural satellite to the peaceful exploration at

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<sup>38</sup> Convention on Registration of Objects Launched into Outer Space. United Nations. November 12, 1974.

<sup>39</sup> Convention on Registration of Objects.

<sup>40</sup> Convention on Registration of Objects.

<sup>41</sup> United Nations Register of Objects Launched into Outer Space, UN Office of Outer Space Affairs, <http://www.unoosa.org/oosa/en/spaceobjectregister/index.html>.

<sup>42</sup> Committee on the Peaceful Uses of Outer Space.

<sup>43</sup> Noyes, “The Common Heritage of Mankind,” 461.

space with the intention of preventing “the moon from becoming an area of international conflict.”<sup>44</sup> In keeping with the Common Heritage principle, the treaty addresses the economic benefit the Moon represents. In the preamble, the treaty states “Bearing in mind the benefits which may be derived from the exploitation of the natural resources of the moon and other celestial bodies.”<sup>45</sup> This consideration is addressed in Article 4:

“The exploration and use of the moon shall be the province of all mankind and shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development. Due regard shall be paid to the interests of the present and future generations as well as the need to promote higher standards of living and conditions of economic and social progress and development in accordance with the Charter of the United Nations.”<sup>46</sup>

Article 4 embodies the Common Heritage principle of common ownership and economic redistribution. Following the Common Heritage principle, Article 11 protects the moon from declarations of state claims of sovereignty and calls for the creation of “an international regime including appropriate procedures to govern the exploitation of the national resources of the moon.”<sup>47</sup> However, the subsequent article allows for state jurisdiction to remain over the respective equipment, infrastructure, and citizens on the moon.<sup>48</sup> A state may not establish a national claim of territory on the moon, yet its equipment and citizens remain under its protection while on the moon. States are allowed

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<sup>44</sup> Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. United Nations. December 19, 1966.

<sup>45</sup> The Moon Treaty.

<sup>46</sup> The Moon Treaty.

<sup>47</sup> The Moon Treaty.

<sup>48</sup> The Moon Treaty.

to establish crewed facilities, but only in such a way that does not restrict access to the Moon itself.<sup>49</sup> Following its companion treaties, the Moon treaty enforces a demilitarized nature of the moon, but does allow for the “use of military personnel for scientific research or for any other peaceful [purpose].”<sup>50</sup>

The key to this treaty and one of the main goals of the space treaty system is to facilitate peaceful scientific research on the moon and the sharing of newfound information with the wider scientific community. States are required to share “activities concerned with the exploration and use of the moon,” in line with the Liability and Registration Conventions, and the Outer Space Treaty.<sup>51</sup> Article 5 continues, specifically, that each participating state must inform the U.N., through the Secretary-General, “the public, and the international scientific community, of any phenomena they discover in outer space, including the moon, which could endanger human life or health, as well as of any indication of organic life.”<sup>52</sup> Furthermore, the freedom of scientific investigation must be respected and protected by all participating states.<sup>53</sup> States are allowed, by the Moon treaty, to explore and to extract resources yet, in a progressive move, states must avoid damaging the “existing balance of its environment, whether by introducing adverse changes in that environment, by its harmful contamination through the introduction of

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<sup>49</sup> The Moon Treaty.

<sup>50</sup> The Moon Treaty.

<sup>51</sup> The Moon Treaty.

<sup>52</sup> The Moon Treaty.

<sup>53</sup> The Moon Treaty.

extra-environmental matter or...extra-terrestrial matter...or otherwise.”<sup>54</sup> Reflecting an awareness of the environmental degradation experienced on Earth, the treaty writers seem to be pre-empting potential resource exploitation on the moon. Embracing the state-based structure that is the current international system, the treaty states in Article 14, “State Parties to this Agreement shall bear international responsibility for national activities on the moon, whether such activities are carried out by governmental agencies, or by non-governmental entities...”<sup>55</sup> States are responsible for their non-state actors. This article is key to the future of space development and exploration as private companies are preparing to reach the stars. Additionally, Article 14 is a point of affirmation for the state-based system; agency lies with the state not with private enterprise.

Developing states and the Non-Aligned Movement attempted to use international space law “to establish an international regime that would regulate the exploitation of resources according to the CHM principle – a challenge to the dominance of spacefaring superpowers through the mechanism of international law.”<sup>56</sup> The Moon Treaty is representative of this initiative: using the international system established by the dominant powers to constrain the dominant powers. This explains, at least partially, why the Moon Treaty was not ratified. The space powers (United States, Russia, India, China, and the majority of the E.U.) did not ratify it; which leaves the door open to “coercively

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<sup>54</sup> The Moon Treaty.

<sup>55</sup> The Moon Treaty.

<sup>56</sup> Melchin, “You can’t take the sky from me,” 149.

develop international [space] law by unilateral action.”<sup>57</sup> Meaning, individual countries and regional blocs will frame future exploration and development outside of international agreements. The American choice of commercial development is an example of this, seen through unilateral legislative action such as the SPACE Act of 2015.<sup>58</sup> The SPACE Act allows American citizens to extract and profit from outer space resources directly.<sup>59</sup> In this regard, it is clear that the US does not want to restrict itself and its corporations from pursuing an economic benefit. The Moon is closer to exploration and development than it was in 1967. The US is still under obligations of the Outer Space Treaty. But, American corporations do not share these obligations, thanks to the failure of the Moon Treaty. This is significant as the global economy has liberalized since the close of the Cold War, expanding the role of non-state actors in international relations. The gaps in the treaty system have been utilized by states (the United States) and non-state actors (SpaceX for example) for expansion.

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<sup>57</sup> Melchin, “You can’t take the sky from me,” 149.

<sup>58</sup> SPACE Act of 2015 authorizes any US citizen to extract and profit off of outer space material/resources.

<sup>59</sup> Joanne Irene Gabrynowicz, professor emerita from the University of Mississippi School of Law submitted a letter to the House Committee on Science, Space, and Technology in regards to the SPACE Act arguing “the Bill attempts to grant U.S. jurisdiction over ‘any asteroid resource’..” and requiring the U.S. President ‘to facilitate the commercial exploration and utilization of space resources to meet the national needs...’ which “is a form of national appropriation by ‘other means.’” In other words, this act is dangerously pushing the bounds of American jurisdiction (unilaterally) onto asteroids and other celestial bodies.

This paper will explore the deliberate decision to privatize American outer space efforts by analyzing the discourse shifts U.S. Presidential speeches, Congressional legislation, and related media reports since the Americans entered outer space.

## CHAPTER 2

### AMERICAN OUTER SPACE RHETORIC

The collapse of the Soviet Union, the end of the Cold War with the “victory” of the United States brought a drastic shift in American outer space policy. Throughout the course of the Cold War and the Space Race, American rhetoric focused on the scientific imperative of outer space exploration and the need to keep outer space “Free.” American presidents, such as John F. Kennedy, passionately defended a heavy federal investment in outer space with calls for “Free men” to lead the way in order to stop the spread of tyranny. Lyndon B. Johnson described the outer space treaties as the best method to constrain the Cold War conflict to the planet, preventing the spread of war to outer space. But, as soon as the Cold War tensions ebbed, American rhetoric shifts to cost-saving measures and deregulation to ensure entrepreneurial innovation is allowed to flourish. The question of this chapter, and this thesis, is why? Why did American rhetoric swing so drastically from tacitly supporting aspects of the common heritage principles (enshrined in the space treaties) to supporting the privatization of outer space exploration?<sup>60</sup> The answer lies in the protection of American hegemonic leadership.

This chapter will examine two sets of documents related to American outer space exploration that will help explain how the US sought to maintain its hegemonic leadership in outer space through the changing of geopolitical realities in the international

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<sup>60</sup> In this case, American “support” for the common heritage principles in the outer space treaties refers to American ratification of 4 out of the 5 treaties.

system. First, this chapter will examine U.S. Presidential speeches and executive documents from each president from the beginning of the space race. Second will be an examination of NASA authorization and reauthorization acts, additional related Congressional legislation, and related testimony during Congressional hearings. Both sets of documents will demonstrate a commitment (by the American government) to promoting, expanding, and protecting American hegemonic leadership in outer space. The two sets of documents will also highlight a shift in the presidential and congressional language at the Cold War: a shift away from the common heritage language to the language of privatization and capital expansion.

Each speech and presidential document addresses a topic of outer space exploration, from advocating for a moon mission to celebrating the successes of a private space company. Dwight Eisenhower's farewell address and recorded satellite transmission with Kennedy's 1961 inaugural address, his 1961 special address to the Congress, and his 1962 moon speech established a consistent, guiding philosophy for American efforts in the space race. The approach established by Kennedy and Eisenhower, prior to the signing of the outer space treaties, was one of peaceful, scientific discovery to better humankind, but through American leadership. Johnson delivered brief remarks at the signing ceremony of the first outer space treaty in 1967, reflecting the current state of war the country was in. Richard Nixon announced the shuttle program in a 1972 speech, defending the investment by listing the material benefits of outer space exploration over the geostrategic motivations of exploration. Jimmy Carter recorded a speech in 1977 to be placed on the Voyager satellite, the first extrasolar human

spacecraft.<sup>61</sup>To this point in the chronological rhetoric, each speech and set of remarks were delivered at a key time in the development of the space program. The shift towards privatization begins during the Reagan administration with his 1984 State of the Union and “Star Wars” speech. Remarks by George H.W. Bush in 1989 reflect the intimate relationship between national policy in outer space and the expansion of American economic practices; meaning the connection between freedom and open markets. The final four speeches and documents from George W. Bush, Barack Obama, and the current presidential administration demonstrate the increasing support for privatization of low earth orbit, culminating in the attempted commercialization of the International Space Station.

Examining the narrative chronologically, from the launch of the Explorer I satellite in 1958 to the recent announcement of privatizing the International Space Station, depicts clearly the tidal shift in the American perspective across the various presidential administrations while highlighting the commitment to the promotion and defense of American hegemony. Presidential speeches establish a framework for U.S. policy, particularly defense policy, and can provide an indication of the president’s political priorities and what he believes the American people need to know and support.<sup>62</sup> I selected at least one speech or document from each president following the launch of Explorer I in 1958, with the exception of Presidents Ford and Clinton.

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<sup>61</sup> "Mission Overview," Voyager, NASA, last modified June, 6, 2018, <https://voyager.jpl.nasa.gov/mission/>.

<sup>62</sup> As of the writing of this thesis, each of the 44 American presidents have identified as male. It is the hope of this writer that this will change sooner rather than later.

The presidential speeches and remarks provide insight into the kind of outer space related legislation that the United States Congress was encouraged to pass and eventually adopt. The NASA authorization acts are the tangible actions of the presidential speeches reflecting the sentiments expressed in the presidential speeches of its time. This chapter will examine one per decade, beginning with the first NASA authorization of 1958, to trace the changing sentiments and priorities of American space development. Particular attention is paid to the acts of 1984 and 1991 as they sandwich the collapse of the Soviet Union and the global power shift from a bipolar world to a unipolar one. The NASA authorizations examined in this chapter were passed by both major American political parties, demonstrating a level of consensus on legislative intent. The remaining legislation and policy directives examined were drafted and passed in the new, unipolar world of the 1990s and 2000s.

### **Eisenhower to Carter**

President Dwight D. Eisenhower established a framework to govern US space policy intended, at least in formal terms, to benefit humanity. His framework incorporated aspects of what will be the common heritage principles: the betterment of humanity and containment of global conflict and warfare.

Eisenhower recorded the first human message transmitted from orbit to Earth via satellite. In that brief, technologically significant message, Eisenhower set the tone for early space exploration: “Through this unique means, I convey to you and all mankind,

America's wish for peace on earth and good will to men everywhere."<sup>63</sup> It is a simple message that is constantly repeated by subsequent presidents to sum up American intentions in outer space. It is a peace led by American efforts.

Eisenhower's "Military-Industrial Complex" speech, delivered as his farewell address in January 1961, is not directly related to outer space exploration. However, the tension in Eisenhower's warning foreshadows the tension in future American outer space exploration (public versus private led and the role of non-state actors in US government foreign policy):

But each proposal must be weighted in the light of a broader consideration: the need to maintain balance in and among national programs – balance between the private and the public economy, balance between cost and hoped for advantage – balance between the clearly necessary and the comfortably desirable; balance between our essential requirements as a nation and the duties imposed by the nation upon the individual; balance between actions of the moment and the national welfare of the future. Good judgement seeks balance and progress; lack of it eventually finds imbalance and frustration.<sup>64</sup>

Eisenhower is advocating a measured and balanced policy approach at a time of new strength and prosperity for the United States, fearing the new military might and wealth will tip the country too far in one direction. Eisenhower claims, "...American leadership and prestige depend, not merely upon our unmatched material progress, riches and

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<sup>63</sup> Cary O'Dell, "President's Message Relayed from Atlas Satellite – Dwight D. Eisenhower (December 19, 1958)" Last accessed June 7, 2018. <https://www.loc.gov/programs/static/national-recording-preservation-board/documents/EisenhowerSpaceMessage.pdf>.

<sup>64</sup> Dwight D. Eisenhower, "Military-Industrial Complex Speech." Speech, Washington, DC, January 17, 1961, The Avalon Project, [http://avalon.law.yale.edu/20th\\_century/eisenhower001.asp](http://avalon.law.yale.edu/20th_century/eisenhower001.asp).

military strength, but on how we use our power in the interests of world peace and human betterment.”<sup>65</sup> Americans must act in a benevolent manner, always striving to improve human society for both the present moment and for the future. Eisenhower is establishing a presidential framework of human progress through American leadership.

Eisenhower devotes a paragraph to describing the “conflict now engulfing the world.”<sup>66</sup> The conflict “commands our whole attention, absorbs our very beings.”<sup>67</sup> The singular focus on global conflict threatens American efforts to “foster progress in human achievement.” Mitigation of conflict and war therefore supports global human progress.

Though Eisenhower’s military-industrial speech does not directly address outer space it highlights the emerging tensions between the public and private realms while establishing a framework for America’s new global leadership role.

Eisenhower established a framework of American leadership through dominance using the moral argument: all for the betterment of humankind. President John F. Kennedy expanded on this arguing in his 1962 “Moon Speech” at Rice University in Texas. American boots on the lunar surface would eventually lead to American victory in the space race. The significance of the Moon is a recurring theme in American space endeavors: it was seen as the crown jewel of the space race, will be a potential launching point for missions further afield, and will be a contentious point in future administrations.

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<sup>65</sup> Eisenhower, "Military-Industrial Complex Speech".

<sup>66</sup> Eisenhower, "Military-Industrial Complex Speech".

<sup>67</sup> Eisenhower, "Military-Industrial Complex Speech".

Kennedy's moon speech was delivered during a time of global instability and the speech was a recognition of that, telling the crowd, "...we meet in an hour of change and challenge, in a decade of hope and fear, in an age of both knowledge and ignorance..."<sup>68</sup> To meet that fear, to conquer it, Kennedy advocates for increased scientific investment, in order to understand the marvels of the universe. A national security planning document from May, 1963 called for a continued "emphasis in the field of space exploration on broadening our horizon of knowledge...with particular attention to the political implications of our achievements measured against those of the USSR, and the assurance of our national security."<sup>69</sup> The scientific advancement will serve to close the gap in the space race with the Soviets. But, Kennedy urges a form of *restraint*. Echoing Eisenhower, Kennedy states: "We have vowed that we shall not see space filled with weapons of mass destruction, but with instruments of knowledge and understanding."<sup>70</sup> He thereby upholds two of the key tenets of what will become the common heritage principles: peaceful exploration of outer space through demilitarization and establishing a nuclear weapons free zone. Kennedy continues, despite the "hazards" space holds "to all of us," scientific advancement must be the primary driver of space exploration, "for the

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<sup>68</sup> John F. Kennedy, "Moon Speech – Rice Stadium," Houston, TX, September 12, 1962, NASA, <https://er.jsc.nasa.gov/sseh/ricetalk.htm> . The Cold War was at its height in 1962 with the American embargo of Cuban goods and the Cuban Missile crisis sandwiching JFK's speech. The failed Bay of Pigs invasion was the year prior. Political decolonization was in full swing. The Sino-Indian War occurred during the Cuban Missile crisis..

<sup>69</sup> National Security Policy Planning Paper: Implications of Outer Space in the 1970s, May 1963, Box 308, Folder 6/63, Space Activities General, John F. Kennedy Presidential Library, 18

<sup>70</sup> Kennedy, "Moon Speech".

good of all men...” and to ensure the U.S. becomes “the world’s leading space-faring nation.”<sup>71</sup> The speech recognizes the communal nature of space exploration that space does not, cannot, belong to any one nation (Kennedy is now echoing three of the four key tenants). But, one nation can lead in space exploration, one nation can (and should) dominate the process: “Whether [space] will become a force for good or ill depends on man, and only if the United States occupies a position of pre-eminence can we help decided whether this new ocean will be a sea of peace or a new terrifying theater of war.”<sup>72</sup> In his moon speech, Kennedy fills out Eisenhower’s guideline by reiterating that peaceful scientific advancement of outer space will serve humanity, but only when the United States is in the lead of outer space exploration and discovery.

If Kennedy builds on Eisenhower’s guidelines by establishing a clear direction for outer space exploration, President Lyndon B. Johnson puts into action Kennedy’s guidelines. Johnson signed the Outer Space Treaty in January, 1967. The first of the five treaty system (counting the failed Moon treaty), the Outer Space Treaty established the standards for international outer space behavior.<sup>73</sup> The common heritage principles form the frame of the treaty, including sentiments previously expressed by Kennedy and Eisenhower. In his brief remarks at the signing ceremony, Johnson summarizes the treaty as ensuring “the moon and our sister planets will serve only the purposes of peace and not

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<sup>71</sup> Kennedy, "Moon Speech."

<sup>72</sup> Kennedy, "Moon Speech."

<sup>73</sup> The four key tenets of the common heritage principles (as related to the outer space discussion) are: demilitarized zone, nuclear weapons free zone, redistribution/shared knowledge and economic benefit for human advancement, and a ban on unilateral sovereignty claims.

war.”<sup>74</sup> Johnson continue with, “we have never succeeded in freeing our planet from the implementations of war. But if we cannot yet achieve this goal here on earth, we can at least keep the virus from spreading.”<sup>75</sup> Johnson is furthering the moral argument of his immediate two predecessors: committing the United States to an international treaty system dedicated to common exploration and benefit through peaceful exploration. Johnson’s remarks are, in a way, resigned yet hopeful.

The year 1967 was a year of cold and hot conflict with the Vietnam War raging on and the threat of nuclear annihilation ever present (granted, it was LBJ’s campaign that aired the famous “Daisy” ad). Johnson’s remarks are defending an action that could be seen as threatening American sovereignty by restricting American range of action in outer space. Under the Outer Space treaty, American nuclear weapons have to remain on earth, the military could not deploy more conventional weapons in outer space, and the government cannot extend territorial control to the Moon or other celestial bodies. In his remarks, Johnson states his hope that thanks to the Outer Space treaty, “astronaut and cosmonaut will meet someday on the surface of the moon as brothers and not as warriors for competing nationalities or ideologies.”<sup>76</sup> The moon will be a place of international cooperation, not an extension of the Cold War.

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<sup>74</sup> Lyndon B. Johnson “Remarks at the Signing of the Treaty on Outer Space.” Speech. Washington, DC, January 27, 1967, The American Presidency Project, <http://www.presidency.ucsb.edu/ws/?pid=28205>.

<sup>75</sup> Johnson, "Remarks at the Signing of the Treaty on Outer Space."

<sup>76</sup> Johnson, "Remarks at the Signing of the Treaty on Outer Space."

President Richard Nixon's administration saw the next step in the scientific leadership of the United States, as the launch of the shuttle program. Nixon announced the shuttle in 1972 by espousing the material benefits of space exploration from "the tremendous potential of satellites for international communications and world-wide weather forecasting" to "agricultural applications, and in pollution control."<sup>77</sup> Nixon claimed that "it will go a long way toward delivering the rich benefits of practical space utilization and the valuable spinoffs from space efforts into the daily lives of Americans and all people."<sup>78</sup> Nixon espoused the material benefits of outer space exploration for the American population while also including the benefit to the global community, in a nod to the common heritage principle.

Nixon expanded the US declared moral mission to better humankind by adding an ecological argument to the America motivation in space. The *Blue Marble* photograph will be released to the public in December, 1972, taken during the Apollo 17 mission. This first, color photograph of the Earth will be broadcast to the global public providing visualization for how tiny the planet is in compared to the wider universe. Nixon's statement of guardianship sounds similar to the preservation calls in the common heritage treaties. But, following the framework established by his predecessors, Nixon calls for guardianship through American leadership. The new space shuttle is the next step in space technology, the next step in continuing American dominance in outer space (by this

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<sup>77</sup> Richard Nixon, "The Statement by President Nixon, 5 January 1972," NASA History, <https://history.nasa.gov/stsnixon.htm>.

<sup>78</sup> Nixon, "The Statement by President Nixon."

time, the US had beaten the Soviets to the Moon). Nixon adds a dimension to the framework by including the material benefits of outer space. Yes, scientific advancement is the motivator, but it brings with it civilian benefits in the form of consumer goods. Privatization won't enter the conversation for another decade, but the focus on material wealth is already present in the presidential conceptions of outer space politics.

The satellite Voyager I was launched in 1977 containing the Golden Record.

Included in the recordings was a letter penned by President Jimmy Carter:

We are a community of 240 million human beings among the more than 4 billion who inhabit planet Earth...We are attempting to survive our time so we may live into yours. We hope someday, having solved the problems we face, to join a community of galactic civilizations...This record represents our hope and our determination, and our good will in a vast and awesome universe.<sup>79</sup>

In his letter to a potential galactic community, Carter speaks of a global community, a recognition that advancement in space exploration can and will impact the planet.

Carter's letter aligns closely with the common heritage principles and Gene Roddenberry's motivations for creating Star Trek. The primary connection to common heritage is the last line of the quote, orienting space exploration as one of peaceful intentions, instead of conquering and resource exploitation.

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<sup>79</sup> Jimmy Carter: "Voyager Spacecraft Statement by the President.," July 29, 1977. Online by Gerhard Peters and John T. Woolley, *The American Presidency Project*. <http://www.presidency.ucsb.edu/ws/?pid=7890>.

## Reagan and Beyond

The first indication of US inclination towards the privatization of space conquest can be traced back to the presidency of Ronald Reagan.<sup>80</sup> Reagan's 1984 State of the Union Address to a joint session of Congress sets clear, national priorities geared to "rigorous economic growth" that leads to a "sparkling economy [that] spurs initiatives, sunrise industries, and makes older ones more competitive."<sup>81</sup> The key "to a dynamic decade is vigorous economic growth" through "[bringing] Federal deficits down" and by "[limiting] the size and scope of government..." through reducing "the growth of Federal regulations by more than 25 percent..."<sup>82</sup> Reagan's focus is clear, a reduction in federal spending and federal regulations will spur economic growth. Reagan also call for the development of a "permanently manned space station" in collaboration with international partners who will aid in the American mission to "strengthen peace, build prosperity, and expand freedom."<sup>83</sup> Following his predecessors, Reagan boasts American outer space efforts have "pushed civilization forward with our advances in science and technology" and that Americans should "be proud to say: We are first; we are the best; and we are so because we're free."<sup>84</sup> The specific outer space privatization turn comes when Reagan

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<sup>80</sup> This was an extension of a wider pattern of privation through the dismantling of the state structure experienced across the federal government throughout the 1980s.

<sup>81</sup> Ronald Reagan, "Address before a Joint Session of Congress on the State of the Union," Speech, Washington DC, January 25, 1984, The American Presidency Project, <http://www.presidency.ucsb.edu/ws>.

<sup>82</sup> Reagan, "State of the Union."

<sup>83</sup> Reagan, "State of the Union."

<sup>84</sup> Reagan, "State of the Union."

argues that “space holds enormous potential for commerce.”<sup>85</sup> The market for space transportation could surpass our capacity to develop it. Companies interested in putting payloads into space must have ready access to private sector launch services.”<sup>86</sup> Reagan directs the Department of Transportation and other executive offices to “promote private sector investment in space.”<sup>87</sup> The presidential rhetoric is beginning to shift towards favoring privatization. Elements of Reagan's State of the Union do follow his predecessors, declaring American leadership benefits human advancement and touting the scientific strength of American space research. But, within the context of cutting federal spending and regulations the presidential privatization shift is clear.

The legislative shift in support of Reagan’s vision, however, took some time to materialize. The 1985 NASA Authorization bill follows the same path as its predecessors, declaring “that it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of humankind.”<sup>88</sup> The 1985 authorization cites “the expansion of human knowledge of phenomena in the atmosphere and space...” as justification for the continued funding of NASA.<sup>89</sup> Nestled in that justification is the heart of American space policy: “the preservation of the role of the United States as a leader in aeronautical and space science technology...”<sup>90</sup> The legislative justifications

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<sup>85</sup> Reagan, "State of the Union."

<sup>86</sup> Reagan, "State of the Union."

<sup>87</sup> Reagan, "State of the Union."

<sup>88</sup> U.S. Congress, House, *National Aeronautics and Space Administration Authorization Act*, HR 5154, 98<sup>th</sup> Congress, introduced into the House March 15, 1984, <https://www.congress.gov/bill/98th-congress/house-bill/5154>.

<sup>89</sup> U.S. Congress, *NASA Authorization Act* 1984.

<sup>90</sup> U.S. Congress, *NASA Authorization Act* 1984.

and rhetoric remains similar to previous decades, focused on maintaining and promoting American leadership in outer space through peaceful exploration of outer space. The legislative rhetoric remains closer to the common heritage principles as the presidential rhetoric pivots away from the principles and towards privatization.

On the 20th anniversary of the 1969 Apollo Moon landing, President George H.W. Bush delivered a speech at NASA headquarters to commemorate the event. Bush claimed “space is the inescapable challenge to all the advanced nations of the Earth.”<sup>91</sup> Exploration and expansion into outer space is natural to the powerful nations of the planet, Bush says. He continues, “in the 21st century, humans will again leave their home planet for voyages of discovery and exploration.”<sup>92</sup> The allure of space makes it impossible to ignore, for the advanced nations. Bush is separating developed nations (such as Japan, the EU, Canada, Russia, and the US – future partners in the International Space Station) from the developing nations. This is a divergence from one of the key tenets of the common heritage principle that all states, regardless of development level, enjoy the benefits of outer space exploration. The “benefit of humanity” rhetoric is sliding away. The National Space Council Authorization Act of 1990 reestablished the defunct national policy council. The council was tasked with examining “the consequences of the entry of nonmarket providers of launch services and satellites into the world market...[and] the importance of the United States launch vehicle and satellite

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<sup>91</sup> George W Bush, "Remarks on the 20<sup>th</sup> Anniversary of the Apollo 11 Moon Landing," Speech, July 20, 1989, The American Presidency Project, <http://www.presidency.ucsb.edu/ws>.

<sup>92</sup> Bush, "Remarks on the 20<sup>th</sup> Anniversary of the Apollo 11 Moon Landing."

industry to the national and economic security.”<sup>93</sup> The council was tasked with commercialization of outer space exploration.

Commercialization of space came into force through the 1991 NASA Authorization bill which, for the first time, added “to the functions of NASA those of: (1) seeking and encouraging the fullest commercial use of space, and (2) encouraging and providing for Federal Government use of commercially provided space services and hardware.”<sup>94</sup> The additions to NASA’s guiding document breaks from previous NASA authorizations which, at a minimum, appeal to the common benefit of space exploration (breaking from the common heritage principles). The act further “adds to the list of duties of the Secretary of Transportation in carrying out the Act that of facilitating private sector involvement in commercial space transportation activity and promoting public-private partnerships to build, expand, modernize, or operate space launch infrastructure.”<sup>95</sup> The Federal executive through the cabinet secretaries is required to pursue the private space industry. The 1991 act merges the presidential rhetoric of privatization with legislative

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<sup>93</sup> U.S. Congress, Senate, *National Space Council Authorization Act of 1990*, S. 2124, 101<sup>st</sup> Congress, introduced into the Senate February 8, 1990, <http://www.congress.gov/bill.101st-congress/senate-bill/2125/text>.

<sup>94</sup> U.S. Congress, Senate, *National Aeronautics and Space Administration Authorization Act, Fiscal Year 1991*, 101<sup>st</sup> Congress, introduced into Senate March 9, 1990, <http://www.congress.gov/bill.101st-congress/senate-bill/2287>.

<sup>95</sup> U.S. Congress, Senate, *National Aeronautics and Space Administration Authorization Act, Fiscal Year 1991*, 101<sup>st</sup> Congress, introduced into Senate March 9, 1990, <http://www.congress.gov/bill.101st-congress/senate-bill/2287>.

action. The key result is the allowance of “the private sector to acquire U.S. launch property and services which are not needed for public use.”<sup>96</sup>

Allowing private industry access to launch facilities begins the process of dismantling what had previously been strict state control over outer space access. Reagan set the precedence for allowing private actors direct access to outer space by connecting a healthy private space sector to the national security. If private actors are integral to the national security, then the next step would be to allow private actors direct access to outer space itself. Why should the state be the gatekeeper?

Commercialization continued without subtlety. The 1998 Commercial Space Act unabashedly states:

The Congress declares that a priority goal of constructing the International Space Station is the economic development of Earth orbital space. The Congress further declares that free and competitive markets create the most efficient conditions for promoting economic development, and should therefore govern the economic development of Earth orbital space.<sup>97</sup>

One key priority, according to the legislation, of the International Space Station is the creation of a market in outer space. Outer space, and the development of it, are in the national interest of the United States; that is reiterated with each administration and related piece of legislation. The national interest of the United States, in outer space, is now the development of markets.

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<sup>96</sup> U.S. Congress, Senate, *National Aeronautics and Space Administration Authorization Act, Fiscal Year 1991*, 101<sup>st</sup> Congress, introduced into Senate March 9, 1990, <http://www.congress.gov/bill.101st-congress/senate-bill/2287>.

<sup>97</sup> *Commercial Space Act of 1998*, Public Law 105-303, 105<sup>th</sup> Congress.

The International Space Station (ISS) was a collaborative endeavor involving the space agencies of: the United States, Russia, Japan, Canada, and the Europeans. In line with Bush's Apollo anniversary speech, the station was a club of "advanced" nations. Russia, the former rival and competitor in space, was folded into the American sphere of influence in outer space. The Cold War ended and the competition disappeared: the United States stood (continues to stand) alone in outer space. Without competition, American priorities shifted towards developing a profitable market environment in low earth orbit. The 1998 Commercialization Act required the NASA administrator to pursue "the fullest possible commercial use of space" including through privatizing the space shuttle program."<sup>98</sup> The focus of American outer space foreign policy became "safety and cost effectiveness."<sup>99</sup>

Prior to the privatization shift, the United States responded to the Cold War rivalry with a policy of power balancing and competition. Under the bipolar structure, the goal was to meet the Soviets, then beat them, in outer space. The justification was that humanity could only benefit from space under the banner of a free nation, namely the United States. Following the end of the Cold War and the collapse of the rival Soviet Union, the banner of "freedom" was extended to the ISS, but under a policy of economic expansion. Without concern for a geopolitical rival, the US could afford to look at market development through private actors while joining with its former rival.

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<sup>98</sup> *Commercial Space Act of 1998*, Public Law 105-303, 105<sup>th</sup> Congress.

<sup>99</sup> *Commercial Space Act of 1998*, Public Law 105-303, 105<sup>th</sup> Congress.

Two years following the commercialization act, the 2000 NASA Authorization bill codified the new, cost-saving focus of the federal executive into NASA's funding document. The bills allowed for international cooperation in the exploration of outer space only when it: "reduces the cost of undertaking missions the United States government would pursue unilaterally" and "is undertaken in a manner that is sensitive to the desire of United States commercial providers to develop or explore space commercially..."<sup>100</sup> The lofty language of common heritage was set aside in favor of the commercial benefit disguised in the language of adventure.

President George W. Bush continued the extension of privatization in his 2004 speech laying out his vision for the next phase of American space policy. The second President Bush prefaced his announcement with NASA's achievements of having "expanded human knowledge, [having] revolutionized our understanding of the universe, and [producing] technological advances that have benefited all of humanity."<sup>101</sup> The lofty language returned to support George W. Bush's vision of returning to the moon "to gain a new foothold" into outer space to "vastly reduce the costs of further space exploration, making possible even more ambitious missions."<sup>102</sup> The Moon returned as the focal point

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<sup>100</sup> U.S. Congress, House, *National Aeronautics and Space Administration Authorization Act of 2000*, HR 1654, 106<sup>th</sup> Congress, introduced May 3, 1999, <https://www.congress.gov/bill/106th-congress/house-bill/1654>.

<sup>101</sup> George W Bush, "President Bush Announces New Vision for Space Exploration Program," Speech, Washington DC, NASA History, January 14, 2004 <https://history.nasa.gov/Bush%20SEP.htm>.

<sup>102</sup> Bush, " President Bush Announces New Vision."

of space policy. Before it was the first human on the Moon, but the new focus was a permanent presence on the Moon to facilitate exploration beyond Earth's orbit.

The key difference between the Cold War and the post-Cold War lunar goal and discourse is one of method: private industry. George W. Bush's grand plan does not call for a new infusion of government investment; instead "most of the funding...for new endeavors will come from reallocating \$11 billion within the [NASA] budget."<sup>103</sup> NASA's budget line items were redistributed, not grown. The 2004 reallocation of NASA's budget pales in comparison to Kennedy's proud statement in 1962: "This year's [NASA] budget is three times what it was in January 1961, and it is greater than the space budget of the previous eight years combined."<sup>104</sup> Kennedy ballooned NASA's budget to reach the Moon, whereas George W. Bush reallocated the existing budget for his Moon goals.<sup>105</sup> Downgrading NASA's budget creates the space for commercial providers to step in. The United States could *afford* to pull NASA back from outer space to focus on cost-saving measures: there was no direct competition for space dominance, and the expansion of the American commercial space market can still protect American superiority.

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<sup>103</sup> Bush, " President Bush Announces New Vision."

<sup>104</sup> John F. Kennedy, "Moon Speech."

<sup>105</sup> According to data from the U.S. Office of Management and Budget, reported by the Guardian, the NASA budget was 1.18% of total U.S. federal spending. By 2004 (the year of W. Bush's speech, the NASA budget had fallen to 0.66% of total U.S. federal spending. <https://www.theguardian.com/news/datablog/2010/feb/01/nasa-budgets-us-spending-space-travel>

Commercialization of outer space was underway and a key aspect of American outer space policy and the national interest by the time President Barack Obama took office in 2009. George W. Bush justified the de-prioritization of NASA, the decommissioning of the shuttle program, and the focus on cost-saving measures by citing the benefit of space exploration to all of humanity. The Obama administration followed suit. The 2010 National & Commercial Space Programs law reconfirmed the federal government's commitment to the progenitor 1998 law. The law restated the necessity of peaceful intent in space and the commercial development of space while maintaining the tie with the national interest.<sup>106</sup> Obama followed the framework established by George W. Bush. The 2010 National Space Policy document began with, "The utilization of space has created new markets..." which benefit humanity in a number of ways from weather monitoring to facilitating global communication. Obama's stance is clear:

The United States hereby renews its pledge of cooperation in the belief that with strengthened international collaboration and reinvigorated U.S. leadership, all nations and peoples - space-faring and space-benefiting - will find their horizons broadened, their knowledge enhanced, and their lives greatly improved.<sup>107</sup>

Obama's outer space policy has echoes of his Cold War predecessors, particularly Kennedy. Obama championed international cooperation in outer space to benefit all of humanity, but through American leadership. Interestingly, the policy makes note of both space-faring and non-space-faring nations by including "space-benefiting" peoples.

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<sup>106</sup> *National and Commercial Space Programs*, Public Law 111-134, <http://uscode.house.gov/statviewer.htm?volume=124&page=3328>.

<sup>107</sup> President of the United States of America, "National Space Policy of the United States of America," p.2. Last accessed May 29, 2018, [https://www.nasa.gov/sites/default/files/national\\_space\\_policy\\_6-28-10.pdf](https://www.nasa.gov/sites/default/files/national_space_policy_6-28-10.pdf).

However, Obama followed the framework established by his more immediate predecessors (George H.W. Bush and George W. Bush in particular) with the second principle of the national security policy, namely stating:

A robust and competitive space sector is vital to continued progress in space. The United States is committed to encouraging and facilitating the growth of a U.S. commercial space sector that supports U.S. need, is globally competitive, and advances U.S. leadership in the generation of new markets and innovation-driven entrepreneurship.<sup>108</sup>

Under the 2010 policy, outer space remained in the American national interest. The American commercial space sector is vital to expansion of the American presence in outer space and to the defense of American leadership in outer space, to the American outer space hegemony.

The nearly two and a half decades of direct commercialization resulted in the current policies of the 45th U.S. Presidential Administration. The first space directive re-oriented American policy towards the Moon to “lead an innovative and sustainable program of exploration with commercial and international partners to enable human expansion...”<sup>109</sup> Soon after, the administration signed an order to privatize the International Space Station after 2014, calling for NASA to be merely a customer of the privately-operated station. The long-stated goal of privatization of earth’s orbit has been achieved.

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<sup>108</sup> President of the United States of America, “National Space Policy of the United States of America,” 2010, p.3.

<sup>109</sup> Donald J. Trump, *Presidential Memorandum on Reinvigorating America's Human Space Exploration Program*, The White House, Issued December 11, 2017, <https://www.whitehouse.gov/presidential-actions/presidential-memorandum-reinvigorating-americas-human-space-exploration-program/>.

Commercializing earth's orbit and permitting (and actively supporting) private launches into outer space have been a part of U.S. outer space policy since the end of the Cold War. The Reagan and subsequent administration's active support for privatization is a significant shift from previous administration's motivations that were more in line with the common heritage principles of peaceful scientific discovery and benefits for humankind. The post-Reagan shift seems more in line with a society Eisenhower warned against in his farewell address. Outer space policy in the US overwhelmingly favors corporate development, referring to the commercial benefit and future industrial growth. But, there is a common thread through each administration, that of American leadership and dominance. Whether cloaked in the language of commercialization, common heritage, or both, the common line is the United States must lead at all costs. The American hegemony must be protected. But, that is not to discount the importance of the rhetorical shift to privatization.

During his farewell address, Eisenhower warned the growing military-industrial complex threatens the American ethos, defined by him as the desire "to enhance liberty, dignity and integrity among people and among nations."<sup>110</sup> Global peace and prosperity can only be achieved through American leadership, and that cause is threatened by the intimate relationship between private actors and military. Kennedy, in his 1961 address to Congress, advocated "for a great new American enterprise - time for this nation to take a clear leading role in space achievement, which in many ways may hold the key to our

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<sup>110</sup> Eisenhower, "Military-Industrial Complex."

future on earth.”<sup>111</sup> The US lagged behind the Soviets in the space race of 1961 and Kennedy was determined to catch up. The focus is on the improvement and the progress of the United States, not the global community. Kennedy directly invoked the conquering empire during his moon speech arguing “this country...was not built by those who waited...this country was conquered by those who moved forward and so will space. Outer space will be developed as the American west was developed.”<sup>112</sup> And, Kennedy continued, “whether [space] will become a force for good or ill depends on man, and only if the United States occupies a position of pre-eminence can we help decide whether this new ocean will be a sea of peace or a new terrifying theater of war.”<sup>113</sup> The irony is lost on Kennedy as the United States waged wars and skirmishes across the globe, Vietnam an example of many other cases. The U.S. will maintain a peace, after the national objectives are met.

Reagan continued with the need for continued American leadership, with fervor. In his 1984 address to Congress, Reagan spoke of the “time for America to take freedom’s next step” and to “be proud to say: We are first, we are the best; and we are so because we’re free.”<sup>114</sup> Such blatant nationalist rhetoric is used to ferment political support yes. But, Reagan used this speech to set the goal of developing “America's next

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<sup>111</sup> John F. Kennedy, "Special Message to the Congress on Urgent National Needs," Speech, Washington, DC, May 25, 1961, NASA, [http://www.nasa.gov/vision/space/features/jfk\\_speech\\_text.html](http://www.nasa.gov/vision/space/features/jfk_speech_text.html) .

<sup>112</sup> Kennedy, "Special Message to the Congress."

<sup>113</sup> Kennedy, "Special Message to the Congress."

<sup>114</sup> Reagan, "State of the Union."

frontier” by stoking “America’s pioneer spirit.”<sup>115</sup> Reagan continued Kennedy’s call to conquer this next ocean. The call to explore the “frontier” will be announced by W. Bush with allusions to Lewis & Clark. And, Obama will add his take by addressing American productivity and adventure to his call for space exploration.

There is an additional dimension in the presidential speeches that must be addressed: the colonial undertone of space conquest. The first President Bush compared space exploration to the Oregon Trail and the explorer Columbus, speaking grandly that “history proves that [Americans] have never lost by pressing the limits of our frontiers.”<sup>116</sup> His son will connect the waves of adventurers, prospectors, and settlers that conquered the American west to astronauts and future space prospectors. Is outer space exploration going to start a new period of American Manifest Destiny? Language from the common heritage principles was laced through the early presidential outer space speeches and pieces of federal legislation. The shift away from common heritage to the language of cost-saving and commercialization began during the Reagan era (in the presidential rhetoric). The language of commercialization carried through the subsequent administrations, with the occasional nod to specific common heritage ideals. Yet, the shared theme across the decades is the need to advance the United States to the front and maintain the dominant position. The effort of continued dominance through further space exploration is cloaked by positive language of the settlement of the American west.

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<sup>115</sup> Reagan, "State of the Union."

<sup>116</sup> Bush, "Remarks on the 20<sup>th</sup> Anniversary of the Apollo 11 Moon Landing."

However, the shift to the language of privatization is key and can provide insight into how this new, yet final frontier will be developed.<sup>117</sup>

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<sup>117</sup> The language of privatization is key because it is a marked shift from the previous outer space paradigm. Further, the shift in the presidential rhetoric foreshadows the legislative shift. The new dominance of the privatization language

## CHAPTER 3

### INTERNATIONAL POWER PLAY OR CAPITAL EXPANSION

The data has shown a shift in the U.S. presidential rhetoric at the close of the Cold War and how it is reflected in U.S. outer space legislation. But, despite the shift, the true goals have remained the same: maintaining and protecting U.S. hegemonic control in outer space.<sup>118</sup> Prior to the 1980s, the American national aim in outer space was to challenge the Soviet Union's lead in the space race. Once American leadership was achieved, the goal was to protect it. The end of the Cold War brought the shift. The question that this chapter tries to answer is why the US government decided to privatize its successful outer space endeavor without endangering its hegemonic position.<sup>119</sup> The realist help answer the former while the Marxist provide new insight into the dynamics of the latter.

Two theoretical schools of thought provide insight into this question: realism and Marxism. Each seeks to explain why the American government privatized outer space exploration by examining the impact of the international system and the role of various domestic and international actors in impacting a state's. Realist scholars focus on questions of balance of power politics highlighting how the shift from a bipolar world to

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<sup>118</sup> The true goals as determined by the consistent message across the presidential speeches. Each outer space speech and policy document (from Eisenhower through today) emphasizes the need to ensure American leadership in outer space.

<sup>119</sup> In this context, NASA was successful in terms of mission success. Through NASA, the United States kept pace with the Soviet Union in satellite then crewed missions. NASA "won" by successfully landing the first humans on the Moon in 1969.

an unipolar world can explain the U.S. decision to privatize outer space exploration. Kenneth Waltz considers the impact of domestic practices and behaviors of international neighbors in foreign policy decisions, arguing that “each state arrives at policies and decides upon actions according to its own internal processes, but its decisions are shaped by the very presence of other states as well as by interactions with them.”<sup>120</sup> Realists maintain that state actors are rational agents acting within an anarchic international system. They calibrate their domestic priorities or decisions in function of the international power structure. Thus in attempting to explain state actions with regards to space politics, realists would argue that the U.S. is acting to defend its own hegemonic status and the decision to privatize its space exploration is a function of how it rationalizes its ability to do so without endangering its hegemonic power globally.

Marxism, on the other hand, is far more interested in how the capitalist structure impacts state and international relations. Marxists argue that state behavior is purposeful, adding that economic interests, rather than assumed natural prerogatives of budget deficits, explain state decision. In this regard the theory focuses on the rise of the neoliberal approach, to the point of influencing (capturing) state policy and decision.

### **Balance of Power Politics**

Realism views the international system as an anarchic one composed of states, acting in their own self-interest. Powerful states will act “internationally only when the

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<sup>120</sup> Kenneth Waltz, "Conflict in World Politics, 1971," in *Realism and International Politics*, (New York: Routledge, 2008), 21.

spirit moves it.”<sup>121</sup> Meaning, a dominate state such as the United States will act internationally (such as signing onto the outer space treaties) if the act serves the national interest. A powerful state, under the anarchic system, cannot be compelled to act in the name of a common good, such as the common heritage, if it is not in its interests to do so. This is because it fears that other countries will not adhere to such a principle. Waltz argues “American [foreign] policy was generated not by external security interests, but by internal political pressure and national ambition.”<sup>122</sup> In short, the American government acts rationally to meet the national interest.

During the Cold War, the American national interest was to challenge the Soviet Union. In the realm of outer space, the challenge to the Soviets took the form of the space race. The Soviet Union led the beginning of the space race with the U.S. playing catch up until the 1969 Moon landing. American responses to outer space exploration were driven by Soviet advances. Such a tit-for-tat approach to policy is what creates a “solid bipolar stance.”<sup>123</sup> Under the realist view, this brings a certain level of stability in geopolitics. The two superpowers will keep up with each other, fearing “that a downward slide or a sudden technological breakthrough by one great state or the other would decisively alter the balance between them.”<sup>124</sup> The motivation to balance the other superpower translates

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<sup>121</sup> Kenneth Waltz, "Globalization and Governance, 1999," in *Realism and International Politics*, (New York: Routledge, 2008), 215.

<sup>122</sup> Kenneth Waltz, "Globalization and Governance, 1999," in *Realism and International Politics*, (New York: Routledge, 2008), 215.

<sup>123</sup> Kenneth Waltz, "The Stability of a Bipolar World, 1964," in *Realism and International Politics*, (New York: Routledge, 2008), 100.

<sup>124</sup> Kenneth Waltz, "The Stability of a Bipolar World, 1964," in *Realism and International Politics*, (New York: Routledge, 2008), 114.

into joining international regimes. U.S. President Johnson's statement during the signing ceremony of the initial Outer Space Treaty is an example of such an endeavor, stating his hope that this treaty system will contain war prevent its spread to the solar system.<sup>125</sup>

Balance can come from superpowers meeting technological improvements and willingly constraining sovereignty; as both superpowers did with the international outer space treaty system.

American presidential rhetoric during the space race adopted the moral argument, tying American space leadership and advancement to the betterment of humanity – focused on the word "freedom." The American moral stance aligned with elements of the common heritage principles enshrined in the outer space treaties: outer space exploration for the betterment of humanity. Each Cold War president looked at since 1958 referenced growth for humanity through American leadership. The treaties were a piece of the bipolar balance of power, but as a function of American leadership. Promoting and defending American leadership in outer space was and remains the primary goal of U.S. outer space policy.

Following the privatization shift and the end of the Cold War, the American hegemon drastically changed tactics. Waltz points out that "since the end of the Cold War, the United States has been alone in the world; no state or combination of states

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<sup>125</sup> Lyndon B. Johnson, "Remarks at the Signing of the Treaty on Outer Space" (Washington, DC, January 27, 1967) The American Presidency Project, <http://www.presidency.ucsb.edu>.

provides an effective counterweight.”<sup>126</sup> Without the counter weight of the Soviet Union and the pressure of the Third World, the US practiced its own form of hegemonic control. There was no longer a need to play the balance of power game. Without a counter weight, the United States was free to act as it desired. In an anarchic system “without central governance, the influence of the units of greater capability is disproportionately large because there are no effective laws and institutions to direct and constrain them.”<sup>127</sup> The United States was free to interpret the treaties as it saw fit, choosing which parts applied and which parts did not. The stated desire to privatize the International Space Station by the current American administration is one example of that. The United States is relatively independent of other powers and states, due to its political and economic supremacy.<sup>128</sup> The realist explanation for the choice of privatization and the switch away from the moral argument lies in the global *shift* from a bipolar world to a unipolar world.

The international structure changed practically overnight when the Berlin Wall fell and the Soviet Union collapsed, “upon the demise of the Soviet Union, the international-political system became unipolar.”<sup>129</sup> The United States was the sole remaining superpower, with no state providing an effective counter balance. Through the realist lens, a unipolar international system is inherently unstable, arguing “international

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<sup>126</sup> Kenneth Waltz, "Globalization and Governance 1999," in *Realism and International Politics*, (New York: Routledge, 2008), 242.

<sup>127</sup> Kenneth Waltz, "Globalization and Governance 1999," in *Realism and International Politics*, (New York: Routledge, 2008), 240.

<sup>128</sup> Kenneth Waltz, "Globalization and Governance 1999," in *Realism and International Politics*, (New York: Routledge, 2008), 240.

<sup>129</sup> Kenneth Waltz, "Structural Realism after the Cold War, 2000," in *Realism and International Politics*, (New York: Routledge, 2008), 213.

politics abhors unbalanced power...[so] some states [will] try to increase their own strength or they ally with others to bring the international distribution of power into balance.’<sup>130</sup> In the realm of outer space this can be seen with the rise of both the Indian and Chinese space programs, attempting to build a challenge to the dominance of the American space program and activities. However, Waltz points out that “American leaders seem to believe that America's preeminent position will last indefinitely. The United States would remain the dominant power without rivals rising to challenge it - a position without precedence in modern history.”<sup>131</sup> American confidence in its preeminent position in outer space partially explains the decision to privatize access to it. Without a competitor for dominance, the United States could afford to limit and withdraw government support and create space for private development, it could afford to take a wild move. In a bipolar system the constant presence of a threat leads to a consistent policy path, while an “absence of threat permits policy to become capricious...a country’s policy becomes sporadic and self-willed.”<sup>132</sup> To the remaining superpower (to the hegemon), international law holds limited enforcement, allowing for a more flexible (or convenient) interpretation of the existing treaties. Realism, however does not examine motivations beyond traditional notions of security such as military strength nor term definitions or domestic context (beyond its relation to foreign policy). Examining state

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<sup>130</sup> Kenneth Waltz, "Structural Realism after the Cold War, 2000," in *Realism and International Politics*, (New York: Routledge, 2008), 214.

<sup>131</sup> Kenneth Waltz, "Structural Realism after the Cold War, 2000," in *Realism and International Politics*, (New York: Routledge, 2008), 221.

<sup>132</sup> Kenneth Waltz, "Structural Realism after the Cold War, 2000," in *Realism and International Politics*, (New York: Routledge, 2008), 215.

behavior in the anarchic system through the lens of rational behavior does not allow for examination of other domestic and international structures such as dominate economic policy within the U.S. Congress.

### **Space Marxism**

Marxists argue behavior on the international level is not a natural process, instead it is a series of choices and actions. It is above all a function of the development in the capitalist system. According to Marxists the privatization of American outer space is a result of neoliberalism which began to dominate the American zeitgeist in the 1980s.

Neoliberalism is defined by David Harvey as:

a theory of political economic practices that proposes that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets, and free trade.<sup>133</sup>

The institution of neoliberalism was elevated to the level of ‘common sense’ (on par with the promotion and protection of freedom) following the series of crises within capitalism through the 1960s and 1970s. Harvey utilizes ‘common sense’ through the Gramscian definition meaning ‘sense held in common.’<sup>134</sup> This is significant particularly in the relationship with the word freedom. Moreover Harvey argues that “the word ‘freedom’ resonates so widely within the common-sense understanding of Americans that it becomes a ‘button that elites can press to open the door to the masses’ to justify almost

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<sup>133</sup> David Harvey, *A Brief History of Neoliberalism*, (Oxford: Oxford University Press, 2005) 2.

<sup>134</sup> Harvey, *A Brief History*, 39.

anything.”<sup>135</sup> Marxism allows for the examination of American outer space policy by looking at how its neo-liberal expansion is tied to class benefit interests. It highlights how neoliberalization is “...as a *political* project to re-establish the conditions for capital accumulation and to restore the power of economic elites.”<sup>136</sup>

Marxism critiques, which is the strength and the unique feature the theory brings to the conversation of American outer space privatization. Realism provides an explanation based on international behavior in relation to power dynamics, under an anarchic international system. An actor’s (a state) behaves rationally when it pursues its own self-interest which is the natural result of the anarchic system. The United States privatized its outer space efforts simply because it could following the loss of a geopolitical rival (the Soviet Union).

Prior to the privatization switch in the outer space rhetoric, “freedom” and the “betterment of humanity” were spread across the presidential speeches and congressional legislation. The language of “freedom” (protecting and promoting it and the critical nature of it) remained in the outer space rhetoric following the privatization shift, this time accompanying the language of deregulation and cost-cutting. Harvey argues, “common sense can...be profoundly misleading, obfuscating or disguising real problems under cultural prejudice. Cultural and traditional values can be mobilized to mask other

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<sup>135</sup> Harvey, *A Brief History* 39.

<sup>136</sup> Harvey, *A Brief History* 19.

realities.”<sup>137</sup> Joining ‘deregulation’ with ‘freedom’ masks the economic impact and consequences of such an act.

By the time privatization appears in the NASA authorization bills of the early and mid 1990s, “neoliberalism has, in short, become hegemonic as a mode of discourse.”<sup>138</sup> Meaning, the motivations and the language of neoliberalism dominate. This is seen in the U.S. Congress declaring free-market principles as the *only* way to develop low-Earth orbit.

Marxism would thus explain the privatization switch in the outer space rhetoric as one piece of the larger retraction of the American state through the 1980s. The Volcker Shock in 1979 kicked off the neoliberal process by drastically changing U.S. monetary policy and leading the charge in the “unfolding of government policies in many other arenas.”<sup>139</sup> Reagan’s 1980 election added political weight to this new movement with a particular focus on “deregulation, tax cuts, budget cuts, and attacks on trade unions and professional power.”<sup>140</sup> Harvey continues that “it took less than six months in 1983 to reverse nearly 40 percent of the decisions made during the 1970s that had been, in the view of business, too favourable to labour. Reagan constructed all regulation (except for labour) as bad.”<sup>141</sup> Outer space exploration was merely the next *frontier* of deregulation

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<sup>137</sup> Harvey, *A Brief History* 39.

<sup>138</sup> Harvey, *A Brief History*, 3.

<sup>139</sup> Harvey, *A Brief History*, 24.

<sup>140</sup> Harvey, *A Brief History*, 25.

<sup>141</sup> Harvey, *A Brief History*, 52.

and the retraction of the state, to create room for newly *freed* commercial enterprise. Deregulation and *free* enterprise became common sense.

Such a transformation of social and economic behavior is neither an accident nor a natural outcome. Harvey argues:

For any way of thought to become dominant, a conceptual apparatus has to be advanced that appeals to our intuitions and instincts, to our values and our desires, as well as to the possibilities inherent in the social world we inhabit. If successful, this conceptual apparatus becomes so embedded in common sense as to be taken for granted and not open to question.<sup>142</sup>

Neoliberalism as an institution and theoretical approach became the dominant form of thought through joining with existing approaches, namely the promotion and protection of the ambiguous “freedom.” Freedom, as an abstract and ever-changing concept is a long piece of “U.S. tradition” that aligned closely with founding scholars of neoliberalism: “the founding figures of neoliberal thought took political ideals of human dignity and individual freedom as fundamental...”<sup>143</sup> Beginning with Reagan and continuing through each subsequent presidential administration, the exploration of outer space through commercial partners is tied directly the promotion of freedom.

Marxist theory offers a new way to understand the concept of conquest of the American “frontier” that is referenced across the outer space rhetoric. Kennedy and George W. Bush cite the Lewis and Clark expedition in reference to grand plans for outer space exploration. Anna Tsing defines the frontier as “an edge of space and time: a zone

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<sup>142</sup> Harvey, *A Brief History*, 5.

<sup>143</sup> Harvey, *A Brief History*, 5.

of not yet - not yet mapped, not yet regulated...Frontiers aren't just discovered at the edge; they are projects in the making of geographical and temporal experience."<sup>144</sup> Outer space is the frontier.

Tsing's description of the frontier is significant to the neoliberal expansion into outer space in two ways. First, frontiers are crafted and created, a result of a deliberate decision by the actors involved (namely, the state). Declaring outer space as a "frontier" comes from a purposeful process of deregulation with the goal to enclose the 'common' land. Outer space is not a part of the global commons, nor is its potential wealth. And second, the allure of claiming a piece of the frontier is a powerful motivator, especially under the "freedom" of private exploitation. The frontier becomes a zone, unregulated, shifting between "...public and private ownership."<sup>145</sup> Outer space, under the Outer Space treaties, cannot be claimed as sovereign territory by any one state, but the interpretation is debated on private property claims.

Private property is key to market development. From the neoliberal viewpoint, "the absence of clear private property rights...is seen as one of the greatest of all institutional barriers to economic development and to the improvement of human welfare."<sup>146</sup> Following the *res nullius* interpretation of the common heritage principles (specifically regarding the sovereignty ban) allows the United States to establish a legal (American) pathway for its corporate actors to extract space resources and claim them as

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<sup>144</sup> Anna Tsing, *Friction*, (Princeton, Princeton University Press, 2004) 29.

<sup>145</sup> Tsing, *Friction*, 33.

<sup>146</sup> Harvey, *A Brief History*, 65.

their own - the 2015 SPACE Act. The United States argues such a maneuver does not extend state sovereignty, merely that it is creating a “free” market for its own companies to exploit unclaimed territory (a frontier).

The United States is extending, at a minimum, its sphere of influence. American actors are legally authorized (under American law) to extract any outer space resource they can obtain. The American government has declared through national space security policies that the American government will act to defend its interests and citizens (aka commercial actors) in outer space. The American state is acting to protect private property claims, to keep outer space deregulated, and to extend “free” market principles into low-earth orbit. The American state is making deliberate choices to further neoliberal practices.

Deregulated markets become the focus, after all “the assumption that individual freedoms are guaranteed by freedom of the market and of trade is a cardinal feature of neoliberal thinking, and it has long dominated the US stance towards the rest of the world.”<sup>147</sup> And, should a market not exist, then it must be created by the state.<sup>148</sup> Post-1990, the American government is actively seeking to create a market in outer space. This is seen through the legislative requirement that the presidency consults the commercial outer space industry on favorable regulation and the desire to turn the International Space station over to commercial enterprises - under the principles of a ‘free’ market.

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<sup>147</sup> Harvey, *A Brief History*, 7.

<sup>148</sup> Harvey, *A Brief History*, 2.

A Marxist examination of outer space privatization counters the realist claim of a natural, rational approach to international power politics. International action is instead a series of decisions made by individuals, communities, and organizations, which in turn influence the international system. Marxism focus on the role of neoliberal economics in the foreign policy of the United States. David Harvey traces the rise of neoliberalism through the crisis of capital, showing how deregulation and market expansion subsumed the language of freedom. Anna Tsing argues how the declaration of a frontier plays into capital expansion. The delineation of private property becomes key.

Private property is at the heart of the tension in the international outer space treaties and the common heritage principles. The United States, as a signatory to four of the five treaties and reiterated through Congressional legislation, has agreed to the ban on unilateral sovereignty claims. However, allowing private entities to extract resources, claim them, and profit off of them raises questions of *de facto* sovereignty in light of declared American protection of its citizens (including its corporations). The realist theoretical approach can provide insight into surface reasons of why the American state signed and ratified the first four outer space treaties, cooperated with and depended on a former rival (Russia) in outer space exploration following the Cold War, and even why American private enterprises are allowed to launch their own equipment. But, the answers are surface and unsatisfying. Marxism fills the gap left by realism. Marxism shows how the rise of neoliberalism directly influenced American domestic and foreign policy. The privatization shift in American outer space exploration was not a simple regulatory change to allow commercial actors to launch into outer space. The shift was a

retreat of the state from the realm of outer space. It was the near complete deregulation of outer space in the specific interest of market expansion. The common territory of outer space was made open for private claim by American actors; the American state had become a neoliberal state. The American state has opened outer space to capitalist conquest (at the expense of human ownership) through privatization outer space exploration.

## CHAPTER 4

### CONCLUSION: PRIVATIZATION IS A TOOL

The story of American outer space exploration begins with the Cold War and runs through the rise of the neoliberal practice of capitalism. The rhetoric of privatization emerged in the 1980s under Ronald Reagan, as merely the next step in the retraction of the American state in favor of deregulation and corporate expansion. Beginning in 1990, US Congressional legislation caught up with the presidential rhetoric, creating the necessary legal pathway for direct commercial entry into outer space. Subsequent NASA Authorization acts in addition to various acts such as the National Space Council Act of 1990, and the SPACE Act of 2015 authorized private companies to launch their own equipment into outer space, required the federal executive to seek out commercial opportunities, and grants the legal ability to individual American citizens (including corporations) to extract thus own any resource in outer space.

The story is incomplete without considering the international treaty system and the *recent* historical context. American efforts in outer space, reflected through the presidential rhetoric and congressional legislation, were focused on extending and protecting American hegemonic presence in outer space. Prior to the privatization shift in the outer space rhetoric (that occurs in the 1980s), the presidential rhetoric and related legislation spoke of scientific advancement and peaceful exploration for the betterment of all humanity, through the leadership of “free men” (the United States). This sentiment is *more* in line with the ethos of the five international outer space treaties (including the failed

Moon treaty): the common heritage principles of humankind. The key aspects of the common heritage principles (as it relates to outer space law and discussed in the treaties) are: a ban on unilateral sovereignty claims, peaceful (demilitarized) exploration of outer space, and redistribution of the economic and scientific benefit. In short, the whole of the planet must benefit. The common heritage principles were initially proposed and long supported by member states of the Non-Aligned Movement (NAM). NAM's strong support for the common heritage principles was a response to the both Cold War conflict and political decolonization. NAM worked to represent and protect the interests of the Third World (most of which were recently independent). Within the bipolar balance of power struggles of the Cold War, NAM was a third voice. The common heritage principles (which were also applied to the deep sea and Antarctica, in their own forms) are part of an effort to constrain the two warring super powers (demilitarization) and protect out of reach resources for future generations (an attempt to slow the development gap).

Reagan's introduction of commercialization into the outer space rhetoric began the movement further away from the common heritage principles in the treaty. The new paradigm focused on cost cutting, budget efficiency, deregulation, and the expansion of "free" markets (at the expense of discussing scientific, peaceful exploration for the betterment of humanity). By 1990, Congress declared that free market capitalism was the only route to successfully develop outer space. Reagan and his successors' language differed from that of their predecessors. Eisenhower and Kennedy established a framework dedicated to American leadership as the beacon of "free men." Eisenhower

began with a warning of threats to such moral leadership while Kennedy presented a grand vision of propelling American leadership *literally* to the moon. Johnson presented a hope that the new international outer space treaties would contain the ravages of war to the planet, keeping outer space a realm of peaceful exploration, stating his hope that astronauts and cosmonauts would interact peacefully on missions of scientific discovery. Reagan introduced privatization and the need for commercial development while highlighting the American space “victories” particularly focusing on being the first and only state to reach the moon. George H.W. Bush continued to emphasize this exception noting the only flag on the surface is the American flag. His son, George W. Bush, and Obama continued the privatization rhetoric. Both of the Bush’s followed a precedent established by previous presidents (such as Kennedy) in connecting outer space exploration to the colonization of the American west. Obama added legislative and policy strength to that endeavor by signing the SPACE Act of 2015 and releasing the 2010 National Outer Space Policy Security document. The 2010 policy document recommitted outer space to the national security of the US (which includes commercializing outer space through expanding the “free” market into orbit and beyond). The policy further stipulated that the American government will defend its national security interests in outer space including its own citizens and actors working to develop it (private companies). This steady progress of commercialization has led to the current administration announcement to sell the International Space Station to private operators. Nearly thirty years after Reagan introduced privatization into the outer space rhetoric, the

goal is well on its way to completion: low earth orbit is being developed under free market principles.

The Marxist theoretical approach to international relations provided a more complete understanding of the causes of privatization of American outer space exploration. Realist approaches explain the motivations only within the context of rigidly defined national security interests, the natural result of states operating in an anarchic international system. The United States chose to privatize its successful outer space endeavors because it no longer faced a geo-political rival for dominance; the Cold War ended with the dissolution of the Soviet Union. The ratification of the outer space treaties was part of a balancing act with the Soviet Union while peddling influence with the Non-Aligned Movement. However, approaching privatization of outer space exploration as a simple matter of national security misses significant shifts in American foreign policy and domestic rhetoric. For example, Reagan and his presidential predecessors added “free” and “open” markets (re: deregulation) to the definition of American freedom. The national security definition has been expanded to include liberal market extension and protection. This contrasts with the realist approach which presents a narrow definition of national security, focusing on hard power definitions: such as military and political strength.

Marxism, in the context of American outer space exploration, critiques the rise and dominance of neoliberal principles within the United States. Neoliberal thought gained influence during the crisis of capitalism during the 1960s and 1970s (inflation, rising unemployment, OPEC embargo, etc..) and found political support in the Reagan

administration. Reagan began and his predecessor's continued deregulation of the American economy, opening of free trade routes, limits on government spending, and the promotion of neoliberal market practices. Since the beginning of the neoliberal practice, the American federal government has reduced the NASA budget, shuttered the shuttle program, allowed commercial actors to directly launch into outer space, and transferred government obligations (such as the ISS resupply missions) to commercial actors. Further, American market practices have been extended beyond Earth's orbit with the SPACE Act of 2015. Neoliberal proponents seek to expand markets into new territory, creating new ones if necessary (under the Marxist interpretation). Private property, thus the enclosure of common land, is necessary for market expansion. The territory in question has to be opened to private enclosure. Anna Tsing argues that is what a frontier is: a label applied to a time and a place, that exists beyond regulation, though it is created by governments. Under treaty, outer space is available to all humanity but free from unilateral sovereignty claims. The legal interpretation of the ban on sovereignty claims is in dispute with one side arguing the ban prevents any piece of outer space from being claimed. The United States supports the interpretation that resources removed from a celestial body can be claimed as private. This interpretation is codified into US law. The American government has provided a *domestic* legal pathway for its citizens to claims resources in outer space. The American government has stated and codified into law that it will defend its interests and those of its own actors in outer space and defend against external interference. The American government is creating the structures of a market in outer space, stating it will defend it while supporting American commercial interests in

reaching outer space.<sup>149</sup> American control and influence is established in low-earth orbit with plans to extend to the moon and beyond (the laws are falling into place).

Privatization of American outer space exploration is a tool, a function, of expanding and protecting American hegemonic influence in orbit and beyond. The presidential and legislative rhetoric reveals a multi-decade support for American leadership in outer space, focus around the idea of “freedom.” The post-privatization shift rhetoric extends the definition of freedom to directly include “free” and open markets while maintaining the *need* for American leadership.

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<sup>149</sup> For example, allowing private launches of rockets in orbit such as SpaceX’s Falcon 9 and BRF rockets.

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