

NOTES

When You Wish upon a Falling Billboard: Advertising in an Age of Space Tourism

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INTRODUCTION

The spaceship roars through the sky. Wally tightens his grip, battling the G's. He looks ahead. SCREAMS. HUNDREDS OF [BUY N LARGE] SATELLITES litter the outer atmosphere. The ship bursts through the layer The recon ship breaks free of the planet. Its boosters shut down. Wally takes in the sudden QUIETNESS OF SPACE. Looks back at his planet Weightlessness takes effect. Wally almost floats away. Grabs hold of the ship Wally points out at the stars. It is the most spectacular light show possible. And Wally has a front row seat. MONTAGE OF CELESTIAL SPECTACLES[:]

— The ship flies past the MOON. A BILLBOARD stands next to the abandoned APOLLO MOON ROVER[:]

“BNL Outlet Coming Soon.”¹

This is how the title character in the 2009 Academy Award winner for Best Animated Film, WALL-E, makes his way from Earth into outer space: crashing through hundreds of satellites and into the “quietness of space”—where a billboard sits on the Moon, announcing the opening of an outlet store. In just thirty seconds, the film acknowledges a real but little-known industry that may have a profound impact on human exploration and travel for decades to come: the private commercial space industry. And without a single spoken word, the film subtly hints at a number of questions that remain, for the most part, unanswered: What is the role of the law in shaping how entrepreneurs make space more accessible to the masses? How can humanity protect space from the risks that come with private access to outer space? Is the image of a billboard on the Moon nothing more than a cartoonish joke, or is it really possible that one day, “rabid consumers, like us . . . [will be] haunted by what paradise might have been lost” in outer space?²

This Note will argue that, for humanity to maximize its potential to explore and utilize space, we should allow some amount of advertising in space in order to encourage private investment in future exploration. That includes someday advertising to space tourists on their “trips” into orbit. But at the same time, there must be laws in place to ensure that all commercial space activity is safe and sustainable. Otherwise, mankind may discover that the final frontier has

1. ANDREW STANTON & JIM REARDON, WALL-E 21 (2008), available at <http://screenplaydb.com/film/scripts/walle/>.

2. Frank Rich, Op-Ed., *Wall-E for President*, N.Y. TIMES, July 6, 2008, at WK11.

become inaccessible because mankind failed to address prospectively commercial space objects and related threats of orbital debris.³

There is reason for optimism about humanity's ability to create legal regimes that encourage responsible and organized commercial investment in space. If the spacefaring countries act with some alacrity, there is still time to address the issue before private commercial space ventures really even begin. Private commercial space tourism is still in its infancy, so for at least a number of years, countries can domestically and internationally debate, plan, and implement law on the collateral activities, such as advertising, that tourism will bring to outer space. It is therefore possible to create a legal framework *before* the market impulse to advertise to tourists in outer space becomes a reality. But that process should be started as soon as possible.

This Note will explore how current outer space law applies to advertising in outer space, how that law might develop and be enforced, and whether there is an overarching legal approach that should be taken to advertising in outer space. Part I argues that advertising to space tourists will eventually become a reality. The trend towards high-tech advertising endeavors combined with the evolution of private space tourism means that, barring some kind of legal prohibition, advertising will eventually make its way into orbit. Part II focuses on the international and domestic legal regimes that currently govern commercial uses of outer space. This Part concludes that new space law must be implemented domestically in the spacefaring states rather than through international agreements. Part III looks at various laws governing commercial activities in analogous areas—Antarctica, the Internet, and national parks—from which governing bodies may borrow legal principles in their efforts to address outer space. Finally, the Conclusion discusses the disadvantages of a total ban on advertising in an area as large as outer space, especially until we know how mankind will actually utilize space in the future. The Note will end by arguing that, until we realize the full extent of human activities in space, lawmakers should look to preserve natural views and notions of “traditional” outer space, but also allow new forms of economically valuable commercial activity. These interests can be best advanced through careful regulation, but not outright prohibition, of space advertisements.

I. ADVERTISING, SPACE TOURISM, AND THE INEVITABLE CONVERGENCE OF THE TWO

A. THE ADVERTISING INDUSTRY AND OUTER SPACE

It almost goes without saying: Wherever there are potential consumers, there will be advertisers—that is, unless the law prohibits it.⁴ Professionals in the advertising business live by philosophies like “Nothing is impossible,” and they compete for consumers' time and attention in what some call our “Attention

3. Paul Rincon, *Standing Watch over a Crowded Space*, BBC.COM, Apr. 10, 2009, <http://news.bbc.co.uk/2/hi/science/nature/7916582.stm>.

4. *See, e.g.*, Don E. Tomlinson & Rob L. Wiley, *People Do Read Large Ads: The Law of Advertising from Outer Space*, 47 FED. COMM. L.J. 535, 535–37 & nn.1–2 (1995) (describing Hawaii's stringent state laws banning outdoor advertising).

Economy.”⁵ It would therefore be naïve to think that the vast openness of outer space will remain untouched by advertising or the need for law to address it.

Since the beginning of space flight, companies have advertised when their products were used by astronauts,⁶ but the first serious discussions of advertising *in* outer space began in 1993.⁷ Immediately, strong opposition to commercial uses of space emerged,⁸ even if just in the form of companies “sponsoring” NASA missions and programs.⁹ Despite the less-than-positive public response to space advertising, marketers have gone on to exploit space missions for marketing purposes.¹⁰ Most recently, several companies have utilized Russian *Soyuz* launches to the *International Space Station* (ISS) to film television advertisements in space,¹¹ place logos on rockets,¹² and garner publicity by

5. See, e.g., Kevin Roberts, CEO, Saatchi & Saatchi, Address to Antarctic Policymakers in Christchurch, New Zealand: Antarctica—Anything Is Possible (Apr. 29, 1998) (transcript available at http://www.saatchikevin.com/Antarctica_Anything_is_Possible/).

6. Robert Pearlman, *A Brief History of Space Marketing*, SPACE.COM, May 31, 2001, http://www.space.com/news/spaceagencies/space_market_010531-1.html (discussing the space flights of a Minolta camera, an Omega watch, the Fisher Space Pen, a Slinky, an IBM ThinkPad, and M&M’s).

7. For a discussion of the 1993 attempt to advertise in space, see *infra* notes 145–48, 156 and accompanying text.

8. See, e.g., 139 CONG. REC. E1732–04, 1733 (daily ed. July 1, 1993) (Statement of Rep. Markey) (listing organizations that opposed space billboards visible from Earth); *id.* at E1733 (reprinting a letter from Carl Sagan to Rep. Markey in which he calls space ads, “an abomination . . . an attack on science, an invasion of privacy for everyone, an aesthetic affront, and a misuse of the engineering talent in the national laboratories”); U.N. Committee on the Peaceful Uses of Outer Space (COPUOS), *Background Paper by the International Astronomical Union, Obtrusive Space Advertising and Astronomical Research*, ¶¶ 33–35, U.N. Doc. A/AC.105.777 (Dec. 18, 2001); Karl Grossman, *Disgrace Into Space*, THE ECOLOGIST, Mar. 2001, at 34–38.

9. See, e.g., Ariana Eunjung Cha, *Business on Board: NASA Shifts Strategy for Selling Outer Space*, WASH. POST, Mar. 19, 2003, at E1; Press Release, Commercial Alert, Don’t Put Ads in Outer Space, Commercial Alert Tells NASA (Aug. 12, 2001), available at <http://www.commercialalert.org/issues/culture/outer-space/dont-put-ads-in-outer-space-commercial-alert-tells-nasa> (opposing NASA’s unreleased “Enhanced Strategy for Development of Space Commerce”).

10. Since 1996, companies such as Pepsi, Israeli Tnuva Milk, Pizza Hut, Radio Shack, and LEGO have undertaken marketing campaigns directly related to space launches. See, e.g., Pearlman, *supra* note 6.

11. In 2001, RadioShack filmed a Father’s Day commercial on the ISS that eventually aired during the NBA Finals. See Todd Halvorson, *Capitalism Wins: Russia Takes the Lead in Space Age Advertising*, SPACE.COM, May 31, 2001, http://www.space.com/news/spaceagencies/russia_market_010531-1.html; Chris Isidore, *Space: Final Ad Frontier*, CNNMONEY.COM, May 2, 2001, http://money.cnn.com/2001/05/02/companies/space_advertising/; E-mail from James Dunstan, Attorney, Garvey, Schubert and Barer, in Washington, D.C. and participant in several space advertising projects including the RadioShack Father’ Day advertisement, to author (Mar. 25, 2009, 10:01:00 EST) (on file with author) [hereinafter James E. Dunstan e-mail].

Also in 2001, Pizza Hut made a commercial based on its first pizza “delivery” into outer space. Richard Stenger, *Pitching Products in the Final Frontier*, CNN.COM, June 13, 2001, <http://archives.cnn.com/2001/TECH/space/06/13/alpha.products/>; see also Halvorson, *supra*; *Pizza Hut Delivers*, SPACE AND TECH, May 28, 2000, <http://www.spaceandtech.com/digest/sd2001-21/sd2001-21-001.shtml>.

More recently, a Japanese company, Nissin Food Products, filmed a commercial on the ISS, where it also left a high-definition camera for future filming purposes. See Ben Bold, *Japanese Noodle Company Risks Scalding To Shoot First Ad in Space*, BRAND REPUBLIC, Oct. 4, 2005, <http://www.brandrepublic.com/>

delivering their products to ISS inhabitants.¹³

There are also several ongoing space advertising ventures, two of which are directly linked to private commercial space launch companies in the United States. Working out of California, JP Aerospace charges \$400 to lift a balloon to 100,000 feet, where an onboard camera takes high-definition photos of four-by-eight inch company logos with the backdrop of Earth and outer space.¹⁴ The company stated in a 2006 press release that, “With space tourism and other new space businesses on the horizon, it’s natural for marketing to be there too.”¹⁵ Along similar lines, Las Vegas’s Bigelow Aerospace launched *Genesis I* in 2006 and *Genesis II* in 2007, both of which remain in space as tests for an eventual Bigelow “space hotel.”¹⁶ Bigelow utilized the inside of *Genesis I* to display advertisements for paying companies,¹⁷ and *Genesis II* is testing a Goodyear Blimp-like billboard.¹⁸ In light of the high interest in space advertising, it is unsurprising that many (including the *New York Times*¹⁹) are expecting the

bulletins/br/article/520184/japanese-noodle-company-risks-scalding-shoot-first-ad-space/; *Outer-space Ad Will Hype Japanese Noodles*, MSNBC, Sept. 21, 2005, <http://www.msnbc.msn.com/id/9431204/>.

12. Two years before the space pizza delivery commercials, Pizza Hut affixed its logo to a Russian proton rocket also destined for the ISS. See Pearlman, *supra* note 6. As far back as 1993, NASA planned to launch a rocket bearing the logo for the film *Last Action Hero*; however, the launch never took place. Alana Semuels, *Still Pitching a Far-Out Idea: Ads in Space*, L.A. TIMES, June 10, 2007, available at <http://articles.latimes.com/2007/jun/10/business/fi-sunprofile10>.

13. Since 1996, Final Frontier Beef Jerky has been offered for free to space travelers by the company’s space enthusiast-owner Gregory Nemitz. See Pearlman, *supra* note 6; Stenger, *supra* note 11. Japan’s Sapporo Breweries announced in December, 2008, that it would raffle bottles of “space beer,” which was engineered from barley descended three generations from barley that spent five months on the ISS in 2006. Danielle Demetriou, *Japan Unveils ‘Space Beer’*, THE TELEGRAPH ONLINE (London), Dec. 3, 2008, <http://www.telegraph.co.uk/news/newsttopics/howaboutthat/3543948/Japan-unveils-space-beer.html>; Mari Yamaguchi, *Tang Got People to the Moon; Now See What’s Brewing*, CHI. TRIB., July 27, 2008, at Q8.

14. JP Aerospace Space Ads Details, <http://jpaerospace.com/100spacead.html> (last visited Mar. 10, 2009); Press Release, JP Aerospace, Space Company Flies Marketing Mission (Nov. 16, 2006), available at <http://jpaerospace.com/press/PressRelease11-16-06.pdf> [hereinafter JP Press Release]. For a discussion of JP Aerospace’s more research-oriented space projects, see *infra* note 48 and accompanying text.

It is worth noting that because there is no *officially* recognized demarcation of the line between terrestrial “airspace” and “outer space,” some may not consider advertising at 100,000 feet to be “outer space” advertising. FRANCIS LYALL & PAUL B. LARSEN, *SPACE LAW: A TREATISE* 496–97 (2009). Still, the purpose and appeal of JP Aerospace’s advertising is clear: it markets a company by associating its logo with “outer space,” not merely with being “really high up in the air.”

15. JP Press Release, *supra* note 14.

16. For a discussion of Bigelow’s other space projects, see *infra* note 49 and accompanying text.

17. Alan Boyle, *One Giant Leap for Space Ads*, COSMIC LOG, July 24, 2006, <http://cosmiclog.msnbc.msn.com/archive/2006/07/24/1441.aspx>.

18. Craig Covault, *Bigelow Reveals Business Plan*, AVIATION WEEK, April 8, 2007, http://www.aviationweek.com/aw/generic/story_channel.jsp?channel=space&id=news/aw040907p2.xml.

19. Steven Kurutz, *The 8th Annual Year in Ideas: Moonvertising*, N.Y. TIMES MAGAZINE, Dec. 14, 2008, at 64 (discussing a Rolling Rock viral marketing campaign, which involved a plan to beam lasers onto the lunar surface in the shape of the Rolling Rock logo); cf. Clive Thompson, *The 9th Annual Year in Ideas: Lunar Legalism*, N.Y. TIMES MAGAZINE, Dec. 20, 2009, at 50–52 (discussing the “commons” approach to Moon ownership, and the likelihood of “deeply weird legal skirmishes” if travel to the Moon increases).

industry to grow in the future, and are positioning themselves to take advantage.²⁰

Russia has by far profited the most from commercialism in space,²¹ which many see as odd given Russia's economic traditions compared to the United States'.²² Although NASA has occasionally indicated that it might someday engage in commercial projects, little has actually come to fruition.²³ Instead, NASA has remained far less willing than its counterpart, the Russian Space Agency (RSA), to work with space tourists and advertisers.²⁴ One reason for these different approaches seems to be the economic and budgetary needs of the respective space agencies: unlike NASA, the RSA needs to generate commercial revenue just to finance its launches.²⁵ At NASA, federal regulations bar federal employees from engaging in many forms of commercial conduct that appear unethical or create conflicts of interest,²⁶ and internal NASA policies specify that "NASA will not promote or endorse or appear to promote or endorse a commercial product, service or activity."²⁷ Even if the United States

20. One way that companies and investors have recently situated themselves to benefit from private commercialization of space is by sponsoring competitions and funding the prize pools that allow for much of the ongoing research in the field. *See infra* note 52 and accompanying text.

21. *See supra* notes 11–13 and accompanying text.

22. Stenger, *supra* note 11 ("Perhaps there is some irony that the once-communist Russian space program is more enthusiastic about commercial ventures than its U.S. counterpart. 'The Russians are capitalists. The American cannot be. That seems to be the socialist approach of NASA,' said Jeffery Manber, president of MirCorp, which helped Tito [the first space tourist] reserve his Alpha flight. 'Space is going to be a tremendously fertile market for advertising. I hope NASA learns to accept it's a terrific way to excite the public.'").

23. *See* Charles Arthur, *NASA Launches Advertising from Space*, THE INDEPENDENT (London), June 7, 2000, at 10; Cha, *supra* note 9.

24. Halvorson, *supra* note 11; Isidore, *supra* note 11.

25. *See* Isidore, *supra* note 11 (noting that as of 2001, Russia's annual budget was \$170 million compared to NASA's \$13 billion, which forced Russia to go "Soyuz to Soyuz with nontraditional sources of money"); E-mail from Randy Gier, Chief Consumer Officer, Cadbury Schweppes, in Dallas, TX and participant in several space advertising projects, to author (Apr. 10, 2009, 09:27:00 EST) (on file with author) [hereinafter Randy Gier e-mail] ("When it comes to space, the Russians may be better capitalists than the American[s]. And if necessity is the mother of invention, for them the necessity was getting enough money to actually launch their rocket.").

Some argue that NASA's budgets are in a similar decline, and so the United States should participate in space advertising to supplement government funding. Randy Gier e-mail, *supra* ("You'll note in all the examples [of space advertising] . . . no NASA participation. The largest, most prolific space organization in the world, has precluded themselves from playing in what might be the most lucrative of funding sources. And shockingly, at a time when their budgets are getting whacked on an annual basis.").

26. Standards of Ethical Conduct for Employees of the Executive Branch, 5 C.F.R. § 2635.101(b) (2009). In contrast, Russian cosmonauts are actually commercial workers paid by a private entity, S.P.Korolev Rocket and Space Corporation (RSC) Energia, which means they can be employed by advertisers as "work for hire," rather than requiring any interaction with the Russian government. James E. Dunstan e-mail, *supra* note 11.

27. NASA, REGULATIONS FOR ADVERTISING REQUESTS (2008), available at http://www.nasa.gov/audience/formedia/features/Advertising_Guidelines.html; *see also* The NASA Seal and Other Devices, and the Congressional Space Medal of Honor, 14 C.F.R. §§ 1221.109–13 (2009) (restricting the use of NASA's seal, insignia, logos, identifiers, or flags).

does not *have to* take part in commercial projects for budgetary reasons, some still believe that the United States *should* keep pace with the Russians in this new space activity.²⁸ From the perspective of the companies advertising in space, the distinction between launching from Russia and launching from America is meaningless,²⁹ which means that unless U.S. regulations and policies are changed, NASA will never share in the space advertising dollars currently going to the RSA.

Certainly, some attempts to utilize outer space for commercial purposes have failed,³⁰ and even some successful space-related advertisements have had to overcome major logistical hurdles,³¹ including challenges from those interest groups that object to “over-commercialization” in all its forms.³² But the fact remains that for over a decade, there has been tremendous interest in advertisements, both created in outer space (for example, commercials filmed aboard the ISS) and located in outer space (for example, the billboard being tested on *Genesis II*).

B. THE SPACE TOURISM INDUSTRY

Compared to government-run space programs, the private commercial space industry is still in its infancy. Nevertheless, huge strides have been made in the last decade, and many of the necessary pieces have been put into place for commercial space operations to thrive in the near future.³³ Two notable developments in the private commercial space industry are: (1) increased investment in the reusable launch vehicle, and (2) creation of a legal framework in the United States that was not present before the mid-2000s, specifically beginning with the passage of the Commercial Space Launch Amendments Act of 2004.³⁴

28. See, e.g., Halvorson, *supra* note 11; Semuels, *supra* note 12.

29. Isidore, *supra* note 11 (quoting Jim McDonald, senior vice president of marketing and advertising at RadioShack at the time of the Father’s Day picture frame advertisement).

30. For example, in 2003, *Survivor* creator Mark Burnett had arranged with the Russians to use Star City—the Russian equivalent of NASA’s Houston training center—to film a reality show tentatively called *Destination Space*. The show was to involve competitors getting voted off the show one-by-one until the last won a trip to the ISS. The *Columbia* explosion led to *Destination Space* being permanently abandoned. Cha, *supra* note 9.

31. See, e.g., Yuri Karash, *Space Advertising Faces Hurdles in Russia*, SPACE.COM, June 12, 2000, http://www.space.com/business/technology/business/space_advertising_000612.html; *Pizza Hut Delivers*, *supra* note 11; *Pizza Hut Logo on Proton Challenged*, SPACE AND TECH, June 5, 2000, <http://www.spaceandtech.com/digest/sd2000-13/sd2000-13-001.shtml>.

32. See generally Commercial Alert, Issues: Culture, <http://www.commercialalert.org/issues/culture/> (last visited Mar. 10, 2009) (compiling articles and letters protesting the alleged “subversion of our culture by corporate huckstering and commercial values,” including such offenses as advertising at the Olympics, Tiger Woods’s usage of an AT&T golf bag, Build-A-Bear advertisements on milk cartons, and corporate sponsorships at Mardi Gras).

33. See, e.g., Frances Fiorino, *The Sky’s No Limit*, AVIATION WK. & SPACE TECH., Aug. 1, 2005, at 34.

34. See Timothy Robert Hughes & Esta Rosenberg, *Space Travel Law (and Politics): The Evolution of the Commercial Space Launch Amendments Act of 2004*, 31 J. SPACE L. 1, 5–11 (2005). For more on the 1984 Commercial Space Launch Act and the Commercial Space Launch Amendments Act of 2004, see *infra* notes 133–44 and accompanying text.

Despite organizational challenges (for example, properly utilizing human resources³⁵) and occasional setbacks (for example, government funding cancellations³⁶), the space tourism industry has grown rapidly. The scientific developments in the field are beyond the scope of this Note,³⁷ but it is important to appreciate the ongoing successes in this industry as the reason that laws on space advertising may soon be needed.

The company Space Adventures and the RSA have already proven that there is a market for space tourism.³⁸ To date, six people have paid for purely recreational trips into space, all via Russian Soyuz launches to the ISS.³⁹ Some observers view this as the United States and NASA again “losing” to the Russians in a space race.⁴⁰ However, as private companies develop the technology to reach outer space at a fraction of the current cost of government launches, the space launch monopoly held by national space agencies (NASA, RSA, or otherwise) is quickly breaking.⁴¹ This means that although the RSA may have “won” by putting tourists into space—and collecting at least \$20 million for each tourist⁴²—even the RSA’s role in space tourism might soon

35. See, e.g., Interview by Eva-Jane Lark with James E. Dunstan, Attorney, Garvey, Schubert and Barer, in Washington, D.C. (Feb. 13, 2009), available at <http://www.outofthecradle.net/archives/2009/02/eva-interviews-james-e-dunstan/> [hereinafter James E. Dunstan interview].

36. See, e.g., Hughes & Rosenberg, *supra* note 34, at 7.

37. For a more thorough overview of the relevant technology in this area, see generally FED. AVIATION ADMIN., 2009 U.S. COMMERCIAL SPACE TRANSPORTATION DEVELOPMENTS AND CONCEPTS: VEHICLES, TECHNOLOGIES, AND SPACEPORTS (2009), available at http://www.faa.gov/about/office_org/headquarters_offices/ast/media/Developments%20and%20Concepts%20January%202009.pdf [hereinafter FAA 2009 DEVELOPMENTS AND CONCEPTS].

38. See Space Adventures, <http://www.spaceadventures.com> (last visited June 7, 2009) (offering “spaceflight experiences”); see also Tariq Malik, *Space Adventures Offers \$15 Million Spacewalks for ISS Visitors*, SPACE.COM, July 21, 2006, http://www.space.com/news/060721_spacetourist_eva.html.

39. The space tourists to date are: American Dennis Tito in 2001, South African Mark Shuttleworth in 2002, American Gregory Olsen in 2005, American Anousheh Ansari in 2006, American Richard Garriott in 2008, and Hungarian Charles Simonyi in 2007 and 2009. For more information on Tito, Olsen, Ansari, Garriott, and Simonyi, see SPACE FACTS, Biographies of U.S. Astronauts, http://www.spacefacts.de/English/bio_ast.htm (follow hyperlink for each name on the left) (last visited Apr. 2, 2009). For more information on Shuttleworth, see SPACE FACTS, Biography of Mark Shuttleworth, http://www.spacefacts.de/bios/international/english/shuttleworth_mark.htm (last visited May 20, 2010).

An early precursor to the space tourists was journalist Toyohiro Akiyama of Japan who, in 1990, was backed by the Tokyo Broadcasting Network for \$28 million to join a Russian Soyuz mission to the *Mir* space station. Although not listed as a “space flight participant,” Akiyama was nevertheless a civilian sent into space for non-scientific purposes. SPACE FACTS, Biography of Toyohiro Akiyama, http://www.spacefacts.de/bios/international/english/akiyama_toyohiro.htm (last visited Apr. 2, 2009); see also Laura Layton, *ESA Embraces Space Tourism*, ASTRONOMY, July 27, 2006, <http://www.astronomy.com/asy/default.aspx?c=a&id=4428>.

40. See, e.g., Joe Holley, *Defense Official Became Space Tourism Booster*, WASH. POST, Feb. 19, 2009, at B7.

41. See, e.g., LYALL & LARSEN, *supra* note 14, at 473; Glenn Harlan Reynolds, *International Space Law in Transformation: Some Observations*, 6 CHI. J. INT’L L. 69, 70 (2005) (“Costs to orbit currently run in the thousands of dollars per pound, but could conceivably be slashed to the dozens per pound.”).

42. See, e.g., *Tourists Visit the International Space Station*, SPACE TODAY ONLINE, <http://www.spacetoday.org/Astronauts/SpaceTourists.html> (last visited Mar. 11, 2009) (reporting that Dennis Tito, Mark Shuttleworth, and Gregor Olsen all paid \$20 million for their space flights).

decline due to the less expensive private launchers, mostly working in and launching from the United States.⁴³

The primary reason launches have become more affordable in the last decade is because of the rise of reusable launch vehicles (RLVs), which are capable of lifting payloads at a lower cost than traditional launch options.⁴⁴ In recent years, several commercial space projects using RLVs have garnered significant attention for the space tourism industry. The leader, Richard Branson's Virgin Galactic, is currently taking reservations for seats aboard *SpaceShipTwo*, which was unveiled in December of 2009 under the new name *Virgin Space Ship (VSS) Enterprise*.⁴⁵ Over 300 people have already put down a \$20,000 deposit on the \$200,000 cost of the flight.⁴⁶ JP Aerospace (the company taking pictures of logos at 100,000 feet⁴⁷) is also working on a series of projects including the V-shaped *Ascender*, which costs just \$500,000, as well as the *Tandem*, which at 140,000 feet will be used to construct the *Dark Sky Station*, JP Aerospace's own space station.⁴⁸ Bigelow Aerospace's orbiting *Genesis I* and *Genesis II* are experimental precursors to the *Sundancer*, which is scheduled for launch in 2010 as the first step towards an "orbital habitat" or "space hotel."⁴⁹ Dozens of

43. James E. Dunstan interview, *supra* note 35 (asserting that private space activities "have begun to break the NASA stranglehold on space, and [*SpaceShipOne*'s] success has sparked new interest, and more importantly, PRIVATE INVESTMENT in space projects beyond communications satellites").

44. See Hughes & Rosenberg, *supra* note 34, at 6.

45. See *Branson to Introduce Tourist Spaceship in Mojave*, N.Y. TIMES, Dec. 7, 2009, at B4; Michael Cooney, *Commercial Spaceship Roll-Out Revs Space Tourism*, NETWORK WORLD, Dec. 7, 2009, <http://www.networkworld.com/news/2009/120709-layer8-virgin-galactic-spaceshiptwo.html>; Tariq Malik, *Virgin Galactic's Spaceship Party Crashed by High Winds*, SPACE.COM, Dec. 7, 2009, <http://www.space.com/news/091211-spaceshiptwo-party-crashed.html>.

(VSS) *Enterprise* is a larger version of the first private vehicle to reach 100 kilometers: Scaled Composites' *SpaceShipOne*, originally launched in 2004. See VIRGIN GALACTIC, <http://www.virgingalactic.com> (last visited Mar. 13, 2009); FAA 2009 DEVELOPMENTS AND CONCEPTS, *supra* note 37, at 2, 34–35; Hughes & Rosenberg, *supra* note 34, at 8–9. The company's first space tourism flight was initially scheduled to occur by 2010. FAA 2009 DEVELOPMENTS AND CONCEPTS, *supra* note 37, at 2, 34–35; Marc Kaufman, *Private Space of the Future*, WASH. POST, April 12, 2007, at D1. But more recent reports indicate that tests will occur in 2010 and manned launches in 2011. *Branson to Introduce Tourist Spaceship in Mojave*, *supra*.

46. *Branson Opens Doors to Spaceship*, CNN.COM, Dec. 7, 2009, <http://edition.cnn.com/2009/TECH/space/12/07/branson.spaceship/index.html>.

47. See *supra* notes 14–15 and accompanying text.

48. See JP AEROSPACE, ATO: AIRSHIP TO ORBIT, <http://www.jp-aerospace.com/atohandout.pdf> (last visited May 20, 2010); Alan Boyle, *Airship Groomed for Flight to Edge of Space*, MSNBC, May 21, 2004, <http://www.msnbc.msn.com/id/5025388>; David Kushner, *Space Invaders*, IEEE SPECTRUM ONLINE (on file with journal); The Fool, *NewSpace News: SpaceX, JP Aerospace, and More*, NEW FRONTIERS (Mar. 10, 2008, 19:50 EST), <http://newfrontiersblog.blogspot.com/2008/03/newspace-news-spacex-jp-aerospace-and.html>. For more information on JP Aerospace, see JP AEROSPACE, jp-aerospace.com (last visited Mar. 11, 2009).

49. See FAA 2009 DEVELOPMENTS AND CONCEPTS, *supra* note 37, at 3, 9–10, 46–47; see also BIGELOW AEROSPACE, <http://www.bigelowaerospace.com> (last visited Mar. 13, 2009); Boyle, *supra* note 17; Kaufman, *supra* note 45. For a discussion of the commercial activities aboard the Bigelow spacecrafts, see *supra* notes 16–18 and accompanying text.

other companies are working to reduce the cost of launching payloads,⁵⁰ and even non-launch options, such as the “space elevator,” are being pursued by organizations including NASA.⁵¹ Finally, several companies are promoting advances in private commercial space exploration by sponsoring competitions like the Google Lunar X PRIZE, which has over twenty teams competing for a \$30 million award given to the first team that lands a robot on the Moon, roams 500 meters, and transmits data back to Earth.⁵² According to the Federal Aviation Administration (FAA), “While this steady progress may not seem much like change, in fact it is the basis for revolutionary improvements in commercial space transportation: increased reliability and safety, decreased costs, and new capabilities.”⁵³

The U.S. government, through congressional legislation and presidential statements, has outwardly endorsed the private commercial space industry and committed the government to assist in its growth. Congress has urged the Administrator of NASA to transition from government non-emergency space transportation systems to ones purchased on the commercial market,⁵⁴ acquire space transportation services⁵⁵ from commercial providers, and plan missions to accommodate commercial providers.⁵⁶ Congress has even declared that, “the general welfare of the United States requires that [NASA] . . . seek and encourage, to the maximum extent possible, the fullest commercial use of space.”⁵⁷

50. See generally FAA 2009 DEVELOPMENTS AND CONCEPTS, *supra* note 37; John Schwartz, *More Enter Race To Offer Space Tours*, N.Y. TIMES, Feb. 18, 2006, at C1.

51. See Doug Gross, *Can Scientists Make a Space Elevator?*, CNN.COM, Nov. 5, 2009, <http://www.cnn.com/2009/TECH/space/11/05/space.elevator/index.html>; Mike Steere, “*Space Elevator*” *Would Take Humans Into Orbit*, CNN.COM, Oct. 3, 2008, <http://www.cnn.com/2008/WORLD/europe/10/02/space.elevator/index.html>; see also Reynolds, *supra* note 41, at 77–79; Iain Thomson, *Japan Sets Out Plans for Space Elevator*, Sept. 23, 2008, VNUNET.COM, <http://www.vnunet.com/vnunet/news/2226676/japan-sets-plans-space-elevator>; *The 2010 Space Elevator Conference*, SPACE ENGINEERING AND SCIENCE INSTITUTE, <http://www.spaceelevatorconference.org/>; THE SPACEWARD FOUNDATION, <http://www.spaceward.org> (last visited Dec. 19, 2009).

52. Press Release, XPrize Foundation, Google Sponsors Lunar X PRIZE to Create a Space Race for a New Generation (Sept. 13, 2007), available at <http://googlelunarxprize.org/lunar/press-release/google-sponsors-lunar-x-prize-to-create-a-space-race-for-a-new-generation>; see also FAA 2009 DEVELOPMENTS AND CONCEPTS, *supra* note 37, at 2, 9; A. Pawlowski, *Google Launches New Space Race to the Moon*, CNN.COM, June 20, 2008, <http://www.cnn.com/2008/TECH/space/06/20/google.lunar.xprize/index.html>.

53. FAA 2009 DEVELOPMENTS AND CONCEPTS, *supra* note 37, at 1.

54. Commercial Space Act of 1998, Pub. L. No. 105-303, 112 Stat. 2843, 2856 (1998) (codified at 42 U.S.C. § 14733(a) (2006)). The directive to the NASA Administrator was reiterated in more detail in 2005. National Aeronautics and Space Administration Authorization Act of 2005, Pub. L. No. 109-155, 119 Stat. 2895, 2913 (2005) (codified at 42 U.S.C. § 16616 (2006)).

55. “Space transportation services” include “preparation of a space transportation vehicle and its payloads for transportation to, from, or within outer space, or in suborbital trajectory, and the conduct of transporting a payload to, from, or within outer space, or in suborbital trajectory.” 42 U.S.C. § 14701(5) (2006).

56. Commercial Space Act of 1998, Pub. L. No. 105-303, 112 Stat. 2854 (1998) (codified at 42 U.S.C. § 14731(a) (2006)).

57. National Aeronautics and Space Administration Authorization Act, 1985, Pub. L. No. 98-361, 98 Stat. 422 (1984) (codified at 42 U.S.C. § 2451(c) (2006)). Similar statements expressing the high value

NASA has followed this mandate and is a supporter of the private commercial industry.⁵⁸ The law also fosters greater technological innovation by relaxing the licensing procedures for experimental launches and allowing the Secretary of Transportation to waive requirements for unmanned launches.⁵⁹ Finally, all three presidents since 1992 have declared the importance of entrepreneurial rather than purely government space exploration.⁶⁰

As is often the case with a young industry, space tourism has its nay-sayers⁶¹ and will inevitably face logistical hurdles.⁶² In the early 2000s, the collapse of space-related companies like Dreamtime Holdings (a company that was, as of 2000, supposed to set up a commercial, interactive NASA web portal⁶³), and Russia's cautionary approach after the *Columbia* disaster, led some to question "when or even if the space tourist program will resume."⁶⁴ But resume it has, and backed by the U.S. government and several exceedingly wealthy private investors,⁶⁵ the private launch industry has reached a point where it will soon be able to put private individuals in outer space at a relatively affordable cost. The

of the commercial space industry can be found throughout space-related legislation. *See, e.g.*, National Aeronautics and Space Administration Authorization Act, Fiscal Year 1993, Pub. L. No. 102-588, 106 Stat. 5107, 5122–23 (1992) (codified at 15 U.S.C. § 5801 (2006)).

58. NASA, ENHANCED STRATEGY FOR THE DEV. OF SPACE COMMERCE (DRAFT) (2001), *available at* <http://www.spaceref.com/news/viewsr.html?pid=3692> [hereinafter NASA 2001 COMMERCE STRATEGY]; *see also* FAA 2009 DEVELOPMENTS AND CONCEPTS, *supra* note 37, at 10–12, 35; NASA CENTENNIAL CHALLENGES, <http://www.centennialchallenges.nasa.gov/> (last visited April 3, 2009).

59. *See* 49 U.S.C. § 70105(a), (b)(3); FAA Aeronautics and Space Regulations, 14 C.F.R. §§ 413.3(f), 437.1–.95 (2009).

60. As a candidate, President Barack Obama, said that he would "establish a robust and balanced civilian space program." *Advancing the Frontiers of Space Exploration*, BARACKOBAMA.COM, http://www.barackobama.com/pdf/policy/Space_Fact_Sheet_FINAL.pdf (last visited Mar. 14, 2009). Once in office, President Obama announced in early 2010 that NASA would abandon a Bush Administration plan to put a man on the Moon again by 2020, and would instead begin in 2011 utilizing private commercial launch vehicles to transport astronauts to the ISS. Joel Achenbach, *Obama's New NASA Strategy Criticized*, WASH. POST., Mar. 10, 2010, at A21. President George W. Bush's space policy was, in part, "committed to encouraging and facilitating a growing and entrepreneurial U.S. commercial space sector." OFFICE OF SCI. & TECH. POLICY, EXECUTIVE OFFICE OF THE PRESIDENT, U.S. NATIONAL SPACE POLICY (2006), *available at* <http://www.whitehouse.gov/administration/eop/ostp/library/archives>. President Bill Clinton's space policy aimed to "[f]oster the international competitiveness of the U.S. commercial space transportation industry, actively considering commercial needs and factoring them into decisions on improvements in launch facilities and launch vehicles." OFFICE OF SCI. & TECH. POLICY, EXECUTIVE OFFICE OF THE PRESIDENT, NATIONAL SPACE TRANSPORTATION POLICY, PDD/NSTC-4 (1994), *available at* http://www.hq.nasa.gov/office/codez/new/policy/pddnstc_4.html.

61. *See, e.g.*, Leonard David, *Public Space Travel: Reality or Mirage?*, SPACE.COM, Dec. 7, 2009, <http://www.space.com/business/technology/091207-spaceshiptwo-space-tourism.html>.

62. Space Adventures, the company responsible for arranging most tourist trips to date, was sued for \$21 million by Japanese businessman Daisuke Enomoto, who was not given a refund for his trip aboard a Soyuz despite not traveling due to health problems. Posting by James, *Japanese Businessman Defrauded of \$21 Million by the U.S. Space Tourism Company*, JAPAN PROBE (Sept. 26, 2008), <http://www.japanprobe.com/2008/09/26/japanese-businessman-defrauded-of-21-million-by-the-US-space-tourism-company>.

63. Arthur, *supra* note 23.

64. Cha, *supra* note 9.

65. Leslie Wayne, *A Bold Plan To Go Where Men Have Gone Before*, N.Y. TIMES, Feb. 5, 2006, at B1.

timing is fortunate because according to a 2006 *National Security Space Launch Report*, the market for space launches is projected to decline steadily through 2020, so “if things continue without new markets of either tourism or new technical applications, the space launch industry will wallow for decades.”⁶⁶ Because of remarkable and ongoing advances in private tourism-related technology, it seems likely that the space launch industry will avoid this fate.

C. THE ECONOMIC FEASIBILITY OF ADVERTISING IN OUTER SPACE

Those who actually work in the advertising industry are most concerned with the economics of potential space marketing campaigns. Although many financial details of past space advertisements are not publicly available, there are indications that advertising in outer space is economically comparable to some forms of advertising here on Earth.⁶⁷

New advertising schemes are often compared to the biggest annual advertising spectacle: the Super Bowl. The few companies that each year pump the most money into costly Super Bowl advertisements typically have universally recognized names and products—companies like Anheuser Busch, General Motors, and PepsiCo, each of which purchase multiple ad spots each year.⁶⁸ Such global entities seem to be the sort that would be most able to benefit from an advertising campaign in space, which would likely require an instantly recognized logo and a service or product available to any space tourist from anywhere in the world. In 2007, CBS charged as much as \$2.6 million for thirty-second Super Bowl advertising spots, on top of any expenses associated with actually creating the advertisement itself (typically \$1–2 million).⁶⁹ Regular thirty-second prime time advertising spots cost only \$100,000.⁷⁰ New RLVs will be capable of putting substantial advertising payloads in space at costs far lower than \$2.6 million, possibly someday even lower than \$100,000.⁷¹ This means that in the near future, it will be possible to put advertisements into orbit

66. See Eric R. Hedman, *If We Build It, Will They Come?*, THE SPACE REVIEW, Feb. 24, 2008, <http://www.thespacereview.com/article/1050/1>.

67. See, e.g., Halvorson, *supra* note 11; JP Aerospace Space Ads Details, *supra* note 14. According to Senator Jeffords in his 1993 statement in support of a ban on space advertising visible from Earth, “Companies will pay \$1.7 million [in 1993 dollars] to advertise for one minute on the Super Bowl to reach an audience of millions. A space billboard could reach billions for days. At the Super Bowl rate, a space billboard is worth about \$12 billion [in 1993 dollars].” 139 Cong. Rec. S7759 (daily ed. June 23, 1993) (statement of Sen. Jeffords).

68. Paul R. La Monica, *Super Prices for Super Bowl Ads*, CNNMONEY.COM, Jan. 3, 2007, http://money.cnn.com/2007/01/03/news/funny/superbowl_ads/index.htm.

69. *Id.* (quoting Fran Kelly, president and CEO of ad agency Arnold Worldwide). One expense related to a terrestrial advertisement is the amount paid to celebrities who appear in commercials. In 2001, celebrities like Shaquille O’Neal and Vanessa Williams would cost \$500,000 per “session,” which would typically result in three or four advertisements. James E. Dunstan e-mail, *supra* note 11. The entire RadioShack Father’s Day advertisement filmed on the ISS cost less than a single session with such high-cost celebrities. *Id.*

70. James E. Dunstan e-mail, *supra* note 11.

71. For a discussion of the declining cost of space access, see *supra* notes 44–53 and accompanying text. Cf. Halvorson, *supra* note 11 (discussing lower-than-expected costs of advertising in space).

at costs closer to the cost of one prime time commercial than one Super Bowl advertising spot.

Of course, the cost of a space advertisement is meaningless if there is no audience to see it. A space advertisement visible from Earth would be visible to a massive audience, estimated by some to be as large as 600–700 million people—five times that of past Super Bowl audiences.⁷² But a *non-obtrusive* space advertisement would only be visible to space tourists, and although space tourism is likely to increase dramatically in numbers over the coming years, it will likely not involve millions of people. There are nevertheless several reasons to believe that such advertisements could be extremely effective in terms of reaching viewers. First, even more so than Super Bowl viewers who sit through commercial after commercial, space tourists are literally a captive audience to whatever is visible from the space vehicle. Imagine a space tourist looking out the window of the (VSS) *Enterprise* when a Ford Motor Company billboard sails by in the distance. He cannot change the channel, hit fast forward, mute the volume, or even leave the room. The only option would be to stop looking out the spacecraft window, which one can only imagine would be an unappealing option for someone who paid for a chance to experience the view from space.

Another reason that the total audience value for a space advertisement would likely be higher than just the number of space tourists who personally see the advertisement is that space advertising garners significant media attention. For example, the Pizza Hut pizza delivery to the ISS generated \$50 million in press coverage when the deal to film the commercial was first signed and an additional \$200 million in press coverage when the rocket with the Pizza Hut logo was launched, all before the pizza reached the ISS.⁷³ A similar increase in marketing value occurred when the RadioShack Father's Day advertisement—which was scheduled to air only during ESPN's *Sunday Night Baseball* games—ended up being so popular that it was televised again during the NBA Finals, the week before Father's Day.⁷⁴ These examples illustrate the extent to which the value of an advertisement can increase when the advertisement itself becomes a media story.

The third reason that space advertising is economically and strategically viable is that there are intangible qualities about outer space that make it unique and interesting. At a time when some in the marketing industry are questioning the value of advertising at all,⁷⁵ space-related advertising allows a company to

72. See Tomlinson & Wiley, *supra* note 4, at 540; Greg Johnson, *Super Bowl Commercial Buyers Put It on the Line*, L.A. TIMES, Jan. 18, 2000, at C3.

73. Randy Gier e-mail, *supra* note 25.

74. James E. Dunstan e-mail, *supra* note 11.

75. *Id.* ("What is resulting [in the current economic downturn], however, is the dawning of a recognition that there really isn't any correlation between ad spending and consumer awareness or purchases. Some are calling into question the whole concept of advertising.").

leverage the exciting concept of human spaceflight.⁷⁶ This notion of “borrowed interest” means that an advertisement can attach a company, product, or service to something else that is highly popular and thus “break[] through the haze and get[] noticed, remembered and acted upon.”⁷⁷ Additionally, many companies involved with any high-tech or forward-looking industry can gain from the “logical brand message connection,” which is the idea that for an advertisement to be most effective, there should be some link between the advertisement itself and the product.⁷⁸ So as opposed to a disjointed (and likely ignored) “sponsored by [company]” message, many companies could instead use the existence of a space advertisement to implicitly send the message to consumers that the company is linked to the technology of the future.

It remains unclear what impact the economic downturn of 2008–2009 will have on the private commercial space industry and the future of space exploration and tourism, but some in the industry believe that there *are* still investors willing to fund space activities.⁷⁹ One potential result of any national belt-tightening that occurs may be that the federal government and NASA finally turn to commercial investors, advertisers, and tourists to help supplement NASA budgets.⁸⁰ Russia long ago transitioned to accepting private dollars as a means of supporting government space activities,⁸¹ and the need to divert U.S. tax dollars to the ailing economy might force the United States down a similar path.

Of course, advertisers will also need to be wary of potential backlash from

76. Randy Gier e-mail, *supra* note 25 (“NOTHING captures the imagination of people on earth like space. . . . EVERYONE is fascinated by space.”).

77. *Id.*

78. *Id.*

79. James E. Dunstan interview, *supra* note 35 (“In discussions with several of my contacts, they are saying that there is plenty of investment money available. A lot of the smart money got out of stocks early, and had to land somewhere (other than in someone’s mattress). So several VC [venture capital] funds have cropped up over the last few months. The problem is that with virtually no credit available for mergers and rollups, and IPOs [initial public offerings] at a dead stop, no one can come up with investment scenarios that have realistic exit strategies in the 18 month to 3 year [sic] timeframe that investors have become accustomed to. So everyone is sitting on the money right now. That is actually a very good thing for NewSpace [a name given to entities that look to research, promote, and engage in private commercial space flight], because the long timeframes for development and liquidity have always been the most difficult thing for space companies to overcome. But if investment horizons are now stretching to 3-5 years for exit for all technology sectors, then NewSpace has a chance to compete for that money, if there is enough upside potential for investors.”).

80. Randy Gier e-mail, *supra* note 25 (“So, the next few years should be interesting. As we face multi-trillion dollar debt levels, and annual spending deficits of hundreds of billions of dollars a year, will our Government tap into the entrepreneurial spirit of our innovators . . . unleash capitalism . . . and un-constrain the dollars and imagination of the county’s marketers to fund the exploration of space? The unknown is always scary. And there are those who fear the day when an astronaut steps out of his shuttle compartment, walks over to the mike and say[s,] ‘I want to thank the Goodyear ground crew and the Dupont/Huggies racing team. They really made sure that the Citibank Shuttle performed today and made our Red Bull Get Wings mission a success.’ But, if that’s the price we have to pay to go where no man has gone before, it’s worth it.” (ellipses in original)).

81. See *supra* note 25 and accompanying text.

those who oppose advertising in space all together. Some may find it safer at first simply to advertise on space tourists' launch vehicles themselves (for example, placing logos in passenger compartments or on the sides of the vehicle). But over time, as space becomes more accessible and is used for a wider array of human activities, it may gradually become more acceptable and appealing for companies to advertise in space itself or on nearby celestial bodies (for example, billboards situated near hotels on the Moon or floating near space vehicles' docking sites). Given the infinite size of, and limitless potential uses for, outer space, it would be a novel and counterproductive approach for humanity to deem *all* of space closed to advertising, even while all sorts of new commercial endeavors—from tourist ships, to space hotels, to space elevators—are launched from Earth.

II. THE LAW GOVERNING TOURISM AND ADVERTISING IN OUTER SPACE

A. INTERNATIONAL LAW

1. The Space Treaty Regime

Outer space is governed internationally by a treaty regime that emerged in 1967 with the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies (Outer Space Treaty).⁸² As of January 1, 2008, ninety-eight states, including the United States and other major space powers, had ratified the convention, and another twenty-seven had signed it,⁸³ making the Outer Space Treaty so universally accepted that many believe it has become customary international law binding on all states.⁸⁴ Subsequent treaties in the space treaty regime include the Convention on International Liability for Damage Caused by Space Objects (Liability Convention)⁸⁵ and the Convention on the Registration of Objects Launched into Outer Space (Registration Convention).⁸⁶ These three

82. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, *opened for signature* Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205 [hereinafter Outer Space Treaty].

Of course, there are international bodies and regulations beyond the treaties. For instance, the International Telecommunications Union (ITU) deals with such issues as radio frequencies broadcasted in outer space and would likely play a significant role in the regulation of space advertisements already in space. International Telecommunications Union (ITU), <http://www.itu.int/net/home/index.aspx> (last visited June 14, 2009). This Note focuses on the legality of putting an advertisement in space at all, not on the application of law to already-positioned frequency-broadcasting advertisements. The ITU is therefore beyond this Note's scope.

83. United Nations Office for Outer Space Affairs (UNOOSA), <http://www.unoosa.org/oosa/en/SpaceLaw/outerspt.html> (last visited Apr. 5, 2009).

84. LYALL & LARSEN, *supra* note 14, at 275–76.

85. Convention on International Liability for Damage Caused by Space Objects, *done* Mar. 29, 1972, 24 U.S.T. 2389, 961 U.N.T.S. 187 [hereinafter Liability Convention].

86. Convention on the Registration of Objects Launched into Outer Space, *opened for signature* Jan. 14, 1975, 28 U.S.T. 695, 1023 U.N.T.S. 15 [hereinafter Registration Convention].

treaties⁸⁷ contain provisions that implicate the legality of all sorts of commercial space activities; however, no treaty discusses specifically the issue of advertising in outer space.

The preamble to the Outer Space Treaty contains statements that, right away, problematize the issue of space advertising by creating tension between pursuing valuable new uses of outer space and preserving space for the shared benefit of all people. The Outer Space Treaty states that the parties to the treaty agree to “[r]ecogniz[e] the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes,” and that they “[b]eliev[e] that the exploration and use of outer space should be carried on for the benefit of all peoples irrespective of the degree of their economic or scientific development.”⁸⁸ Advertising in outer space reveals a tension between these statements: if revenue from advertising is used to fund expanding access to and exploration of outer space, then it could be in “the common interest of all mankind”; however, space advertising itself would almost certainly not be “for the benefit of all peoples.” These terms have been analyzed in several contexts,⁸⁹ but none provide certainty as to what commercial activity in space is acceptable. There is a similar lack of clarity in the Outer Space Treaty’s requirement that “exploration and use of outer space . . . be carried out for the benefit and in the interests of all countries . . . and shall be the province of all mankind.”⁹⁰ Advertising in outer space may lead to greater investment in space, and thus increase its peaceful exploration and use. This would be in the “common interest.” But again, the advertising itself will likely do little to benefit directly “all countries” or “all mankind.” It is therefore unclear whether the overarching principles of the Outer Space Treaty generally permit advertis-

87. Two other treaties are generally considered a part of the space law regime; however, the treaty concerning rescue and return of astronauts is not relevant to the discussion of advertising in outer space, and the treaty on the usage of the Moon is accepted by so few states that it is certainly not considered binding on the major space powers. See Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, *opened for signature* April 22, 1968, 19 U.S.T. 7570, 672 U.N.T.S. 119; Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, *opened for signature* Dec. 18, 1979, 1363 U.N.T.S. 3 [hereinafter Moon Agreement]. As of January 1, 2008, the Moon Agreement had only been ratified by thirteen states and signed by another four, but it was adopted as a resolution by the U.N. General Assembly, giving it at least some life in the space law discussion. See UNOOSA, *supra* note 84; G.A. Res. 34/68, U.N. Doc. A/RES/34/68 (Dec. 5, 1979); see generally LYALL & LARSEN, *supra* note 14, at 275.

88. Outer Space Treaty, *supra* note 82, pmbl. The Liability Convention also “[r]ecogniz[es] the common interest of all mankind in furthering the exploration and use of outer space for peaceful purposes.” Liability Convention, *supra* note 85, pmbl.

89. See, e.g., LYALL & LARSEN, *supra* note 14, at 568; David Tan, *Towards a New Regime for the Protection of Outer Space as the “Province of All Mankind”*, 25 YALE J. INT’L L. 145, 160–64, 176 (2000); Nina Tannenwald, *Law Versus Power on the High Frontier: The Case for a Rule-Based Regime for Outer Space*, 29 YALE J. INT’L L. 363, 410–13 (2004). The United Nations has also addressed some states’ concern that benefits from space activities are inequitably distributed. See Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries, G.A. Res. 51/122, ¶ 1, U.N. Doc. A/RES/51/122 (Feb. 4, 1997) [hereinafter Declaration on International Cooperation].

90. Outer Space Treaty, *supra* note 82, art. I.

ing in space.

The Outer Space Treaty does prohibit certain activities, some of which might implicate forms of space advertising. Advertising that would so substantially clutter orbit that it would become impossible for other states to explore outer space would likely violate international law.⁹¹ Additionally, no state—and therefore no entity licensed by a state—may appropriate any portion of outer space “by claim of sovereignty, by means of use or occupation, or by any other means.”⁹² This would not likely pose a problem to space advertisers, however, because use of orbits for private purposes, like satellite placement, is not customarily seen as “appropriation.”⁹³ In all likelihood, placement of objects on the Moon (such as the United States’ lunar rover) would also not be considered “appropriating” the space on which they sit.⁹⁴ The Outer Space Treaty also states that space activities may not violate any other international law, such as the United Nations Charter.⁹⁵ If any treaty or customary international law develops that precludes advertising in outer space, then the Outer Space Treaty, by its own terms, would also prohibit that conduct. Any advertisement that could qualify as a nuclear weapon or a weapon of mass destruction, possibly because of a power source or energy component, would be prohibited,⁹⁶ as well as contrary to five decades of congressional statements opposing the militarization of space.⁹⁷ Finally, the liability regimes under the Outer Space Treaty⁹⁸ and the Liability Convention⁹⁹ are clear as to how they would apply to an advertisement that causes injury or damage.

2. Inadequacy of Existing International Law

There are compelling reasons why outer space should be regulated primarily by international law—namely that international agreements ensure uniformity

91. *Id.*

92. *Id.* arts. II, IV.

93. PETER MALANCZUK, *AKEHURST’S MODERN INTRODUCTION TO INTERNATIONAL LAW* 206 (7th rev. ed. 1997).

94. *See* Outer Space Treaty, *supra* note 82, arts. IV, VIII.

95. *Id.* art. III.

96. *Id.* art. IV.

97. *See, e.g.*, National Aeronautics and Space Act of 1958, Pub. L. No. 85-568, 72 Stat. 426, 426 (1958) (codified at 42 U.S.C. § 2451(a) (2006)).

98. Outer Space Treaty, *supra* note 82, art. VII; *see also* Hughes & Rosenberg, *supra* note 34, at 15–16 (giving an overview of U.S. implementation of the liability requirements under the treaties).

99. Liability Convention, *supra* note 85, art. II; *see generally* LYALL & LARSEN, *supra* note 14, at 103–20. Under the international liability framework, a launching state is “[a] State which launches or procures the launching of a space object, [or a] State from whose territory or facility a space object is launched.” Liability Convention, *supra* note 85, art. I. A launching state is liable for damage caused by its space objects with absolute liability attaching for damage on Earth or to aircrafts in flight, and fault-based liability attaching for damage in space. *Id.* arts. II, III. If multiple states are liable, either absolutely or based on fault, then they become jointly and severally liable, either apportioned by relative fault or split equally if fault is impossible to establish. *Id.* art. IV. A state that pays compensation may present a claim to indemnify other parties to the launch. *Id.* art. V. The process for resolving disputed claims is discussed *infra* notes 115–17 and accompanying text.

and widespread enforceability¹⁰⁰—but unfortunately, since the negotiation of the five major space treaties (1967–1979), international law has failed to keep pace with new developments in space. For instance, dating back to 1965, the “cluttering” of space has been an oft-lamented problem.¹⁰¹ And over the last two decades, the issue of “space debris” has repeatedly been declared a high priority, because debris threatens to damage valuable satellites, make future launches more dangerous, and even start “cascades” (chain reactions in which one piece of debris sets off a series of dangerous collisions).¹⁰² In recent years, space debris has damaged or completely destroyed satellites,¹⁰³ and forced cosmonauts to flee the ISS and take shelter in an escape pod.¹⁰⁴ In 1994, scholars gave warnings such as, “Time is of the essence, but with prompt enactment of effectively drafted legislation, this is one environmental debacle we may yet be able to spare future generations.”¹⁰⁵ Yet despite over a decade and a half of international concern, little binding international law has actually emerged, and the few signs of progress have been exceedingly slow.¹⁰⁶ The five major space treaties were not drafted with the debris in mind and so speak only incidentally to the issue.¹⁰⁷ Customary international law is of no help in this area.¹⁰⁸ The international body responsible for addressing such concerns—the U.N. Committee on the Peaceful Uses of Outer Space (COPUOS)—requires

100. See LYALL & LARSEN, *supra* note 14, at 563; Tan, *supra* note 89, at 148.

101. C. WILFRED JENKS, SPACE LAW 280 (1965) (titled a chapter in his book “Space Cluttering and Contamination”).

102. See LYALL & LARSEN, *supra* note 14, at 303–05; Rincon, *supra* note 3; Sriram Swaminathan, *Making Space Law Relevant to Basic Space Science in the Commercial Space Age*, 21 SPACE POLICY 259, 260–62 (2005); Tan, *supra* note 89, at 151–53; Jennifer A. Purvis, Note, *The Long Arm of the Law? Extraterritorial Application of U.S. Environmental Legislation to Human Activity in Outer Space*, 6 GEO. INT’L ENVTL L. REV. 455, 455–56 (1994).

103. LYALL & LARSEN, *supra* note 14, at 306 n.131.

104. *Junk Alert for Space Station Crew*, BBC.COM, Mar. 12, 2009, <http://news.bbc.co.uk/1/hi/sci/tech/7940431.stm>; Rincon, *supra* note 3.

105. Purvis, *supra* note 102, at 502.

106. See LYALL & LARSEN, *supra* note 14, at 303; Steven A. Mirmina, *The Regulation of Orbital Debris Through National Measures*, 29 AIR & SPACE LAW 137, 141–42 (2004); Purvis, *supra* note 102, at 456.

In 1996, the U.N.-created International Law Commission came close to declaring atmospheric pollution an “international crime”; however, that never came to fruition because of “the way the concept of ‘crime’ was being developed within other international jurisprudence, including through the creation of the International Criminal Court and the work of the Tribunals for Yugoslavia and Rwanda.” LYALL & LARSEN, *supra* note 14, at 278. That same year, the International Court of Justice also hinted in its Advisory Opinion on Legality of the Use by a State of Nuclear Weapons in Armed Conflict that there may exist binding international law prohibiting the destruction of the environment, but this has never been authoritatively reaffirmed in the space context. *Id.* at 279–80.

107. Tan, *supra* note 89, at 157.

108. The closest customary international law comes to the issue is The Trail Smelter Case (U.S. v. Canada), 3 R.I.A.A. 1905 (1938 & 1941), an arbitration decision that pollution of a global commons violates international law *if* it causes injury to the territory of another state. However, this custom fails to cover space debris because no country has recognized “territory” in space and so creating orbital debris does not, in and of itself, cause damage to the “territory” of another state. See LYALL & LARSEN, *supra* note 14, at 277; Purvis, *supra* note 102, at 457.

consensus of all participating states in order to act,¹⁰⁹ and has therefore been ineffective in creating binding international law.¹¹⁰ On the issue of debris, COPUOS and the United Nations as a whole have achieved little beyond vague discussions, ineffective negotiations, and ultimately non-binding “recommendations” on what *domestic* steps countries might take to solve the problem.¹¹¹ Many space powers are in fact working individually and in cooperative groups to address debris,¹¹² but there is still no binding international law.

The space treaties also contain no enforcement mechanisms. The Outer Space Treaty’s call for international cooperation and consultation¹¹³ came at a time when only governments were capable of space activities, but with non-state actors now able to launch, consultations amongst states no longer address the full scope of activities in outer space. As the number of private, non-governmental space launchers increases, states will find it less “feasible and practicable” to report on all space activities going on within their borders, as the Outer Space Treaty requires.¹¹⁴ For instance, if the (*VSS*) *Enterprise* has some kind of small mishap while in space (for instance, it leaks fuel in close proximity to another nation’s satellite), the only way the United States will be able to disclose and hold consultations on the incident is if Virgin Galactic

109. Swaminathan, *supra* note 102, at 260.

110. See Tan, *supra* note 89, at 165–66 (“The consensus methodology . . . impels each negotiating member to search for the lowest common denominator.”); see also Mirmina, *supra* note 106, at 141, 143.

111. Swaminathan, *supra* note 102, at 262; Tan, *supra* note 89, at 150, 153 (“[T]he Scientific and Technical Sub-Committee of COPUOS has discussed the possibility of establishing international standards and safety regulations Unfortunately, the consensual approach adopted by COPUOS fails to address the problems in a satisfactory and expedient manner; after almost two decades, many issues still remain unresolved. . . . [T]hese concerns [about space debris] have not been crystallized into plans for concrete action, but are instead mired in a bureaucracy of committees and symposiums.”).

The U.N. General Assembly did adopt “debris mitigation guidelines” issued by COPUOS, but in doing so, the General Assembly merely “invite[d]” states to begin taking the steps that the guidelines say are what states “should” do. There is no discussion of binding international obligations. G.A. Res. 62/217, ¶¶ 26–27, U.N. Doc. A/RES/62/217* (Feb. 1, 2008); COPUOS, *Report of the Committee on the Peaceful Uses of Outer Space*, ¶¶ 116–19, Annex 4, U.N. Doc. A/62/20, Supplement No. 20 (2007); see also LYALL & LARSEN, *supra* note 14, at 301–02. Despite the complete lack of binding law in the guidelines, the Chairman of COPUOS nevertheless saw these recommendations as “major progress” in solving what has been a known problem for several decades. U.N. Committee on the Peaceful Uses of Outer Space [COPUOS], *Future Role and Activities of the Committee on the Peaceful Uses of Outer Space*, ¶ 8, U.N. Doc. A/AC.105/L.268 (May 10, 2007) (working paper submitted by the Chairman). Although COPUOS’s passing *anything* may actually be an accomplishment, it is still a sign of the impotence of international law that “major progress” involves no binding obligations. And in an effort to build on the so-called success of the guidelines, the Chairman then called for yet another slow and bureaucratic measure: “a working group . . . to produce, in consultation with relevant intergovernmental organization such as ITU, a technical assessment of the situation and to suggest a way forward.” *Id.* ¶ 27.

112. Rincon, *supra* note 3.

113. Outer Space Treaty, *supra* note 82, art. IX.

114. See *id.* art. XI (“States Parties to the Treaty conducting activities in outer space . . . agree to inform the Secretary-General of the United Nations as well as the public and international scientific community, to the greatest extent feasible and practicable, of the nature, conduct, locations, and results of such activities.”).

chooses to disclose it. Unlike thirty years ago, governments are no longer the sole actors in space, so diplomatic engagements between states may no longer be sufficient to comprehensively address outer space issues.

The drafters of the Liability Convention also seem to have been skeptical about the ability to resolve complex international problems via global consensus, and so numerous safeguards were built into the treaty's claim settlement provisions. First, the Liability Convention calls for damage claims to be presented via "diplomatic channels," but in the same Article there is a caveat that allows for third party states or the U.N. Secretary General to present the claim should the parties involved not have diplomatic channels.¹¹⁵ Thus, just five years after the formation of the Outer Space Treaty, with its call for states to willingly engage in "international consultations," the international community recognized that meaningful diplomatic channels may not even exist. Other alternatives to diplomacy are built into the Liability Convention, including the right to bring claims into national courts¹¹⁶ and the option to create a Claims Commission.¹¹⁷

One significant reason that states are reluctant to commit to binding international space law is the fear of becoming militarily disadvantaged. As technology has evolved to allow for more space exploration, space tourism, and space advertising, it has also evolved to allow for space militarization.¹¹⁸ Since the beginning of the space age, many states and international leaders have stressed the need to avoid space "wars" or the usage of outer space for hostile purposes.¹¹⁹ However, according to the U. N. General Assembly, the current space law treaty regime is still not an airtight guarantee that there will never be an "arms race in outer space."¹²⁰ It is therefore not surprising that concerns about self-defense have made states reluctant to sacrifice any rights to the strategically significant "high ground"—space being literally the *highest* "ground."¹²¹ Over the last several years, the United States has even been a leader in asserting the legality of military activities in outer space, with President George W. Bush

115. Liability Convention, *supra* note 85, art. IX.

116. *Id.* art. XI.

117. *Id.* art. XIV.

118. *See, e.g.*, Reynolds, *supra* note 41, at 71–76; Tannenwald, *supra* note 89, at 365–70.

119. As early as 1960, President Eisenhower described the need for a peaceful future in outer space. President Dwight D. Eisenhower, Speech to the 15th General Assembly of the United Nations (Sept. 22, 1960), *available at* <http://eisenhowermemorial.org/speeches/19600922%20Address%20Before%20the%2015th%20General%20Assembly%20of%20the%20United%20Nations%20New%20York%20City.htm> [hereinafter Eisenhower's General Assembly Address]; *see also* Outer Space Treaty, *supra* note 82, art. IV.

120. G.A. Res. 62/20 ¶¶ 1–3, U.N. Doc. A/RES/62/20 (Jan. 10, 2008); *see also* Tannenwald, *supra* note 89, at 376–77 ("Although some measures [to prevent the militarization of space] have been taken, most significant initiatives have been blocked . . . [However], [g]iven the widespread use of space for surveillance and communication, the banning of all military activity in space is, in any case, a wholly impractical option.").

121. Leonard David, *U.S. Military Seeks To Secure Ultimate High Ground*, SPACE.COM, Mar. 31, 2004, http://www.space.com/news/nss_military_space_040331.html.

taking a particularly hawkish tone.¹²² The U.S. military has long pursued space capabilities,¹²³ and there is reason to believe that the line between space and military technologies will become even more blurred as the Pentagon and NASA work to compete with China's rapidly developing space program.¹²⁴ This potential militarization of space has always been an underlying concern of the space powers, and is a major reason that the space powers have been unwilling to engage in international or domestic space lawmaking.

Like most activities in outer space, advertising to space tourists may have international effects, but it is also unlikely that international law will adequately address the issue. Since the last of the space treaties was signed, new international space law simply has not developed at the same pace as the technology.¹²⁵ Two of the treaties even explicitly called for the United Nations to discuss post-enactment revisions, but neither has been reopened for any sort of international negotiations.¹²⁶ Part of the problem is that all nations are permitted to participate in discussions on outer space, regardless of how minimal their space capabilities or interests actually are.¹²⁷ Another significant roadblock preventing international law from effectively governing developments in outer space is that, to have the desired effect, treaties "must be precisely worded and specify the exact obligations undertaken by signatory states";¹²⁸ the space treaties, in contrast, are not at all precise about their application, leaving open for interpretation terms as basic as "celestial body."¹²⁹ In the space context, there is no international agency or governing body to legislate or interpret the vague treaty language, nor is any such agency likely to emerge in the near

122. Editorial, *Flexing Our Muscles in Space*, N.Y. TIMES, Oct. 21, 2006, at A12 (calling the Bush Administration's tone toward space operations "jingoistic and downright belligerent").

123. George Leopold, *U.S. Military Strategy Evolves on Ground, in Space*, EETIMES, Oct. 27, 2005, <http://www.eetimes.com/showArticle.jhtml;jsessionid=WTXXZHMPHN553QE1GHRSKH4ATMY32JVN?articleID=172900924> ("Pentagon planners are searching high and low for new technologies needed for everything from reducing roadside bomb casualties in Iraq to securing cyber-space and gaining control of the emerging high ground of space.").

124. Demian McLean, *Obama Moves To Counter China with Pentagon-NASA Link*, BLOOMBERG.COM, Jan. 2, 2009, <http://www.bloomberg.com/apps/news?pid=20601109&sid=aOvrNO0OJ41g&refer=home>.

125. LYALL & LARSEN, *supra* note 14, at 307-08.

126. *Id.* at 82-83. It may even be "undesirable" to reopen any of the space treaties to discussion because "[i]t is unlikely that anything approaching unanimity or consensus would be arrived at." *Id.* at 83, 562-63.

Instead of reopening the Registration Convention, the U.N. has settled (as usual) for "recommendations" on how states should institute the existing treaty. See G.A. Res. 62/101, ¶¶ 2-3, U.N. Doc. A/RES/62/101 (Jan. 10, 2008).

127. Outer Space Treaty, *supra* note 82, art. I. This approach to international law is partly derived from the 1933 Montevideo Convention on the Rights and Duties of States, which says that all countries enjoy the same rights and so may participate equally in international affairs. Montevideo Convention on the Rights and Duties of States, art. 4, Dec. 26, 1933, 49 Stat. 3097, 165 L.N.T.S. 19 (1934).

128. Tan, *supra* note 89, at 165-66.

129. VIRGILIU POP, WHO OWNS THE MOON?: EXTRATERRESTRIAL ASPECTS OF LAND AND MINERAL RESOURCES OWNERSHIP 44-45 (2009).

future.¹³⁰ Finally, all states have an inherent national security interest in the “high ground,” making it much less palatable to sacrifice any rights or powers in outer space. The result is a state of conflict and uncertainty.¹³¹ Because international law cannot deal with the immediately pressing issues in outer space and the space treaties are too ambiguous in their application to commercial activities, it is more important that spacefaring states turn to domestic law to resolve such issues.

B. U.S. DOMESTIC LAW¹³²

1. The Commercial Space Launch Amendments Act of 2004

All private commercial space launches in the United States fall under the Commercial Space Launch Act (CSLA).¹³³ By 1984, Congress had recognized the growth of private commercial space capabilities and hoped to foster private space launches through “stable, minimal, and appropriate regulatory guidelines that are fairly and expeditiously applied.”¹³⁴ Responsibility for carrying out the act was delegated to the Secretary of Transportation,¹³⁵ who is tasked with implementing licensing and liability insurance provisions.¹³⁶ By 2004, the law governing the commercial space industry had evolved to include a licensing and oversight framework for RLVs.¹³⁷ However, several issues had not yet been sufficiently addressed, including vehicles that are a hybrid of aircraft and

130. LYALL & LARSEN, *supra* note 14, at 560–61.

131. Michael C. Mineiro, *Law and Regulation Governing U.S. Commercial Spaceports: Licensing, Liability, and Legal Challenges*, 73 J. AIR L. & COM. 759, 771–72 (2008).

132. This Note focuses specifically on space legislation and regulations, not the constitutional implications of regulating such speech. For a discussion of how the First Amendment might apply to advertisements in space, see generally, for example, James E. Dunstan, *From Flag Burnings to Bearing Arms to States Rights: Will the Bill of Rights Survive a Trip to the Moon?*, 1991 PROCEEDINGS OF THE TENTH PRINCETON/AIAA/SSI CONFERENCE 93, 93 (discussing how the “harsh and near-immediately lethal environment of space” could prevent the Bill of Rights from being applied to a U.S. colony on the Moon); Jimm Erickson, *Your Sign Here: Advertising Space . . . in Space*, DAVIDDFRIEDMAN.COM, May 19, 2004, http://www.daviddfriedman.com/Academic/Course_Pages/21st_century_issues/legal_issues_21_2000_pprs_web/21st_c_papers_2004/erickson_space_ad_04.htm (discussing how precedent on commercial speech could be used to limit advertisements in space); George S. Robinson, Commentary, *No Space Colonies: Creating a Space Civilization and the Need for a Defining Constitution*, 30 J. SPACE L. 169 (2004) (proposing that a non-Earth society would need completely new governing principles). Compare J.H. Huebert & Walter Block, *In Defense of Advertising in Space*, in PROCEEDINGS OF THE FORTY-NINTH COLLOQUIUM ON THE LAW OF OUTER SPACE 479 (2006) (obtrusive space advertisements should be protected by free speech and private property rights), with Tomlinson & Wiley, *supra* note 4, at 543–62 (bans on obtrusive space advertisements would not violate the First Amendment).

133. Commercial Space Launch Act, Pub. L. No. 98-575, 98 Stat. 3055 (1984) (amended 2004). For a history of the Act, see Hughes & Rosenberg, *supra* note 34, at 11–13.

134. *Id.* § 2(6), 98 Stat. 3055.

135. *Id.* § 5(a), 98 Stat. 3055.

136. *Id.* §§ 6–16, 98 Stat. 3055.

137. Hughes & Rosenberg, *supra* note 34, at 13–24.

spacecraft, and commercial human spaceflight.¹³⁸

To provide the legal certainty necessary for the private commercial space launch industry to develop, Congress passed the Commercial Space Launch Amendments Act of 2004 (2004 Act).¹³⁹ Barely passing on the final day of an extended lame-duck session of the 108th Senate,¹⁴⁰ the final 2004 Act was the result of a year-and-a-half-long legislative process.¹⁴¹ The reason for the 2004 Act is made clear at the Act's outset in the finding that:

[P]rivate industry has begun to develop commercial launch vehicles capable of carrying human beings into space and greater private investment in these efforts will stimulate the Nation's commercial space transportation industry as a whole; . . . [A] critical area of responsibility for the Department of Transportation is to regulate the operations and safety of the emerging commercial human space flight industry¹⁴²

The Act contained extensive new provisions on who may be a "participant" in commercial space flights, what sort of safety structures must be in place, and how experimental launch permits may be granted.¹⁴³ By resolving some of the pre-2004 legal questions about the space tourism industry, the 2004 Act made the law clear enough to appease investors, who had been wary about putting money into an industry governed by an indefinite legal framework.

Unfortunately, the 2004 Act did not address what activities may occur in space generally, and it certainly made no mention of advertising to space tourists who launch under the 2004 Act. Therefore, such activities still fall under the general licensing requirements of the original CSLA, as amended several times between 1984 and 2004.¹⁴⁴

2. Obtrusive Space Advertising

Very little black-letter law exists on the placement of advertisements in outer space, but in 1993, space advertising made its way to the front pages and prompted more congressional activity on the issue than at any other time. In that year, Georgia advertising company Space Marketing, Inc. revealed its plan to put into orbit a Mylar billboard the size and brightness of the Moon during the

138. *Id.* at 24–25. Despite the legal uncertainty surrounding commercial human spaceflight, the FAA nevertheless issued in April 2004 the first RLV mission license for the *SpaceShipOne*. *Id.* at 37–38.

139. Commercial Space Launch Amendments Act of 2004, Pub. L. No. 108-492, 118 Stat. 3974 (2004) (the provisions of the CSLA and the Commercial Space Launch Amendments Act were recodified at 49 U.S.C. §§ 70101–70121 (2006)). Regulations implementing the Act are found at 14 C.F.R. §§ 400–60 (2009). For detailed explanations of the 2004 Act and its implications, see generally Hughes & Rosenberg, *supra* note 34, at 38–72; Mineiro, *supra* note 131.

140. Hughes & Rosenberg, *supra* note 34, at 43.

141. For a thorough discussion of the legislative history, see generally *id.* at 25–43.

142. § 2(a)(5), 118 Stat. 3974.

143. *Id.* § 2(c), 118 Stat. 3976–3982 ("Commercial Human Space Flight").

144. For a general discussion of the pre-2004 amendments to the CSLA, see Mineiro, *supra* note 131.

1996 Atlanta Olympics.¹⁴⁵ The scientific merit of the project is still debated,¹⁴⁶ but the gist of the operation was perfectly clear: Space Marketing, Inc. intended to put a billboard into orbit that would be visible from Earth—a practice now known as “obtrusive space advertising.”¹⁴⁷ This was not the first discussion of placing objects into space that would be visible from Earth,¹⁴⁸ but it was the first to prompt members of Congress to draft legislation.

The two Congressmen to propose space advertising legislation in their respective houses were Representative Edward Markey (D-MA)¹⁴⁹ and Senator Jim Jeffords (R-VT).¹⁵⁰ The proposed bills called for a complete prohibition on the placing of any advertisement in outer space by any launching party licensed by

145. Earl Phillips, *Light Pollution Update: Movement Underway To Halt “Billboards in Space” Concept*, “SIGNALS”: THE NAAPO NEWSLETTER (North American AstroPhysical Observatory, Columbus, O.H.), Sept. 1993, <http://www.naapo.org/NAAPO-News/Vol09/v09n08.htm>.

146. Mike Lawson, CEO of Space Marketing, Inc., defended the billboard, calling it “The Environmental Platform” because it was to be outfitted with ozone-reading monitors that could “replace” existing monitors that were “nearing the end of their useful lives.” *Id.* At the time, he stated that “[i]t will not display commercial advertising, but rather a symbol that represents recycling and the wise use of Earth’s resources. Any company that wishes to[] may purchase rights to the logo and print it on their products, thus identifying themselves with the message the logo intends to foster.” *Id.* Finally, he asserted that the billboard would have been “visible only during daylight hours, and then only for 10–15 minutes out of every ninety” and would only have lasted “1–20 days, after which time it [would] simply [have] burn[ed] up in the upper atmosphere.” *Id.*

Opponents of the plan argued that the “ozone monitoring” function was “meaningless because existing satellites monitor ozone levels without polluting the sky with commercials.” *See* 139 CONG. REC. E1732–04, 1733 (daily ed. July 1, 1993) (letter to Nandasiri Jasantuliyana, Director of the COPUOS, from fifteen signatories including Astronomical League, Center for Science in the Public Interest, National Consumers League, National Audubon Society, Cornell University Center for Radiophysics and Space Research, and Representative Ed Markey).

147. 49 U.S.C. § 70102(9) (2006) (“‘obtrusive space advertising’ means advertising in outer space that is capable of being recognized by a human being on the surface of the Earth without the aid of a telescope or other technological device.”).

148. Background Paper by the International Astronomical Union, *supra* note 8, ¶¶ 15–19 (describing other such plans for obtrusive space objects as the 1993 Russian solar reflectors, the 1989 French “Ring of Light,” and the 1999 French “Star of Tolerance,” which was called “a thinly disguised space advertising enterprise.”).

149. Space Advertising Prohibition Act, H.R. 2599, 103rd Cong. (1993). Introducing the legislation, Markey argued:

What will our world be like if Space Marketing, Inc., the Georgia-based company seeking to launch [one-mile-long] billboards made from mylar sheets into Earth orbit, has its way? Children will learn a new nursery rhyme: “hey diddle diddle, the cat and the fiddle, the cow jumped over the mylar.” They will make a wish upon a falling billboard. [Space advertisements] turn[] our morning and evening skies . . . into the moral equivalent of the side of a bus.

139 CONG. REC. E1732-04 (daily ed. July 1, 1993) (statement of Rep. Markey).

150. Space Advertising Prohibition Act, S. 1145, 103rd Cong. (1993). Introducing the legislation, Sen. Jeffords argued:

Without such legislation, I fear that “Moonlight in Vermont” could become “Bud Lite in Vermont.” The heavens are a common, Mr. President, and one that should not be used for advertising. We’ve reached similar agreements in the past on common areas like Antarctica and would hope that, given the few countries with space launch capability, such an agreement would be easy to reach.

139 Cong. Rec. S7759 (daily ed. June 23, 1993) (statement of Sen. Jeffords).

the United States.¹⁵¹ Both punished violators with civil penalties and licensing restrictions,¹⁵² but the Senate version also sought to reach launching parties outside the United States by including an “import restriction,” which made it “unlawful for any person to import into the United States any product, goods, or other item that is manufactured, assembled, distributed, or sold by any person who is engaged or who has previously engaged in space advertising.”¹⁵³ Ultimately, the proposed bills never made it out of their respective committees,¹⁵⁴ possibly because the definition of space advertising was too broad,¹⁵⁵ or possibly because when Space Marketing, Inc. failed to secure funding, there was no longer any pressing need to legislate on the matter.¹⁵⁶

Seven years later, Congress passed the only existing law specifically addressing advertising in outer space: a tiny part of the National Aeronautics and Space Administration Authorization Act of 2000 that flatly prohibits the licensing of any payload containing material that could be used to engage in “obtrusive space advertising,”¹⁵⁷ which is defined as “advertising in outer space that is capable of being recognized by a human being on the surface of the Earth without the aid of a telescope or other technological device.”¹⁵⁸ The House version of the NASA Authorization Act did not contain this advertising provision, but the House ceded to the Senate and agreed that, “the conferees are seeking to preserve a view of the sky that humanity has enjoyed since the beginning of human existence. Moreover, this section will help prevent new sources of interference with astronomy.”¹⁵⁹ The law passed in 2000 was much narrower in scope than the 1993 bills. It did not adopt the Senate’s import restriction, nor did it keep the broad definition of “space advertising” used by both the House and the Senate. Instead, the 2000 Act stated explicitly that all

151. See H.R. 2599 § 2(d); S. 1145 § 2(d). Both defined “space advertising” as “including” advertisements visible from Earth, but unlike the space advertising law that eventually did pass in 2000, the scope of these proposed bills also reached advertisements that would only be visible to people in outer space. See H.R. 2599 § 2(c)(2); S. 1145 § 2(c)(3).

152. See H.R. 2599 § 2(d); S. 1145 §§ 2(d), 3(b).

153. S. 1145 § 3(a); see 139 Cong. Rec. S7759 (daily ed. June 23, 1993) (statement of Sen. Jeffords) (“Should our foreign competitors decide to advertise in space, then the importation of their products would be prohibited.”). Even had this bill been enacted, its jurisdictional reach would not have prevented U.S. domestic companies that manufacture within the United States from placing advertisements in outer space because the *ex ante* U.S. licensing restrictions do not extend to launches licensed overseas, and domestic companies that manufacture in the United States would not be affected by *ex post* import prohibitions.

154. The House bill was referred to House Committee on Science, Space, and Technology’s Subcommittee on Space on July 13, 1993, and the Senate version was referred on June 23, 1993 to the Committee on Commerce. The record shows no subsequent Congressional action on either bill.

155. Phillips, *supra* note 145 (quoting Glen Reynolds, Beauchamp Brogan Distinguished Professor of Law, University of Tennessee College of Law).

156. Cf. Huebert & Block, *supra* note 132, at 480.

157. Pub. L. No. 106-391, § 322, 114 Stat. 1577, 1598 (2000) (codified at 49 U.S.C. § 70109a (2006)). For a discussion of how the FAA’s Associate Administrator for Commercial Space Transportation (AST) handles issuance of licenses, see *infra* note 171.

158. 49 U.S.C. § 70102(9) (2006).

159. H.R. Rep. No. 106-843, at 31 (2000) (Conf. Rep.).

non-obtrusive forms of space advertising are outside the scope of the law.¹⁶⁰ Finally, the Act called for the President to negotiate with other nations to reach international agreements banning obtrusive advertising.¹⁶¹ To date, no other country has passed any law on obtrusive space advertising, nor has any on-point international law emerged.¹⁶² This leaves the U.S. legislation as the world's only law specifically addressing space advertising.

3. Non-obtrusive Space Advertising

It is not entirely clear how the CSLA applies to non-obtrusive space advertising. The law contains a process for licensing space objects and sets up an insurance and indemnification regime to deal with liability;¹⁶³ however, its application to advertising in space is hazy at best.

One mechanism through which the CSLA could be used to address advertising in space is through its licensing procedures. Overseen by the Department of Transportation (DOT),¹⁶⁴ the licensing process is delegated to the Federal

160. 49 U.S.C. § 70109a (2006) (“Nothing in this section shall apply to non-obtrusive commercial space advertising”).

161. Pub. L. No. 106-391, § 322, 114 Stat. 1577, 1598 (2000) (codified at 49 U.S.C. § 70109a (2006)).

162. In 2001, a COPUOS subcommittee with authority to consider the matter issued a press release indicating that the subcommittee had placed the issue on the agenda for its next session. Press Release, COPUOS, Fourth Committee Begins Debate on Peaceful Uses of Outer Space; Missile Defence Systems, Outer Space Law Among Issues Addressed, U.N. Doc. GA/SPD/218 (Oct. 23, 2001).

At the following meeting, the International Astronomical Union provided a paper on the numerous problems associated with obtrusive space advertising: light pollution hindering astronomers or damaging telescopes, the impossibility of avoiding the advertisements by conducting astronomy from more remote locations, and the concerns of debris and deorbiting procedures. See Background Paper by the International Astronomical Union, *supra* note 8, ¶¶ 33–36. On its face, the paper seems to call for an international ban on obtrusive space advertising; however, some scholars interpret the paper as leaving the door open to permitting obtrusive space advertisements that are deemed sufficiently “beneficial.” LYALL & LARSEN, *supra* note 14, at 298.

Despite possessing the IAU’s clear summary of the issues, the COPUOS subcommittee issued another press release five months later announcing no action. The report defined obtrusive space advertising, described the U.S. law, and expressed concern about the impact of such advertising on the scientific community, but no obligatory international agreement was reached. See Press Release, COPUOS, Outer Space Scientific and Technical Subcommittee Concludes Thirty-Ninth Session in Vienna; Discusses Implementation of UNISPACE III Recommendations, Natural Disaster Management and Space Debris, U.N. Doc. UNIS/OS/241 (Mar. 13, 2002); see also Swaminathan, *supra* note 102, at 261.

The IAU, for its own part, resolved through its General Assembly that its President should “take steps with the appropriate authorities to ensure that the night sky receive no less protection than has been given to the world heritage sites on Earth.” Int’l Astronomical Union [IAU], *Protection of the Night Sky*, Gen. Assembly Res. No. A1 (1997). This has also led to no binding international law.

163. 49 U.S.C. §§ 70109a, 70112–13 (2006); see also 14 C.F.R. §§ 440.1–19 (administrative regulations regarding financial responsibility for licensed launch activities). See generally Pamela L. Meredith, *Space Insurance Law—With a Special Focus on Satellite Launch and In-Orbit Policies*, 21 AIR & SPACE LAW., No. 4 2008, at 13–15 (discussing categories of space insurance, and how to obtain such insurance). These provisions were renewed on December 28, 2009, and will expire on December 31, 2012 unless renewed before that date. Commercial Space Transportation Liability Regime Extension, Pub. L. No. 111-125 §1, 123 Stat. 3486, 3486 (2009) (codified at 49 U.S.C. § 70113).

164. 49 U.S.C. § 70103(a) (2006).

Aviation Administration (FAA),¹⁶⁵ and more specifically, the Office of Commercial Space Transportation (OCST).¹⁶⁶ But it is unclear how U.S. licensing law would apply to non-obtrusive space advertisements. In its broadest terms, the CSLA says that “the Secretary [of Transportation] shall—(1) encourage, facilitate, and promote commercial space launches and reentries by the private sector, including those involving space flight participants; and (2) take actions to facilitate private sector involvement in commercial space transportation activity, and to promote public-private partnerships”¹⁶⁷ In doing so, the Secretary also must “encourage, facilitate, and promote the continuous improvement of the safety of the launch vehicles designed to carry humans”¹⁶⁸ This leads to conflict—the same sort of “exploration” versus “preservation” tension found in the preamble of the OST¹⁶⁹—because, although space advertisements *may* someday become a threat to the safety of human launch vehicles, advertisements would also serve immediately to “facilitate private sector involvement” in outer space activity. This tension between ensuring passenger and environmental safety versus encouraging commercial investment is prevalent throughout the CSLA and FAA regulations.

The 2004 Act’s licensing requirements similarly fail to provide clear guidance on whether a space advertisement would be approved for launch, either as a “launch vehicle” itself or as a “payload” aboard a launch vehicle.¹⁷⁰ Certainly, several elements of the FAA licensing process are straightforward and mechanical,¹⁷¹ but others involve varying degrees of discretion on matters that would apply to advertisements. First, applicants must undergo a safety review, showing that the risk level associated with debris from a launch and from an RLV’s activities will not exceed a certain expected average number of casualties per

165. 14 C.F.R. § 413.7 (2009).

166. 14 C.F.R. § 401.1 (2009).

167. 49 U.S.C. § 70103(b)(1).

168. 49 U.S.C. § 70103(c).

169. *See supra* notes 88–90 and accompanying text.

170. 49 U.S.C. § 70104–07 (2006); *see also* Tomlinson & Wiley, *supra* note 4, at 538 (1995) (discussing different possible forms of space advertisements).

171. There is a pre-application consultation to discuss any issues that may potentially arise later in the process, and applications are filed according to specific procedures. 14 C.F.R. §§ 413.5–413.7 (2009). The Associate Administrator for Commercial Space Transportation (AST) has a 180-day review period to assess launch licenses or a 120-day review period for experimental permit applications. *See* 49 U.S.C. § 70105(a)(1) (2006); 14 C.F.R. § 413.15(a) (2009). All applications must be amended or supplemented so as to remain accurate. 14 C.F.R. § 413.17 (2009). License holders may not transfer them; only the FAA may transfer licenses, and only to parties that have completed their own application process, thus precluding the possibility that a prospective space advertiser just buy a license off of another license-holder. 14 C.F.R. §§ 415.13(a)–(b), 431.13 (2009). Parties requesting review of a payload “shall identify . . . [i]ntended payload operations during the life of the payload,” therefore making it illegal to conceal that a payload is to be used for advertising until it is suddenly revealed out in space. 14 C.F.R. § 415.59(7) (2009). The Secretary of Transportation shall provide to any payload owner or operator a hearing to explain any decision to prevent launch or reentry of a payload. 49 U.S.C. § 70110(a)(2) (2006). And finally, any person issued an unfavorable determination on either a payload or RLV may respond and request reconsideration. 14 C.F.R. §§ 415.61(b), 431.59(b) (2009).

launch or reentry.¹⁷² For payloads, the safety review involves ensuring that “[t]here is no unplanned physical contact between the vehicle or any of its components and the payload after payload separation” and “[d]ebris generation does not result from the conversion of energy sources into energy that fragments the vehicle or its components.”¹⁷³ Conspicuously absent is any consideration of the safety threat posed by accumulating space debris and collisions with other objects, except for that caused by “conversion of energy sources” from the space vehicle.

The FAA conducts a second type of review to determine potential environmental impacts of a proposed launch¹⁷⁴ or RLV reentry.¹⁷⁵ If an advertisement is itself a launch vehicle, then a comprehensive environmental review of RLVs would cover the advertisement as well. This could provide at least some assurance that the United States would not license advertisements that might do environmental harm, but there remains a noticeable loophole: the review requires launching parties to submit information only about proposed payloads “that may have significant environmental impacts in the event of a mishap”¹⁷⁶ or “in the event of a reentry accident.”¹⁷⁷ Thus, an advertisement sent into space as a payload that may be inherently harmful to the environment while in space could still obtain approval because there would be no obligation to report the environmental impact if it is not related to a “mishap” or “accident.” The FAA might also declare that on-orbit environmental risk falls under “[o]ther factors as determined by the FAA,” for which applicants *must* submit environmental data.¹⁷⁸ Ultimately, the safety and environmental provisions discussed thus far contain many loopholes that would allow for advertising material to bypass safety and environmental examinations.

The CSLA and its regulations also call for the FAA to assess whether a proposed payload “would jeopardize the public health and safety, safety of property, or national security or foreign policy interest of the United States.”¹⁷⁹ The Secretary of Transportation has broad authority to “prevent the launch or reentry” of such payloads.¹⁸⁰ Whereas the safety and environmental reviews already discussed seem too narrow to address all possible risks, these discretionary provisions are so broad as to give no real insight into whether the Secretary

172. 14 C.F.R. §§ 415.35(a), 431.35 (2009).

173. 14 C.F.R. § 415.39 (2009) (standards from 14 C.F.R. § 417.129(a)–(b) (2009)). Additional safety determinations must be made when dealing with non-RLV launches from federal launch sites, 14 C.F.R. § 415.31–.43 (2009), non-federal launch sites, 14 C.F.R. § 415.101–.135 (2009), and for RLV launches and reentries, 14 C.F.R. § 431.31–.47 (2009).

174. 14 C.F.R. § 415.201 (2009).

175. 14 C.F.R. § 431.91 (2009).

176. 14 C.F.R. § 415.203(d) (2009).

177. 14 C.F.R. § 431.93(d) (2009).

178. 14 C.F.R. § 415.203(e) (2009).

179. *See* 49 U.S.C. § 70104(c) (2006); 14 C.F.R. § 415.51 (2009). All licenses issued by the FAA may also be suspended, revoked, or terminated for the same reasons. 49 U.S.C. §§ 70107–70108 (2006).

180. 49 U.S.C. § 70104(c) (2006).

should permit an advertisement in outer space.¹⁸¹ Because the law fails to resolve the tension between safety and environmental concerns with its support for private commercial involvement, there is simply no way to tell which would prevail or why. The 2004 Act made it possible for a commercial human space flight industry to thrive, and so it is now all the more necessary for clearer legislation addressing the myriad of activities that might occur incident to space tourism. Further, by utilizing a provision that allows the Secretary to place a monitor at any “site at which a payload is integrated with a launch vehicle or reentry vehicle,”¹⁸² it might be possible to efficiently make determinations about any payload right at its loading point.

The biggest obstacle preventing the FAA from just regulating all advertising in outer space is the limited jurisdictional scope of the CSLA in terms of exactly who is required to obtain a license and for what activities. First, the CSLA’s licensing and monitoring regime does not in any way address on-orbit activities.¹⁸³ This means that if a launch gets the necessary approvals, the FAA does not factor into the operation again until reentry. No regulations address what a launching party or its payloads actually do in space,¹⁸⁴ leaving the FAA powerless with regard to vehicles or payloads launched that then unexpectedly perform undesirable functions while in orbit.

Second, launching a vehicle, reentering a vehicle, or operating a launch or reentry site requires a license¹⁸⁵ only if under U.S. jurisdiction, which is limited to: (1) a person acting in the United States;¹⁸⁶ (2) a citizen of the United States acting outside the United States;¹⁸⁷ (3) a citizen of the United States acting

181. Not only does the Secretary of Transportation have extremely broad discretion in assessing advertising payloads, launches, and reentries, but the FAA must also consult with other agencies. 14 C.F.R. § 415.57(b) (2009). This gives the Department of Defense the opportunity to decide that the launch or reentry of a space advertisement poses a security threat, for instance by cluttering orbits that might be used for defense purposes or by possibly damaging military satellites. 14 C.F.R. §§ 415.57(b)(1), 431.55(b) (2009). The State Department also has the discretion to decide that licensing advertisements would impact foreign policy or implicate international obligations. 14 C.F.R. §§ 415.57(b)(2), 431.55(c) (2009). And finally, NASA or any other relevant federal agency can recommend a prohibition on all sorts of commercial activity in outer space for reasons like the impact on astronomical research. 14 C.F.R. §§ 415.57(b)(3), 431.55(d) (2009). The number of participants with discretion makes licensing inherently unpredictable.

182. 49 U.S.C. § 70106(a) (2006).

183. Hughes & Rosenberg, *supra* note 34, at 21; *see also* LYALL & LARSEN, *supra* note 14, at 495 (“In the absence of a clear causal connection to a licensed launch or re-entry, operations or occurrences in orbit would not be part of the FAA statutory authority.”).

184. This massive gap in jurisdiction is similar to the flaw in the environmental review, which only involves analyzing potential harm from payloads in the event of “mishap” or “reentry accident,” and does not take into account the potential environmental harms inherent in its being on-orbit at all. *See supra* notes 176–78 and accompanying text.

185. 49 U.S.C. § 70104(a)(1)–(4) (2006).

186. *See* 49 U.S.C. § 70104(a)(1); 14 C.F.R. § 413.3(b) (2009). “Person” is defined as any individual or entity organized or existing under laws of any state or country. 49 U.S.C. § 70102(12)(2006).

187. 49 U.S.C. § 70104(a)(2); 14 C.F.R. § 413.3(c). “Citizen of the United States” is defined as an individual citizen of the U.S. or an entity organized or existing under U.S. law. 49 U.S.C. § 70102(1)(A)–(B) (2006).

outside the territory of any country, unless there is an agreement between the United States and some foreign government giving that government jurisdiction over the activity;¹⁸⁸ or (4) a citizen of the United States acting in the territory of a foreign country, but under U.S. jurisdiction based on an agreement with that country.¹⁸⁹ If the object being launched is itself the advertisement, then launches not fitting under the above four jurisdictional parameters would be outside the reach of U.S. licensing requirements. In all likelihood, space advertisements would be free-floating signs, lunar billboards, orbital banners, and the like, which would be sent into space as “payloads”¹⁹⁰ aboard rockets. Under the CSLA, payloads are reviewed prior to launch or reentry, either before or as part of a license application.¹⁹¹ But if a launch or reentry itself does not require an FAA license because it is outside the jurisdictional bases described above, then any attached payload will also go unchecked by the United States, regardless of how close a link there is between the United States and the payload owner.¹⁹² For instance, a well-known U.S. company (for example, Ford Motor Company) could put a massive banner advertisement onto a rocket. If that rocket is launched outside the United States by a company organized and existing outside the United States and for which the controlling interests are non-U.S. citizens, then review of that payload would be beyond the scope of the CSLA.¹⁹³

The jurisdictional gaps discussed above—(1) the failure to address on-orbit activities; or (2) to license U.S. citizens’ payloads launched abroad—may actually violate international law, which requires that states monitor all on-orbit activities of nationals.¹⁹⁴ Regardless of the international law implications, domestic U.S. interests in regulating the quantities and forms of objects in space, including space advertisements, justify the United States’ assertion of more expansive oversight jurisdiction.¹⁹⁵ This broader jurisdiction, at least over

188. 49 U.S.C. § 70104(a)(3); 14 C.F.R. § 413.3(d)(1), (e)(1). “Citizen of the United States” is defined differently here than it is under § 70104(a)(2). In this instance, a “citizen” is an entity or organization under foreign law if the controlling interest is held by an individual citizen of the United States or an entity organized or existing under U.S. law. 49 U.S.C. § 70102(1)(C).

189. 49 U.S.C. § 70104(a)(4); 14 C.F.R. § 413.3(d)(2), (e)(2). Under this provision, “citizen of the United States” is also defined by 49 U.S.C. § 70102(1)(C). *See supra* note 188.

190. A payload is “an object that a person undertakes to place in outer space by means of a launch vehicle or a reentry vehicle.” 49 U.S.C. § 70102(10).

191. 49 U.S.C. § 70104(b); 14 C.F.R. §§ 415.57(a), 431.55(a) (2009).

192. *Cf.* 49 U.S.C. § 70104(b) (“The holder of a license or permit . . . may launch or reenter a payload only if the payload complies with all requirements of the laws of the United States related to launching or reentering a payload.”). There is no law regulating payloads unconnected to a CSLA-licensed launch.

193. The Department of State may potentially consider the nature of the technology being exported and determine whether it falls under the restrictions of the International Traffic in Arms Regulations (ITAR) or other military export controls. 22 U.S.C. §§ 2751–2799aa-2; 22 C.F.R. §§ 120.1–130.17. Such export reviews are beyond the scope of this Note.

194. *See* Outer Space Treaty, *supra* note 82, art. VI.

195. *See* Major Ronald L. Spencer, Jr., *State Supervision of Space Activity*, 63 A.F. L. REV. 75, 126 (2009) (noting that “[t]he United States [is] acutely exposed to the risk of other State Parties’ failure to implement supervision due to its reliance on space and the number of satellites it operates. Conversely,

foreign-launched payloads belonging to U.S. nationals, could easily be achieved and also be politically palatable if Congress simply amended the CSLA to include in § 70104, as an activity requiring a license, any United States citizen's participation in "launch services." "Launch services" are already defined as "activities involved in the preparation of a launch vehicle, *payload*, crew (including crew training), or space flight participant for launch."¹⁹⁶ By imposing a license requirement for activities involved in preparation of a payload, the FAA could bring under its purview any advertising payloads prepared by virtually all major companies in the world.¹⁹⁷ In the example above, Ford Motor Company would qualify as a United States "citizen," and so its preparation of a banner advertisement payload would constitute a "launch service." That launch service would require a license under this recommended addition to § 70104, regardless of the citizenship of the launch company that actually takes that payload into space. Although this addition does nothing to address on-orbit activities, it does close one significant jurisdictional loophole in the CSLA.

When advertising in outer space actually does occur, some observers will certainly advocate for outright bans on all space advertising, with no exceptions or case-by-case analysis.¹⁹⁸ The CSLA actually has provisions that could be interpreted as imposing wholesale prohibitions on advertising in space, but a sweeping ban would be an overly simplistic and economically troubling approach, and might actually hinder technological achievement and environmental maintenance of outer space.¹⁹⁹ The FAA and any other agencies with discretion in this area should not decide that advertisements are per se or presumptively "detrimental to the public health and safety, the safety of property, or a national security or foreign policy interest of the United States" so that they can never be licensed.²⁰⁰ Although the FAA "may review and issue findings regarding a proposed class of payload, e.g., communications, remote sensing or naviga-

the benefits of the close supervision undertaken by the United States are enjoyed by all space actors while the United States is equally exposed to the hazards dilatory states create.").

196. 49 U.S.C. § 70102(6)(A) (2006) (emphasis added).

197. It seems safe to assume that the vast majority of companies in the world with sufficient resources and global presence to place an advertisement in outer space would also fall under the CLSA's definition of "citizen of the United States," which includes individual citizens of the United States, entities organized or existing under U.S. law, or entities or organizations under foreign law if the controlling interest is held by an individual citizen of the United States or an entity organized or existing under U.S. law. 49 U.S.C. § 70102(1)(A)–(C).

This would have a significant impact on the satellite industry and others that deal primarily with space payloads. The licensing burden on such companies could be reduced by altering the license procedure to allow companies that routinely launch certain classes of payloads to have a standing license, whereas a company that primarily operates in a non-space-related industry would be required to obtain a new license for each payload.

198. See, for example, the vigorous calls for total prohibitions on space advertising that emerged in response to the 1993 Space Marketing, Inc. proposal, *supra* notes 8–9, 149–51 and accompanying text.

199. See *infra* notes 324–28 and accompanying text.

200. 49 U.S.C. § 70108(a) (2006) (describing the standard for prohibiting, suspending, or ending a launch or reentry); see also 49 U.S.C. §§ 70104(c), 70107 (2006); 14 C.F.R. § 415.51 (2009).

tion,”²⁰¹ space advertisements should also not be treated as a “class” because advertisements can take on many diverse forms and be utilized for a wide range of purposes. To obtain the potential benefits of commercial investment in space advertising are realized, the FAA should conduct individual assessments of proposed advertising material based on defined criteria that currently exist in the CSLA, and with a more expansive jurisdictional reach that covers all U.S. nationals involved in payload preparation, regardless of the location of their launch sites.

C. THE FUTURE OF SPACE LAW: DOMESTIC RATHER THAN INTERNATIONAL LAW

Given the lack of existing law on the subject, the question remains: What is the best way to prospectively address the legal issues surrounding advertising in space to space tourists? The answer seems to be that the space powers’ domestic legislatures must step in to fill the many lacunae in international law with on-point regulations.²⁰² Individual states, their space agencies, and their private commercial launchers have vested interests in the future of space, and so they are best positioned to implement laws that ensure the safety and sustainability of new space activities related to space tourism.²⁰³ Fortunately, the three most active space powers—the United States, Russia, and Japan—already have domestic space regimes with frameworks that can be augmented to address advertising in space.

Countries that decide to regulate space advertising must also determine the jurisdictional scope of those regulations. Although the extraterritorial application of domestic law is sometimes controversial, there is much support for the notion that the United States and similarly situated space powers can legally assert broad jurisdiction over a wide range of space activities. There are six recognized principles that can provide the basis for a state to assert jurisdiction: territoriality, nationality, effects, protective, passive personality, and universality.²⁰⁴ A state could assert effects or passive personality jurisdiction over all non-obtrusive space advertisements by claiming that any object in space may somehow cause harm in the state’s territory or that such advertisements threaten

201. 14 C.F.R. § 415.55. The FAA may also consider classes of payloads for reentry purposes. 14 C.F.R. § 431.53 (2009).

202. *See, e.g.*, LYALL & LARSEN, *supra* note 14, at 468 (“The age of formal space law treaties may have closed Many new issues that need a legal response can best be regulated by national legislation”); Mirmina, *supra* note 106, at 137–38 (“call[ing] on States to take these measures as soon as possible, rather than losing precious time debating legal issues while the debris situation continues to worsen”); *cf.* Purvis, *supra* note 102, at 456 (“While an international agreement would be the ideal means of addressing the problem, creating new U.S.[.] legislation or amending existing U.S. environmental statutes to make relevant provisions extraterritorially applicable to outer space debris issues could, by themselves, significantly reduce the growth of pollution.”).

203. *Cf.* LYALL & LARSEN, *supra* note 14, at 307–08 (arguing that relying on the self-interest of space agencies and authorities may be a better and more practical way to address space debris problems than seeking the articulation of specific rules in a formal treaty).

204. *See generally* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW OF THE UNITED STATES §§ 402 cmts. c–g, 404 (1987).

the national security of the state.²⁰⁵ But this would result in excessively broad jurisdictional claims, with every state conceivably asserting that all space material somehow poses a threat. Forcing every participant in space activities to deal with worldwide legal claims would be so impracticable and burdensome as to stifle the entire space industry.²⁰⁶

Instead, the nationality principle, which is a much more frequently asserted and internationally accepted basis for jurisdiction, would allow the space powers to deal with their nationals' attempts to place advertising payloads in outer space, regardless of who launches the payload and from where.²⁰⁷ Under international law, extraterritorial application of domestic law cannot be "unreasonable;"²⁰⁸ however, one can only assume that if it is reasonable to claim broad jurisdiction over launches and spaceports, as the United States does under the CSLA, then a similar jurisdictional scope would also be "reasonable" for payload review.²⁰⁹ Extraterritorially applied law also may not conflict with foreign law.²¹⁰ Of course, if the United States imposes a more restrictive law than does another state—for instance, by requiring that advertising payloads meet certain narrow parameters—then it would still be possible to comply with both laws: the advertiser could simply comply with the more rigorous U.S. law and would inherently also comply with the more permissive foreign law. States that do address outer space issues via domestic law, and in the process assert broad licensing jurisdiction, should not be viewed as usurping the authority of international law or imposing on the international community; rather, they should be viewed as meeting their obligations under the Outer Space Treaty's provision that:

205. If advertisements dramatically hinder astronomical research or pose a major threat to military satellites, these jurisdictional claims *might* work under the passive personality or effects principles. See RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW OF THE UNITED STATES § 402(1)(c)–(2) (1987); see also Michael Geist, *The Reality of Bytes: Regulating Economic Activity in the Age of the Internet*, 73 WASH. L. REV. 521, 573 (1998) (“[W]hen international negotiations fail to reach agreement, some countries adopt an ‘effects-based’ approach by which they assert jurisdiction over parties physically located outside their jurisdiction but whose activities are felt within the jurisdiction. United States securities and antitrust regulators have, at times, been particularly fond of this approach.”). However, many states do not recognize effects or passive personality as legitimate bases for jurisdiction. See RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW OF THE UNITED STATES § 402, cmts. d & g (1987); Purvis, *supra* note 102, at 460–61, 470.

206. In the early ages of the Internet, online activities were under limitless world-wide jurisdiction, but this hindered the expansion of online commerce by subjecting online advertisers to legal action in far too many places. See Geist, *supra* note 205, at 533–34 (citing *Inset Sys., Inc v. Instruction Set, Inc.*, 937 F. Supp. 161 (D. Conn. 1996)).

207. RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW OF THE UNITED STATES § 402(2) (1987).

208. *Id.* § 403.

209. See *supra* notes 185–97 and accompanying text for a discussion of the jurisdictional scope of the CSLA launch and spaceport licensing requirements, and the application of such jurisdiction to “launch services.”

210. See RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW OF THE UNITED STATES § 403 & cmt. e. (1987) (stating that where the laws of two states are in conflict, the state with the lesser interest should defer to the other by reinterpreting or modifying its law).

States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the Moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space . . . shall require authorization and continuing supervision by the appropriate State Party to the Treaty. When activities are carried on in outer space, including the Moon and other celestial bodies, by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States Parties to the Treaty participating in such organization.²¹¹

This imposition of “international responsibility for national activities” and the call for “continuous supervision” make it not only advisable, but *mandatory*, for states to enact domestic legislation concerning national activity in outer space, including non-governmental space activities such as the placement of advertisements in space by domestic corporations. Nothing in the Outer Space Treaty limits the number of countries with the authority—or rather, the *responsibility*—to license space activities or monitor pre-launch conduct. According to the Outer Space Treaty, in-space jurisdiction is designated to the state that maintains the launch on its registry;²¹² however, states are still responsible under Article VI for ensuring that their “national activities”—including arguably the pre-launch activities of all nationals of the state²¹³—are in compliance with the Outer Space Treaty.

Under U.S. law, extraterritorial application of domestic statutes must meet additional criteria. First, Congress must show a clear intent to legislate extraterritorial conduct, which can be discerned either from statutory language²¹⁴ or from secondary indicators including that the law’s objectives would be frustrated unless it applied outside the United States.²¹⁵ Further, Congress can generally

211. Outer Space Treaty, *supra* note 82, art. VI; *see also* Mineiro, *supra* note 131, at 777 (arguing that the CSLA’s long-arm provision removes a gap in international law where a foreign country fails to authorize or supervise activities outside its territory).

212. Outer Space Treaty, *supra* note 82, art. VIII. The party responsible for registering a launch (the “launching state”) is either the state that launches or procures the launch, or the state from whose territory the object is launched. Registration Convention, *supra* note 86, art. I(a). When multiple states qualify as a “launching state,” they must agree on which one will register the launch. *Id.* art. II(2). It is thus only at the point of registration that states must agree to give only one state jurisdiction over the launch. Neither the Outer Space Treaty nor Registration Convention limits the number of states that may impose domestic licensing requirements on “launch services.”

213. *See* Mineiro, *supra* note 131, at 767–68 (arguing that “to fulfill Article VI obligations, States . . . will need to supervise preparatory activities to ensure the planned activity will be in accordance with international law”).

214. Equal Employment Opportunity Comm’n v. Arabian Am. Oil Co., 499 U.S. 244, 248 (1991) (“[W]e look to see whether ‘language in the [relevant Act] gives any indication of a congressional purpose to extend its coverage beyond places over which the United States has sovereignty or has some measure of legislative control.’” (quoting *Foley Bros., Inc. v. Filardo*, 336 U.S. 281, 285 (1949))).

215. *United States v. Bowman*, 260 U.S. 94, 98 (1922) (stating that where limiting a law to territorial jurisdiction would “greatly . . . curtail the scope and usefulness of the statute,” Congressional intent can

only legislate with regard to geographic areas over which the United States has some control, which can include locations outside the territory of the United States.²¹⁶ This is based on the notion that potential violators should have fair warning of their legal obligations.²¹⁷ The expansion of U.S. jurisdiction to cover space advertising by nationals acting abroad would meet these requirements because the pre-launch business decisions and payload preparation would likely, at least in part, occur in the United States, and because the new law itself would provide fair warning. Conceptually, it is also “fair” to impose the costs of complying with U.S. law on U.S. entities because those entities benefit from business protections afforded by U.S. law.²¹⁸

Returning to the example of Ford Motor Company: if Ford decides to place an advertisement in outer space by putting it aboard a foreign launch company’s rocket launching from outside the United States, it would not currently be subject to U.S. licensing requirements. But the United States should assert that anything Ford Motor Company does in outer space is a “national activity” of the United States. While the on-orbit jurisdiction may belong to the “registering state,” the preparation and loading of the payload occurs pre-launch and can thus fall under U.S. jurisdiction based on the nationality principle. The space activities of Pizza Hut, LEGO, Pepsi, and Rolling Rock—all companies that have engaged in at least some sort of commercial activity in outer space, and all of which have extensive ties to the United States—should be treated as “national activities” of the United States and thus subject to U.S. licensing law governing payloads.

Russia and Japan—both major space powers, and nations that have already engaged in some forms of space advertising—also have space laws and domestic processes that could be interpreted to regulate space advertising.²¹⁹ First, both nations have created official government space agencies—the RSA²²⁰ and

be inferred from the nature of the offense prohibited by the statute); *see also* Purvis, *supra* note 102, at 464–69.

216. *See* *Envtl. Def. Fund v. Massey*, 986 F.2d 528, 533–34 (D.C. Cir. 1993) (“[W]here the U.S. has some real measure of legislative control over the region at issue, the presumption against extraterritoriality is much weaker.”).

217. *United States v. Bass*, 404 U.S. 336, 348 (1971).

218. *Cf.* *Geist*, *supra* note 205, at 556 (asserting that it is fair to impose Internet regulations on any entity that might be considered a “beneficiary of the state’s legal system inasmuch as [the entity] relies upon [the state] to enforce payment for transactions, uphold trademark rights, and maintain a pro-competitive marketplace environment”).

219. *See* The Secretariat, COPUOS, *Review of Existing National Space Legislation Illustrating How States are Implementing, as Appropriate, Their Responsibilities to Authorize and Provide Continuing Supervision of Non-governmental Entities in Outer Space*, ¶¶ 22–34, U.N. Doc. A/AC.105/C.2/L.224 (Jan. 22, 2001) (Secretariat’s review of how Japan and Russia are implementing their responsibility to authorize and supervise non-governmental entities in outer space).

220. Regulations of the Russian Space Agency, N 468, *Sobranie Zakonodatel’sstva Rossiiskoi Federatsii [SZ RF] [Russian Federation Collection of Legislation] 1995, No. 2, Item 1, translated in SPACE LAW: IV.B.RUSSIA.1-2: GOVERNMENT OF RUSSIAN FEDERATION RESOLUTION OF MAY 15, 1995, N 468, MOSCOW 1* (Paul S. Dempsey ed., Oceana Publications 2004).

the Japanese Aerospace Exploration Agency (JAXA)²²¹—and both have at least one governmental authority assigned to oversee and encourage commercial space projects.²²² For almost two decades, both countries have emphasized commercial utilization of outer space and the role of a private space industry. Russia has specifically referred to “procur[ing] commercial space equipment and . . . ensur[ing] its use,” as well as “organiz[ing] and coordinat[ing] works connected with commercial space projects and ensur[ing] their implementation,”²²³ even going so far as to legislate in 1993 that the RSA has authority to hold space competitions similar to the Google Lunar X PRIZE.²²⁴ Overall, Russian law demonstrates that the country has embraced the commercialization of outer space and the potential revenue it might generate.²²⁵ Japanese law has similarly acknowledged the international trend towards a “growing important

221. Law Concerning Japanese Aerospace Exploration Agency, Law No. 161 of Dec. 13, 2002, art. 1, *translated in* SPACE LAW: IV.B.JAPAN.1-2: LAW CONCERNING JAPAN AEROSPACE EXPLORATION AGENCY 1 (Paul S. Dempsey ed., Oceana Publications 2005).

222. Regulations of the Russian Space Agency, N 468, *Sobranie Zakonodatel'stva Rossiiskoi Federatsii* [SZ RF] [Russian Federation Collection of Legislation] 1995, No. 2, Items 3, 5, *translated in* SPACE LAW: IV.B.RUSSIA.1-2: GOVERNMENT OF RUSSIAN FEDERATION RESOLUTION OF MAY 15, 1995, N 468, MOSCOW 1 (Paul S. Dempsey ed., Oceana Publications 2004), (“The main tasks of the Russian Space Agency are: . . . organization and coordination of works on commercial space projects and assistance in their accomplishment . . . [and] issuing licenses for conducting space activities.”); Law Concerning Japanese Aerospace Exploration Agency, Law No. 161 of Dec. 13, 2002, arts. 18(6), 26(3)–(4), *translated in* SPACE LAW: IV.B.JAPAN.1-2: LAW CONCERNING JAPAN AEROSPACE EXPLORATION AGENCY 1 (Paul S. Dempsey ed., Oceana Publications 2005) (delegating regulatory authorities to the Ministry of Education, Culture, Sports, Science, and Technology (MEXT)); Basic Space Law, Act No. 43/2008 of Aug. 27, 2008, art. 16, *translated in* SPACE LAW: BASIC LEGAL DOCUMENTS: E.VI.1: BASIC SPACE LAW 1 (Karl-Heine Böckstiegel et al. eds., Eleven International Publishing 2009) (promoting space development by private operators); K. Tatsuzawa, *Space Commercialisation Law and Policy in Japan*, ECSL NEWS (European Centre for Space Law, Paris, France), May 1996, *available at* <http://esa.int/esapub/ecsl/ecsl16.pdf>.

223. Law on Space Activity of Aug. 20, 1993, No. 5663-1, art. 6, *amended by* Federal laws No. 15-FZ of Jan. 1, 2003, No. 8-FZ of Mar. 5, 2004, No. 122-FZ of Aug. 22 of 2004, No. 19-FZ of Feb. 2, 2004, No. 231-FZ of Dec. 18, 2004, *translated in* SPACE LAW: BASIC LEGAL DOCUMENTS: E. IV.1: BASIC SPACE LAW 1 (Karl-Heine Böckstiegel et al. eds., Eleven International Publishing 2009).

224. *See* About Space Activity, *Sobranie Aktov Prezidenta i Pravitelstva Rossiiskoi Federatsii* [SAPP] [Collection of Acts of the President and Government of the Russian Federation] 1993, No. 5663-1, art. 8(3), *translated in* SPACE LAW: IV.B.RUSSIA.1-7: LAW OF THE RUSSIAN FEDERATION “ABOUT SPACE ACTIVITY”, DECREE NO. 5663-1 OF THE RUSSIAN HOUSE OF SOVIETS 7 (Paul S. Dempsey ed., Oceana Publications 2004).

225. *See, e.g.*, Regulations of the Russian Space Agency, N 468, *Sobranie Zakonodatel'stva Rossiiskoi Federatsii* [SZ RF] [Russian Federation Collection of Legislation] 1995, No. 2, Item 4, *translated in* SPACE LAW: IV.B.RUSSIA.1-2: GOVERNMENT OF RUSSIAN FEDERATION RESOLUTION OF MAY 15, 1995, N 468, MOSCOW 3–7 (Paul S. Dempsey ed., Oceana Publications 2004) (listing the tasks of the RSA, including the “elaboration and implementation of privatization program, in stimulating entrepreneurial activities and competition”); On Commercial Space Activity, *Sobranie Zakonodatel'stva Rossiiskoi Federatsii* [SZ RF] [Russian Federation Collection of Legislation] 1997, No. 5663-1, arts. 3, 9(1), *translated in* SPACE LAW: IV.B.RUSSIA.1-7.5: FEDERAL LAW ON COMMERCIAL SPACE ACTIVITY, APRIL 1997 1–2, 5 (Paul S. Dempsey ed., Oceana Publications 2004) (discussing aims and state support of commercial space activity).

role of the private sector for future space development,”²²⁶ and has expressed interest in Japan’s participation, including “spend[ing] efforts to secure necessary financial resources through proper burden sharing with the private sector.”²²⁷ Again, Japanese law is clear about Japan’s hope to compete with comparable spacefaring nations in exploiting technological advances for the economic gain associated with private commercialization of space.²²⁸

Like the United States, these countries both have licensing and approval procedures to ensure that space activities are only undertaken for certain purposes and are in compliance with domestic and international law.²²⁹ These systems provide legal frameworks necessary for their governments to address space advertising, so depending on how Russia and Japan interpret existing laws, they could conceivably regulate such activity without passing new legislation. For instance, Russian law requires that, “Space activity shall be carried out in conformity with the following principles: . . . [p]rovide safety of space activity and protection of the environment,”²³⁰ and that “Space technology, including space objects . . . shall be checked for the compliance with the requirements establish[ed] by the legislation of Russian Federation (certification).”²³¹ If advertisements are deemed unsafe, a threat to the environment, or otherwise not in compliance with Russian law (including licensing requirements), then they could be heavily regulated or even banned. Under Japanese law, a launch might be punishable by a fine of ¥200,000 if not approved by the Ministry of Education, Culture, Sports, Science, and Technology (MEXT) *or* if

226. Fundamental Policy of Japan’s Space Activities, Space Activities Commission, revised Jan. 24, 1996, Preface, Ch. 3, ¶ 8, *translated at* MINISTRY OF EDUCATION, CULTURE, SPORTS, SCIENCE, AND TECHNOLOGY (MEXT), <http://www.mext.go.jp/english/kaihatu/aerosp01.htm#top> (“The US and Russia are now turning their emphasis in space development from military projects and matters of national prestige to cost/benefit contexts and high technology development by converting space technology from military use to commercial applications. . . . In light of the growing important role of the private sector for future space development, R & D activities and research personnel in the private sector is [sic] expected to be strengthened to upgrade its technological capacity . . .”).

227. *Id.* Ch. 6-5.

228. *Cf.* Tatsuzawa, *supra* note 222.

229. On Commercial Space Activity, *Sobranie Zakonodatel’sstva Rossiiskoi Federatsii [SZ RF]* [Russian Federation Collection of Legislation] 1997, No. 5663-1, art. 10, *translated in* SPACE LAW: IV.B.RUSSIA.1-7.5: FEDERAL LAW ON COMMERCIAL SPACE ACTIVITY, APRIL 1997 5 (Paul S. Dempsey ed., Oceana Publications 2004) (“Commercial space activity shall be licensed in accordance with the legislation of the Russian Federation.”); Statute on Licensing of Space Activity, *Sobranie Zakonodatel’sstva Rossiiskoi Federatsii [SZ RF]* [Russian Federation Collection of Legislation], 2006, art. 1, *translated in* SPACE LAW: BASIC LEGAL DOCUMENTS: E. IV.2: BASIC SPACE LAW 1 (Karl-Heine Böckstiegel et al. eds., Eleven International Publishing 2009); Law Concerning Japanese Aerospace Exploration Agency, Law No. 161 of Dec. 13, 2002, art. 31, *translated in* SPACE LAW: IV.B.JAPAN.1-2: LAW CONCERNING JAPAN AEROSPACE EXPLORATION AGENCY 11 (Paul S. Dempsey ed., Oceana Publications 2005) (imposing a large fine for engaging in space activities not approved by MEXT).

230. Statute on Licensing of Space Activity, *Sobranie Zakonodatel’sstva Rossiiskoi Federatsii [SZ RF]* [Russian Federation Collection of Legislation], 2006, art. 4(1), *translated in* SPACE LAW: BASIC LEGAL DOCUMENTS: E. IV.2: BASIC SPACE LAW 1 (Karl-Heine Böckstiegel et al. eds., Eleven International Publishing 2009)

231. *Id.* art. 10(1). Depending on how the RSA interprets “space objects,” the certification requirements may apply to Russian-launched payloads, as well. *Id.* art. 17.

outside the scope of permissible activities under Article 18 of the Law Concerning Japanese Aerospace Exploration Agency.²³² Placing an advertisement in space is almost certainly outside the scope of activities approved in Article 18(1)–(8), which primarily sanctions research;²³³ whether a fine would be imposed depends on the interpretation of Article 18(9): “Activities incidental to those stipulated in each of the foregoing.”²³⁴ If advertising is not “incidental” to Article 18(1)–(8) research activities, then a fine can be imposed on any JAXA executive who participates in advertising. Several other provisions in Japanese space policy might also be interpreted as bases for regulating space advertising.²³⁵ It may not be likely or ideal that Russia or Japan interpret their laws to limit space advertising, but both nations—two countries that have consistently exploited space for commercial purposes—have in place domestic laws that could be construed to apply to advertising in outer space.

In the countries discussed above—the United States, Russia, and Japan—expansion or reinterpretation of domestic space law would still allow for any new international law to be incorporated into existing domestic frameworks.²³⁶ International law does not yet address significant space issues, so it is necessary for states to adapt domestic licensing procedures to cover the full range of “national activities in outer space.”²³⁷ Only when the major space powers overcome their fears relating to space militarization and agree to supplement the existing regime with on-point domestic laws—such as laws that increase monitoring of launch services, including payload preparation—will space law adequately address commercial issues like space advertising.

232. See Law Concerning Japanese Aerospace Exploration Agency, Law No. 161 of Dec. 13, 2002, art. 31, *translated in* SPACE LAW: IV.B.JAPAN.1-2: LAW CONCERNING JAPAN AEROSPACE EXPLORATION AGENCY 11 (Paul S. Dempsey ed., Oceana Publications 2005).

233. See *id.* art. 18(1)–(8).

234. See *id.* art. 18(9).

235. Fundamental Policy of Japan’s Space Activities, Space Activities Commission, revised Jan. 24, 1996, Ch. 1-1, ¶ 7, Ch. 5, *translated at* MINISTRY OF EDUCATION, CULTURE, SPORTS, SCIENCE, AND TECHNOLOGY, <http://www.mext.go.jp/english/kaihatu/aerosp01.htm#top> (prioritizing preservation of space environment “by avoiding the production of more space debris through future space activities”); see also *id.* Ch. 5 (implementing environmental policy and regulatory limits for the private space industry).

236. In fact, in the United States, CSLA requires such incorporation of international law because in executing the CSLA, the Secretary of Transportation is required to consult with the Secretary of State on matters of foreign policy, as well as carry out CSLA obligations consistent with treaties and with consideration for the law of foreign countries. 49 U.S.C. §§ 70116(b), 70117(e) (2006). Russian law similarly says that, “In accordance with the assumed tasks[,] the Russian Space Agency: . . . ensures the realization of international obligations of the Russian Federation in the field of space activity” Regulations of the Russian Space Agency, N 468, *Sobranie Zakonodatel’sstva Rossiiskoi Federatsii* [SZ RF] [Russian Federation Collection of Legislation] 1995, No. 2, Item 4, *translated in* SPACE LAW: IV.B.RUSSIA.1-2: GOVERNMENT OF RUSSIAN FEDERATION RESOLUTION OF MAY 15, 1995, N 468, MOSCOW 3–7 (Paul S. Dempsey ed., Oceana Publications 2004). The same is true in Japan, where the law states that, “For proper and smooth implementation of space activities at the international level, we will promote further advances in international areas like space treaties.” Fundamental Policy of Japan’s Space Activities, *supra* note 226, Ch. 4, Ch. 6-6; see also *id.* at Preface (calling for “international cooperation”).

237. Outer Space Treaty, *supra* note 82, art. IV.

III. ANALOGOUS LAW THAT MAY BE APPLIED TO SPACE ADVERTISING

When attempting to craft law to address new forms of commercial activity, it can be useful to analogize to more familiar areas. This occurred when scholars began discussing the law that would govern the Internet, and it has been the most common way of approaching the law of outer space.²³⁸ Even President Eisenhower, when introducing to the nation his vision for the future of outer space, analogized to Antarctica.²³⁹ Ideally, a new area of law eventually evolves to account for the distinct “nature and quality of the activity taking place.”²⁴⁰ Although this transition occurred relatively quickly with Internet law,²⁴¹ in the outer space context, analogies still dominate. The final part of this Note will attempt to synthesize valuable points from laws of three analogous areas—Antarctica, the Internet, and national parks—while still accounting for the unique need for advertising in outer space as a means to attract and utilize private commercial investment in space endeavors.

A. ANTARCTICA

Antarctica is currently commercializing in ways that many fear will eventually take place in outer space. Tourism in Antarctica skyrocketed from approximately 7,000 tourists in 1996–1997 to approximately 29,000 a decade later (2006–2007)²⁴² and peaking at 46,000 in 2007–2008.²⁴³ This poses an enormous threat to the Antarctic environment, especially given the range of outdoor recreational activities that are now offered to tourists on their trips²⁴⁴ and the

238. See, e.g., LYALL & LARSEN, *supra* note 14, at 524, 546–47; M.J. Peterson, *The Use of Analogies in Developing Outer Space Law*, 51 INT’L ORG. 245 (1997) (discussing historical analogies to space law, including the high seas and Antarctica); Tannenwald, *supra* note 89, at 395 (analogizing the current outer space legal regime to ocean law prior to 1982).

239. Eisenhower’s General Assembly Address, *supra* note 119 (“The nations of the world have recently united in declaring the continent of Antarctica ‘off limits’ to military preparations. We could extend this principle to an even more important sphere . . . space.”).

240. Geist, *supra* note 205, at 525.

241. *Id.*

242. See INTERNATIONAL ASSOCIATION OF ANTARCTICA TOUR OPERATORS (IAATO), TOURISTS LANDINGS IN ANTARCTICA—TRENDS 1992–2009 (Mar. 14, 2008), http://www.iaato.org/tourism_stats.html (under 2007–2008 statistics).

243. See IAATO, 2007–2008 TOURISM SUMMARY (Aug. 21, 2008), http://image.zenn.net/REPLACE/CLIENT/1000037/1000116/application/pdf/tourism_summary_byexpedition0.pdf. The number of tourists unexpectedly declined to 38,000 in 2008–2009, and only 37,000 are anticipated in 2009–2010. See IAATO, *IAATO Overview of Antarctica Tourism: 2008–2009 Antarctic Season and Preliminary Estimates for 2009–2010 Antarctic Season*, at 3, ATCM 11/IP 86 rev.2 (Sept. 15, 2009), available at <http://image.zenn.net/REPLACE/CLIENT/1000037/1000115/application/pdf/ATCM32-IP086-REV2IAATO Overview14Sep09.pdf> (prepared for the 2009 Antarctic Treaty Consultative Meeting); see also R. Tucker Scully, *Chairman’s Report from the Miami Meeting on Antarctic Tourism*, at 7, ATCM XXXI/IP 19 (Mar. 17–19, 2008), available at http://image.zenn.net/REPLACE/CLIENT/1000037/1000115/application/pdf/Atcm31_ip019_eiaatochairmans1.pdf (prepared for the 2008 Antarctic Treaty Consultative Meeting) (discussing the components of Antarctic tourism and their likely impact on the continent).

244. See Kees Bastmeijer & Ricardo Roura, *Regulating Antarctic Tourism and the Precautionary Principle*, 98 AM. J. INT’L L. 763, 763–65 (2004) (describing helicopter excursions, skiing expeditions, mountain climbing, snowboarding, kayaking, marathons, and scuba diving all as part of “nature-based

increasing number of tourism-related vessel accidents that have resulted in severe environmental harm.²⁴⁵

In the context of advertising, however, Antarctica and outer space are very different in three key ways. First, as a fundamental legal matter, the Antarctic Treaty allows states to maintain claims to territorial sovereignty that predate the Treaty.²⁴⁶ Thus, if a state wished to allow advertising on its own sovereign territory, the Antarctic Treaty would be silent; in contrast, the Outer Space Treaty recognizes no such sovereignty over any part of outer space.²⁴⁷ Of course, this has not been a significant issue in Antarctica primarily because of the second major difference between the Antarctic and outer space: unlike outer space, Antarctica is not typically thought of as new, exciting, or cutting-edge, so there has been far less, if any, interest in using Antarctica for advertising purposes.²⁴⁸ According to marketing executive Kevin Roberts:

We have never recommended to a client that they consider association with the idea of Antarctica in an advertising campaign. The reason is that the vast majority of people in the world don't care about Antarctica. In fact, they don't know about it. . . . To most people Antarctica is a cold, distant, bleak place with penguins. The glaring fact is that there is little or nothing to encourage a company to utilise Antarctica in its advertising.²⁴⁹

tourism"); *see also* Press Release, The Antarctic and Southern Ocean Coalition (ASOC), Antarctic Treaty Parties Duck Tourism Challenges (June 13, 2008) [hereinafter ASOC Press Release] (on file with author) (noting that "[t]ourism in Antarctica over the past decade has been characterized by steep annual increases, diversification, and geographic expansion."); Mark Rowe, *Tourism 'Threatens Antarctic': Rising Number of Visitors Is a Danger to the Welfare of Birds, Say Conservationists*, THE DAILY TELEGRAPH (London), Feb. 11, 2006, at Travel 4 (Antarctic wildlife colonies are "overwhelmed by the growing number of visitors.").

Aside from typical vacation activities, there are also downright strange projects that people are attempting in Antarctica, all of which threaten the environmental integrity of the continent—including building a seven-meter-tall bronze statue "aimed to inform future species" about humanity by enclosing hair samples and microchips containing "human data of individuals." Antje Neumann & Thomas Bunge, *New Challenges Pose New Management Problems: The Permanent Installation of a Bronze Sculpture*, 36 ENVTL POL'Y & L. 158, 160 (2006).

245. *New Limits to Antarctic Tourism*, BBC.COM (Apr. 18, 2009), <http://news.bbc.co.uk/2/hi/science/nature/8005467.stm> (discussing two cruise ships' running aground in 2008–2009 and the high profile sinking of the *M/S Explorer* in November, 2007).

246. Antarctic Treaty, art. IV(1), Dec. 1, 1959, 12 U.S.T. 794, 402 U.N.T.S. 71. However, those territorial claims may never be expanded. *Id.* art. IV(2).

247. Outer Space Treaty, *supra* note 82, art. II.

248. Roberts, *supra* note 5.

249. *Id.* Roberts actually contends that saving Antarctica from the environmental degradation that comes with tourism will require activists to begin marketing the continent itself by "brand[ing] Antarctica, and then mak[ing] as many people as possible aware of it." *Id.* And to make Antarctica more appealing to people, Roberts says, it should be "marketed" as being interesting, like outer space—full of mystery, infinite possibility, opportunity for discovery, and the like. *Id.* ("[M]ost people see Antarctica as another planet. And there lies the answer. Antarctica must be marketed like space has been. Antarctica is a lot like space—inhabitable, distant, vast, cold, lifeless, lonely. But space is one of the most marketable concepts around.").

With tourism to Antarctica booming, especially in the last decade, there may be a push in the coming years to advertise more in Antarctica; however, it seems unlikely that Antarctica will ever garner the same level of scientific, cultural, or commercial attention as outer space.²⁵⁰ Finally, unlike the emerging space tourism industry, the Antarctica tourism industry is heavily self-regulated by the International Association of Antarctica Tour Operators (IAATO).²⁵¹ The fact that IAATO is “capable of taking self-regulatory initiatives” is often used as a justification for the international community to “postpon[e]” discussions on how to actually regulate the Antarctic tourism industry.²⁵² Although Antarctica and outer space may be similar in that both are becoming unique tourist destinations, the analogy is imperfect, especially as it applies to advertising.

These differences between Antarctica and outer space should not overshadow the fact that the legal structures that govern the two are quite similar. First, there is a seminal treaty—the Antarctic Treaty²⁵³—which, like the Outer Space Treaty, is the primary piece of international law on the area that it governs. Both treaties contain many of the same basic principles, such as peaceful usage and international cooperation.²⁵⁴ Complex issues of unresolved sovereignty claims, environmental preservation, financial liability, and private commercial activity pose similar challenges in Antarctica as in outer space.²⁵⁵ And as with outer space, almost the entire geographical area covered by the Antarctic Treaty may legally be visited by tourists.²⁵⁶ In fact, the parties to the treaty “consider tourism in Antarctica to be legitimate ‘use,’” and “[a]lthough tourism does not belong to the same category as the activities at the core of the Antarctic Treaty and the [Antarctic-Environmental P]rotocol . . . the total prohibition of tourism in the Antarctic has never been discussed.”²⁵⁷

Unfortunately for those who support stricter law in Antarctica, the Antarctic

250. *Cf.*, e.g., Background Paper by the International Astronomical Union, *supra* note 8, ¶ 3 (discussing the historical significance of astronomy, saying, “Astronomy is one of the oldest fascinations of the human mind”); Roberts, *supra* note 5 (“To a trekkie generation weaned on Star Wars the concept of aliens doesn’t seem too [far-fetched]. Space is infinite and therefore contains every possibility. Space is a blank canvas for the imagination.”); List of Films About Outer Space, http://en.wikipedia.org/wiki/List_of_films_about_outer_space (last visited Apr. 1, 2010) (listing many of the most famous and successful films of all time, including 2001: A Space Odyssey, Apollo 13, Alien, E.T., Independence Day, Star Trek, and Star Wars). *But see*, e.g., Cha, *supra* note 9 (challenging the notion that outer space really is “fun” or “exciting,” and instead asserting that it is simply dangerous).

251. *See generally*, IAATO, <http://www.iaato.org> (last visited Apr. 1, 2010) (providing industry “Guidelines & Resources” and “Operational Procedures”).

252. Bastmeijer & Roura, *supra* note 244, at 774.

253. Antarctic Treaty, *supra* note 246.

254. As is the case with outer space, Antarctica is to be used for peaceful purposes. *Id.* at pmbll., art. I. There is a protected freedom of scientific investigation and an exchange of personnel and information to encourage cooperation. *Id.* arts. II–III.

255. *See*, e.g., Bastmeijer & Roura, *supra* note 244, at 779–80 (lack of a jurisdictional scheme in the Antarctic Treaty will test its effectiveness as international law).

256. *See id.* at 769. The few off-limit areas of Antarctica can best be analogized to orbital positions that are already in use by other parties, and thus are also not accessible to new commercial users.

257. *Id.* at 774.

treaty regime suffers from the same major defects that are endemic to the outer space treaty regime.²⁵⁸ As is too often the case, important issues like tourism are addressed only through the submission of papers and cursory discussions with no consideration of actual binding law,²⁵⁹ and slow decision making has resulted in a regulatory framework lagging far behind the tourism industry.²⁶⁰ States actually did reach international consensus in 1991 on the Protocol on Environmental Protection to the Antarctic Treaty,²⁶¹ and more recently, in April 2009, in response to several large shipping accidents and at the behest of the United States,²⁶² the twenty-eight Antarctic Treaty Consultative Parties agreed in principle to restrictions on Antarctic tourism, including limits on tourist ships' capacity, the number of ships at a landing site at any given time, and the number of tourists allowed ashore from each vessel.²⁶³ However, pursuant to Article IX of the Antarctica Treaty, the provisions of the agreement will not go into effect until all twenty-eight Consultative Parties approve them through domestic ratification processes; to date, only Japan has done so.²⁶⁴ And even

258. See *supra* section II.A.

259. Bastmeijer & Roura, *supra* note 244, at 774. It is even considered an accomplishment to discuss the issue on an annual basis, but ultimately "not take a decision on [the tourism] issue." *Id.* at 775.

260. *Id.* at 776; see also *New Limits to Antarctic Tourism*, *supra* note 245 (discussing an April 2009 convention to limit the size of cruise ships to Antarctica, but which has not been ratified as necessary by the 28 parties to the Antarctic Convention and contains no enforcement mechanisms besides calling for domestic implementation).

261. Protocol on Environmental Protection to the Antarctic Treaty, Oct. 4, 1991, 30 I.L.M. 1455 [hereinafter Madrid Protocol]. The Protocol designates Antarctica a "natural reserve, devoted to peace and science," *id.* art. 2, and requires that activities be "planned and conducted so as to limit adverse impacts on the Antarctic environment and dependent and associated ecosystems." *Id.* art. 3(2)(a). It prohibits activities that cause the "degradation of, or substantial risk to, areas of biological, scientific, historic, aesthetic or wilderness significance." *Id.* art. (3)(2)(b)(vi). Commercial non-governmental activity (including tourism) is permitted, but such activities can be modified, suspended, or canceled if they pose a threat to the Antarctic environment or ecosystems. *Id.* art. 3(4). Finally the Protocol establishes an Environmental Impact Assessment procedure. *Id.* art. 8, annex I. For details on implementation of the Protocol, see generally Neumann & Bunge, *supra* note 244.

The United States has implemented portions of the Protocol via domestic legislation. Antarctic Science, Tourism, and Conservation Act of 1996, Pub. L. No. 104-227, 110 Stat. 3034 (codified at 16 U.S.C. §§ 2401-2405 and scattered sections of 16 and 33 U.S.C.).

262. See Ian Austen, *Misgivings Arise Along With Antarctic Tourism*, N.Y. TIMES, Nov. 26, 2007, at A3; Michelle Higgins, *Is Antarctica Getting Too Popular?*, N.Y. TIMES, Mar. 22, 2009, at Travel 3; Press Release, U.S. Dep't. of State, The 32nd Antarctic Treaty Consultative Meeting Concludes in Baltimore, Maryland (Apr. 23, 2009), available at <http://www.state.gov/t/pa/prs/ps/2009/04/122103.htm> (noting Secretary of State Hillary Clinton's role in initiating the discussion on the issue).

263. Antarctic Treaty Consultative Meeting, *Final Report of the Thirty-Second Antarctic Treaty Consultative Meeting*, ATCM XXXII – CEP XII, Measure 15 (Apr. 17, 2009) [hereinafter 2009 ATCM Tourism Limits], available at http://www.ats.aq/Atcm/atcm28/fr/atc28_fr001_e.doc (limiting vessels to 500 passengers, landing sites to one vessel at a time, and tourists ashore to 100 from each vessel; requiring 1:20 guide-to-passenger ratio). IAATO also supported the regulations. Paula Alvarado, *Tourism to Antarctica To Be Finally Restricted*, TREEHUGGER.COM, Apr. 22, 2009, <http://www.treehugger.com/files/2009/04/tourism-to-antarctica-to-be-finally-restricted.php>.

264. See Measure 15, ATCM XXXII – CEP XII (2009) Approval Details, http://www.ats.aq/devAS/ats_meetings_meeting_measure.aspx?lang=e (Follow "View Approval Details" hyperlink) (last visited Mar. 2, 2010).

after it is ratified, the agreement contains no enforcement mechanisms.²⁶⁵

The apparent preference of national governments for slow-moving procedures and toothless international agreements has allowed IAATO to assume tremendous unchecked power over commercial activities in Antarctica, despite the obvious self-interest of IAATO members.²⁶⁶ Although IAATO fills many of the voids left by states, the industry appears willing to relinquish some of that power, should states be willing to create binding law;²⁶⁷ however, IAATO has generally been unable to move relevant international bodies to take significant action on tourism-related issues.²⁶⁸ It remains to be seen whether the Consultative Parties' new limits or any other international agreements—like a proposed U.N. International Maritime Organization (IMO) ban on heavy oil in Antarctic waters²⁶⁹—will have any real effect, or whether the tourism industry will maintain control over commercial activity in the area. Either way, the international law approach to Antarctica is in many ways similar to international space law, and so in both areas there is a pressing need for the countries active in the area to pass domestic legislation that implements and gives effect to international agreements.²⁷⁰

Despite the flaws in the Antarctic Treaty regime, there are some valuable principles that have applied to Antarctica that might be adopted to address commercial activity in outer space. First, the spacefaring states could attempt to move towards a system more like the one controlling Antarctica in that not every state in the world gets to participate in decision making relating to Antarctica. Under the Antarctic Treaty, “[e]ach Contracting Party . . . shall be

265. See 2009 ATCM Tourism Limits, *supra* note 263; *New Limits to Antarctic Tourism*, THAIINDIAN NEWS, Apr. 18, 2009, http://www.thaindian.com/newsportal/environment/new-limits-to-antarctic-tourism_100181447.html.

266. See Bastmeijer & Roura, *supra* note 244 at 777 (“[W]hatever the industry’s demonstrable concerns as regards minimizing environmental damage, plainly tour operators have to operate profitably in Antarctica.”).

267. IAATO, *supra* note 242, at 3, 6.

268. In 2008, the Antarctic tourism industry was able to make “a modest but useful start” on some of the most important issues relating to its business, but tourism has been a concern since 1991 with little progress made by anyone other than the industry itself. IAATO, *supra* note 242, at 3, 11. In an effort to build on the progress of its industry meeting, IAATO submitted an Information Paper summarizing the meeting to the 31st Antarctic Treaty Consultative Meeting in Kyiv, Ukraine. *Id.* at 11. However, even with this encouragement from the industry, no significant international law or agreements were reached in Kyiv. ASOC Press Release, *supra* note 244 (“ASOC is very disappointed that the Antarctic Treaty governments were unable to reach consensus on even a single step to reign in rapidly expanding tourism in the Antarctic Treaty Area.”).

269. Ray Lilley, *Antarctic Nations Plan Tough New Shipping Controls*, PHYSORG.COM, Dec. 12, 2009, <http://www.physorg.com/news179857758.html>. A proposed ban on heavy oil in Antarctic waters is scheduled for a March 2010 vote by the IMO and would take effect in 2011. *Id.* Because of the high cost of lighter fuel options, the ban would likely force larger cruise ships out of the area. *Id.*

270. See Austen, *supra* note 262 (“[T]ourism in Antarctica will only be effectively controlled if nations like Canada are willing to enforce rules on companies based in their territory such as G.A.P., whose ships are registered elsewhere under flags of convenience.”); see also Bastmeijer & Roura, *supra* note 244, at 777–79 (“The Antarctic Treaty Parties should be aware of the possible limitations of self-regulation, particularly in the long term.”).

entitled to appoint representatives to participate in [consultative] meetings . . . during such time as the Contracting Party demonstrates its interest in Antarctica by conducting substantial scientific research activity there.”²⁷¹ One serious obstacle to forming new space law is that the consensus approach requires states active in outer space to negotiate with states that will likely never have space capabilities.²⁷² Limiting decision making to the actual “players” in space would drastically increase the efficiency of international discussions, as well as increase the likelihood of reaching agreements. This aspect of Antarctic law would be a welcome change to the outer space regime.

Furthermore, the Antarctic Treaty allows for all participants in Article IX meetings—those states that conduct “substantial research activities”—to designate observers and carry out inspections with free access to all areas of Antarctica, including aircrafts and ships bringing cargo to the continent.²⁷³ In conjunction with the right to inspect is the Treaty’s call for parties to “undertake[] to exert appropriate efforts, consistent with the [U.N. Charter], to the end that no one engages in any activity in Antarctica contrary to the principles or purposes of the present Treaty.”²⁷⁴ By requiring states to “exert appropriate efforts,” the Antarctic Treaty may be interpreted as calling for state-to-state regulation. Applying the principles of these Antarctic Treaty articles to outer space may result in the outcome endorsed by this Note: major space powers claiming expansive jurisdiction to inspect and license advertising payloads being launched domestically *or abroad*. Such state-to-state inspection and enforcement should be appealing to states that want to monitor outer space in the absence of a formal international regulatory regime.

Finally, scholars assert that implicit in states’ compliance with the Antarctic Treaty is the Precautionary Principle,²⁷⁵ which dictates that “States and their nationals conducting activities relating to natural resources must use extra caution when the result or outcome of the activity is uncertain.”²⁷⁶ Outer space scholars have already asserted that the Precautionary Principle should be adopted into outer space law for two primary reasons: first, because the Outer Space Treaty was significantly influenced by the Antarctic Treaty,²⁷⁷ and second, because Antarctica and outer space share many basic characteristics, including their potential value to the scientific community and increasing use by industries that threaten to cause cumulative impacts to their natural environments.²⁷⁸

271. Antarctic Treaty, *supra* note 246, art. IX(2).

272. For a discussion of “common interest of all mankind” and “for the benefit of all peoples,” see *supra* notes 88–90 and accompanying text.

273. Antarctic Treaty, *supra* note 246, art. VII.

274. *Id.* art X.

275. See, e.g., Bastmeijer & Roura, *supra* note 244.

276. Paul B. Larsen, *Application of the Precautionary Principle to the Moon*, 71 J. AIR L. & COM. 295, 296 (2006).

277. *Id.* at 297.

278. See LYALL & LARSEN, *supra* note 14, at 280; Bastmeijer & Roura, *supra* note 244, at 766, 772–74; Larsen, *supra* note 276, at 298–304; Tan, *supra* note 89, at 179. “Cumulative impacts” are

Although the textual bases for applying the Precautionary Principle in Antarctica are not totally compelling,²⁷⁹ there is nevertheless good reason to consider an approach to outer space whereby “the Precautionary Principle is not absolute and does not prohibit activities on the Moon [or in space, generally, but] it may find certain risks unacceptable . . . [and] may lead to more thorough planning that includes the short and long-term effects of activities in space.”²⁸⁰ Overall, to the extent that application of the Precautionary Principle means that states will be expected to take responsibility for their nationals’ activities in space and monitor all potential risks and ramifications, it is advisable to apply the Principle to advertising in outer space. However, there also must be some acknowledgment of a significant difference between Antarctica and outer space: to access and utilize outer space at all, there must be significant financial investment, so more commercial activity should be permitted in connection with launching private spacecraft than might be necessary to send a boat to Antarctica. It is therefore dangerous simply to assert that, “If the Precautionary Principle can be applied to Antarctica, then it can also apply to the Moon,”²⁸¹ without also recognizing the need to accept greater risks of commercial activity in space that come with investors who provide the funds for, and reap the rewards of, getting into space at all. Additionally, if the Precautionary Principle is to be applied in any effective manner, it “would be mainly accomplished unilaterally by the States who are responsible for assuring that national activities are carried out in conformity with international law [because] States Parties retain jurisdiction and control.”²⁸² In codifying the Precautionary Principle in domestic law, states would need to balance the benefits and the risks of space advertising, but at least in theory, the Principle could contribute to a more robust

defined as “the results of additive and aggregative actions producing impacts that accumulate incrementally or synergistically over time and space’[;] . . . the impact of combined past, present, and reasonably foreseeable future activities.” They can include “the incremental effects of the crowding of activities in time or space; effects occurring after a time lag or away from the causal activity; . . . and ‘nibbling’ effects of numerous small impacts.” Bastmeijer & Roura, *supra* note 244, at 766–67 (internal quotation marks omitted).

279. The argument favoring the Precautionary Principle in Antarctica is based on the fact that the parties are required by the Antarctic Treaty to hold consultative meetings while implementing the Treaty, and because “[a]pplication of the [precautionary] principle would be consistent with the proactive approach of the Antarctic Treaty System.” Bastmeijer & Roura, *supra* note 244, at 772. While the Precautionary Principle is *compatible* with the Antarctic Treaty, it does not follow that the Treaty actually *requires or implicitly incorporates* the Precautionary Principle. In fact, the Treaty itself only explicitly discusses environmental preservation in the context that the parties are required to meet, “for the purpose of exchanging information, consulting together on matters of common interest pertaining to Antarctica, and formulating and considering, and recommending to their Governments, measures in furtherance of the principles and objectives of the Treaty, including measures regarding: . . . preservation and conservation of living resources in Antarctica.” Antarctic Treaty, *supra* note 246, art. IX(1)(f).

280. Larsen, *supra* note 276, at 303. Supporters of the Precautionary Principle’s application in Antarctica describe the Principle as similarly flexible, calling for it to function not as an “absolute norm,” but simply as a way to ensure that “‘uncertainties’ about the impacts of an activity . . . are weighed.” Bastmeijer & Roura, *supra* note 244, at 773.

281. Larsen, *supra* note 276, at 306.

282. *Id.* at 304.

space law structure than currently exists.

Ultimately, the analogy between Antarctica and outer space is not perfect because of how much greater the commercial appeal of space is compared to Antarctica. Still, there are several aspects of the Antarctic Treaty regime—the limited number of consultative parties, the inspection and oversight authority, and the application of the Precautionary Principle—that might help shape future space law. And as with outer space, the international legal regime governing Antarctica provides an example of an international legal structure that requires member states to enact domestic law to fill the gaps relating to commercial activity.²⁸³

B. THE INTERNET

Over the last two decades, the Internet has become an incredibly pervasive medium through which advertisers reach massive audiences.²⁸⁴ Because of similarities between the Internet and outer space, the two are often analogized,²⁸⁵ but for several reasons, the analogy is far from perfect as it applies to advertising. First, advertising on the Internet is virtually costless, whereas advertising in outer space would require greater investment.²⁸⁶ It is also substantially more difficult for governments to regulate the Internet—which allows for private, easily accessible, and anonymous activity²⁸⁷—as opposed to outer space—which involves public, easily detectable, identifiable launches. Because licensing all Internet activities is impossible, law enforcement is necessarily after-the-fact: investigations into which of the billions of Internet users committed an offense, followed by prosecution for that crime. In the United States, the law governing unsolicited bulk e-mail advertising (spam) is the Controlling the Assault of Non-Solicited Pornography and Marketing Act of 2003 (CAN-SPAM Act).²⁸⁸ The CAN-SPAM Act first prohibits “predatory and abusive” commer-

283. Neumann & Bunge, *supra* note 244, at 161 (“These types of [commercial] activities [in Antarctica] are no longer hypothetical considerations but realistic cases which have to be dealt with by domestic competent authorities.”).

284. *See, e.g.*, Verne Kopytoff, *Google’s Ad Targeting Goes Behavioral*, S.F. GATE, Mar. 11, 2009, http://www.sfgate.com/cgi-bin/blogs/techchron/detail?blogid=19&entry_id=36840; Scott J. Orr, *Advertisers Flocking to the Internet, Where the (Inter)action Is*, NJ.COM, Feb. 11, 2008, http://blog.nj.com/digitallife/2008/02/advertisers_flocking_to_the_in.html (estimating that the amount spent on Internet advertising will reach \$42 billion by 2011).

285. *See, e.g.*, Geist, *supra* note 205, at 547 (comparing the two because, “like space, the Internet is transnational, yet non-national and not easily demarcated into jurisdictions”).

286. Huebert & Block, *supra* note 132, at 483.

287. *Cf.* H.L. Armstrong & P.J. Forde, *Internet Anonymity Practices in Computer Crime*, 11 INFO. MGMT. & COMPUTER SECURITY 209 (2003) (discussing how the anonymity and lack of borders of the Internet aid in the commission of certain crimes).

288. Controlling the Assault of Non-Solicited Pornography and Marketing Act of 2003 (CAN-SPAM Act of 2003), Pub. L. No. 108-187, 117 Stat. 2699 (2003) (codified at 15 U.S.C. §§ 7701–7715 and scattered sections of 18, 28, and 47 U.S.C.). This Note focuses on the CAN-SPAM Act because it is the piece of legislation that most specifically addresses advertising on the Internet. All advertising, including on Internet, is regulated by the Federal Trade Commission (FTC) under the Federal Trade Commission Act. Pub. L. No. 63-203, 38 Stat. 717 (1914) (codified at 15 U.S.C. §§ 41–58 (2006)); *see*

cial e-mail content;²⁸⁹ second, prohibits practices that make it possible for spam to be transmitted, specifically the use of “false or misleading transmission information” and “deceptive subject headings” on e-mails;²⁹⁰ and third, requires that recipients of such advertising have the opportunity to “opt-out” and no longer receive such messages.²⁹¹ Enforcement occurs only via after-the-fact prosecution of violators.²⁹² It would be impracticable to have any kind of e-mail advertisement “licensing” or “registration” requirements like those that apply to commercial space launches under the CSLA.²⁹³ This is the biggest difference between the Internet and outer space: the Internet does not allow for the same sort of government licensing that is key to regulating outer space.

Despite these legal differences, there are actually several ways in which the Internet–space analogy makes sense. First, most agree that the Internet, like outer space, is an area in which commercial activity should be encouraged.²⁹⁴ Advertisements on the Internet are generally accepted because they are needed to finance the creation and distribution of worthwhile material.²⁹⁵ Similarly, there is already evidence that advertising in outer space offsets the potentially prohibitive costs of valuable research.²⁹⁶ One can only assume that as private launchers take to the skies, their ability to generate profit and continue operations will be affected by third-party investment. Second, whereas an argument can be made that obtrusive space advertising or advertising in national parks is wrong because it violates a historical right to experience classical forms of nature without “commercial interference,” no such appeal to historical “tradition” or “rights” can be made with regard to either an advertisement-free

also FTC, ADVERTISING AND MARKETING ON THE INTERNET: RULES OF THE ROAD, <http://www.ftc.gov/bcp/edu/pubs/business/e-commerce/bus28.shtm> (last visited Feb. 7, 2010) (explaining how the Federal Trade Commission Act protects consumers from deceptive or unfair practices). However, the CAN-SPAM Act reflects Congress’s—not just the FTC’s—stated justifications for regulating Internet advertising.

289. CAN-SPAM Act § 4.

290. *Id.* § 5(g)(1)–(2).

291. *Id.* § 5(a)(5). With wireless devices like cell phones, the FCC has also imposed a more stringent opt-in requirement, so users must affirmatively assert a desire to receive advertising before any can be sent to their wireless devices. See Edwin N. Lavergne, Practitioner Note, *FCC Gives Teeth to the CAN-SPAM Act of 2003*, 1 N.Y.U. J. L. & Bus. 861, 861 (2005).

292. *Id.* § 7(a)–(e).

293. The inverse is also true. Some of the after-the-fact punishments available when dealing with Internet crimes are simply not practicable when dealing with advertising in outer space. See, e.g., Susan M. Ballantine, Note, *Computer Network Trespasses: Solving New Problems with Old Solutions*, 57 WASH. & LEE L. REV. 209, 248–49 (2000) (discussing application of tort law—trespass to chattels and trespass to real property—to Internet conduct).

294. See *supra* notes 54–60 and accompanying text; CAN-SPAM Act § 2(a).

295. See Tony Dietrich, *Advertising Pays for a Lot of Things. . . What Happens When the Ad Budget Dries Up in a Recession?*, CIRCLE ID INTERNET INFRASTRUCTURE, July 9, 2008, http://www.circleid.com/posts/internet_advertising_age_recession/; Jennifer Granick, *Online Advertising: So Good, Yet So Bad for Us*, WIRED MAGAZINE ONLINE, May 9, 2007, http://www.wired.com/politics/law/commentary/circuitcourt/2007/05/circuitcourt_0509.

296. For example, Russia’s reliance on tourism revenue for Soyuz launches. See *supra* note 25 and accompanying text.

Internet or tourist trips to outer space.²⁹⁷ Because they are so driven by constantly changing technology and innovation, neither the Internet nor outer space activities are governed by long-standing or “traditional” rules, which means that the law inevitably trails behind the science.²⁹⁸ And finally, as with outer space, the solution for filling in the gaps in Internet law comes from domestic legislation, not international conventions or slow multilateral negotiations.²⁹⁹

Although most aspects of Internet spam-advertising law could not reasonably apply in outer space, it is valuable to look at the underlying justifications for the law to exist at all. According to both legislative statements of intent and judicial precedent, the regulation of bulk e-mail advertisements is motivated primarily by the concern that such ads will hinder valuable online commerce.³⁰⁰ It is not driven by notions that the Internet is more aesthetically pleasing without advertising or that there is some traditional right to experience the Internet without advertisements. Advertising in outer space should similarly be looked at in terms of whether it will somehow obstruct more valuable space activities—for instance, if the first manned mission to Mars were delayed because of excessive tourism-related debris in orbit. But the notion that space is, in and of itself, a pristine terrain that all people have a “right” to keep clear of any commercial interference, is simply inaccurate. Space is already full of manmade material, and so the “pristine-ness” of space is mostly a myth. Space exploration and tourism are contingent on expanding the scope of commercial activity in outer space, so there is a level of hypocrisy in supporting any human activity in space while also condemning the space advertising that may make other, more

297. Those opposed to the notion of advertising in space would argue that outer space is actually the last place where there is a tradition of preserving an area free of commercial activity. *See supra* notes 8–9 and accompanying text. There are two responses to this assertion. First, whereas a strong argument can be made that obtrusive advertising is contrary to the basic human experience of looking up into advertising-free skies, there is no similar historical tradition of people traveling into space and not being advertised to once there. Commercial space flight will send people to places where humans have not been able to go before, so there is no established history either for or against non-obtrusive space advertising. Second, the mere fact that humanity lacked the technological capability to send tourists and advertisements into outer space does not mean that there is a “tradition” of not advertising to space tourists. That would be as illogical as saying that before the invention of movies, there was a “tradition” of not inserting product placements in films, and so product placement should be banned in order to maintain a cinematic “tradition” that only existed before movies themselves came into existence.

298. Geist, *supra* note 205, at 523.

299. *See id.* at 548.

300. CAN-SPAM Act of 2003, Pub. L. No. 108-187, 117 Stat. 2699, 2699–2700, § 2(a)(1)–(4), (6) (codified at 15 U.S.C. § 7701(a)(1)–(4), (6) (2006)) (Congress found, for example, that “The convenience and efficiency of electronic mail are threatened by the extremely rapid growth in the volume of unsolicited commercial electronic mail. . . . The receipt of a large number of unwanted messages also decreases the convenience of electronic mail and creates a risk that wanted electronic mail messages, both commercial and noncommercial, will be lost, overlooked, or discarded amidst the larger volume of unwanted messages, thus reducing the reliability and usefulness of electronic mail to the recipient.”); *see also* 1-800 Contacts, Inc. v. WhenU.com, 309 F. Supp. 2d 467 (S.D.N.Y. 2003) (granting preliminary injunction against user of pop-up advertisement software based on concern that such ads confuse Internet users and deter them from using websites for valuable purposes).

“valuable,” activities in space economically feasible.

C. NATIONAL PARKS

The third and final area of advertising law that this Note will analogize to advertising in outer space is the law that controls commercial activities in national parks and the outdoors generally. Over the past decade, there has been increasing concern that here on Earth, advertising will begin to encroach on the specially designated outdoor areas under the purview of the National Park Service (NPS)—a change that some see as necessary to supplement park budgets.³⁰¹ The NPS has for years been under-funded by hundreds of millions of dollars,³⁰² but much of the public still opposes changing from bright-line advertising prohibitions to softer or more discretionary rules,³⁰³ mostly because experience has shown that marketing material can become overwhelming if allowed on park grounds at all.³⁰⁴ The anticipated result of a more permissive policy was that sponsors might be given naming rights over certain park facilities and permitted to display “promotional materials both in parks and on NPS websites,” including commemorative plaques and markers, and to “display their logos prominently.”³⁰⁵

That policy never went into effect, and the existing law on advertising in U.S. National Parks remains significantly more restrictive than advertising law in other areas. National Park Service regulations state:

Commercial notices or advertisements shall not be displayed, posted, or distributed on federally owned or controlled lands within a park area unless prior written permission has been given by the Superintendent. Such permission may be granted only if the notice or advertisement is of goods, services, or facilities available within the park area and such notices and advertise-

301. See Brendan Coyne, *National Parks Seeking Corporate Sponsorship*, THE NEW STANDARD, Oct. 18, 2005, <http://newstandardnews.net/content/index.cfm/items/2495>; Ross Fadner, *National Park Service To Seek Corporate Sponsorship of Public Land*, MEDIA DAILY NEWS, Oct. 27 2005, http://www.mediapost.com/publications/?fa=Articles.showArticle&art_aid=35560.

302. Coyne, *supra* note 301.

303. See, e.g., Mark Clayton, *America's National Parks: No Longer Ad-free Zones?*, THE CHRISTIAN SCIENCE MONITOR (Boston, M.A.), Mar. 31, 2006, at 4; Fadner, *supra* note 301.

304. In 2003, the Secretary of the Interior approved a National Football League event on the National Mall. “NFL Kickoff Live from the National Mall Presented by Pepsi Vanilla” turned into exactly what the name implied: a football-themed opportunity for corporate sponsors Pepsi, Verizon, AOL, Coors, Reebok, and even the New York Stock Exchange to close off portions of the National Mall and market their products to a wide in-person and television audience for four days (though the permit for the Mall was for seventeen days to allow for preparation and clean up). See, e.g., David Montgomery, *The NFL's New Turf: On the Mall, 'Kickoff Live' Is Mixing Cola, Concerts and Controversy*, WASH. POST, Sept. 1, 2003, at C1; Letter from Jeff Bingaman, U.S. Senator from New Mexico, to George W. Bush, President of the United States (Sept. 15, 2003), available at <http://www.commercialalert.org/news/archive/2003/09/commercialization-of-the-mall>.

305. Coyne, *supra* note 301.

ments are found by the Superintendent to be desirable and necessary for the convenience and guidance of the public.³⁰⁶

By requiring that advertisements be for “goods, services, or facilities available within the park area” and also that they be “desirable and necessary for the convenience and guidance of the public,” the law on advertising in National Parks is far more restrictive than is necessary or desirable in outer space. In the early years of space tourism, when third-party investment will be most crucial in supporting private launches, it is not likely that many “goods, services, or facilities” will exist in space or that signage will be needed for the “convenience and guidance” of the space-touring public. Therefore, adopting into outer space law a regime as restrictive as the one that applies to parks would be detrimental to the growth of space tourism because it would prohibit advertisers from financially supporting the industry.

Unlike U.S. NPS regulations, comparable laws in other major spacefaring states are more flexible with regard to commercial activity on preserved lands. Both Russian³⁰⁷ and Japanese³⁰⁸ law subdivide protected federal lands into several subcategories, each allowing different levels of permissible commercial activity. Rather than defaulting to a “no advertisements unless . . .” policy, both assume that some commercial activities, including advertising, is permitted, and the burden is on the government to declare an advertisement dangerous or detrimental before requiring its removal. If anything is to be taken from the realm of parks or outdoor advertising, it should be this: the willingness to recognize that different forms of advertising in different contexts warrant case-by-case considerations. Unlike the relatively rigid U.S. approach, a more flexible alternative would allow for the commercialization of space to proceed unless and until there is a reason for a government agency to step in and prevent specific harms.

306. National Park Service Advertisements Regulation, 36 C.F.R. § 5.1 (2009). In an outdoor advertising context, U.S. law on billboards along federal highways is similarly strict. To “protect the public investment in such highways, to promote the safety and recreational value of public travel, and to preserve natural beauty,” 10% of highway funds are stripped from any state that does not comply with legislation governing billboards within 660 feet of the Interstate System or primary system within urban areas, or that are “visible from the main travelled way” outside urban areas. 23 U.S.C. § 131(a)–(b) (2006). Signs are presumed to be allowed within 660 feet, or to be visible, from such roadways under certain specific circumstances, but never for advertising purposes. *Id.* § 131(c).

307. Federal Law on Environmental Protection, *Sobranie Zakonodatel'stva Rossiiskoi Federatsii* [SZ RF] [Russian Federation Collection of Legislation] 2002, No. 2, Item 133, arts. 52(1)–(2), 58, 59(2), *translated in* Russia & The Republics Legal Materials (Juris Publishing), ser. 2, Release 92, at 3, 32–34 (William E. Butler ed. & trans.); On Specially Protected Natural Areas, *Sobranie Zakonodatel'stva Rossiiskoi Federatsii* [SZ-RF] [Russian Federation Collection of Legislation] 1995, No. 12, arts. 2(1), (5), 9, 15(1)(a), 16(2)(a), 20(2)(b), 21(4).

308. [Shizen Kōenhō] Natural Parks Law, Law No. 161 of 1957, arts. 13, 26, *translation at* MINISTRY OF THE ENVIRONMENT OF THE GOVERNMENT OF JAPAN, <http://www.env.go.jp/en/laws/nature/index.html>.

CONCLUSION

Opportunities for human exploration and recreation in space will inevitably continue to evolve, and many increasingly believe that outer space is the “next frontier” for commercial activity, including advertising.³⁰⁹ Technology is developing to send average tourists into space for quick trips into orbit or longer-stay vacations in space “hotels.”³¹⁰ Time and again, history has proven that where people go, advertisements will follow.³¹¹ Admittedly, it may seem far-fetched in 2010 to imagine someday looking out the window of a Bigelow Space Hotel down at Earth while a blinking Ford Motor Company sign sails by. But fifty years ago, the notion of spam e-mail, and the Internet generally, would have seemed just as far-fetched. It is the cycle of human discovery: new technologies emerge, but only after society becomes comfortable with them do we come to understand the implications.³¹² This Note examined only one very narrow aspect of private space tourism—advertising to space tourists—but as humans become comfortable with the idea of commercial space travel, the related legal issues that will arise are limitless.

Looking forward to an age when humans go on vacations in space, it is inevitable that private launchers will need to fund their operations and earn profit. Marketers have already attempted to profit from connections with outer space,³¹³ and it is reasonable to assume that space will continue to play a role in innovative advertising campaigns.³¹⁴ The law that governs commercialized outer space will be crucial in shaping if and how these industries develop, because settled law creates the certainty needed for informed financial investment in future space endeavors.³¹⁵ The law will determine whether we permit

309. Randy Gier e-mail, *supra* note 25 (“[S]pace has remained the next frontier. (. . . I wanted to make a joke here about it being the ‘final frontier[,]’ but in Marketing there is never a ‘final’ anything. The world will continue to evolve.”).

310. See *supra* notes 33–53 and accompanying text.

311. 139 CONG. REC. E1732-04 (daily ed. July 1, 1993) (statement of Rep. Markey) (“[I]f there is money to be made then it’s just a matter of time until someone, somewhere tries to do it.”).

312. Lawrence Lessig, *The Path of Cyberlaw*, 104 YALE L.J. 1743, 1752 (1995) (discussing the Internet in 1995: “There are many who now see the extraordinary expressive and associational potential that cyberspace offers. Most, however, do not. If the many prove correct, the most will eventually see the same—as the space becomes more common, as their children become transformed by it, as life takes root within it. But this seeing will take time. It will require that individuals gain an experience with this new space that gives them the sense of what this new space is. Only when this experience is common should we expect to be in a position to understand its significance. When the technology, when the experience, when the life in cyberspace presses us, only then should we expect law to understand enough to resolve these questions rightly.”).

313. See *supra* notes 6–20 and accompanying text.

314. Tomlinson & Wiley, *supra* note 4, at 540–41 (1995) (citing Devera Pine, *Selling America on Orbiting Ads*, OMNI, Feb. 1994, at 27).

315. Cf. POP, *supra* note 129, at 46 (“Whereas many issues in this field have been swept under the rug by past legislators, future treaty law needs to be clear. Otherwise, the insecurity will either preclude private exploration of space, or will put the international community in front of a *fait accompli*.”); Hughes & Rosenberg, *supra* note 34, at 3–4 (“Despite tantalizing commercial possibilities, the long-term technological and commercial viability of commercial human space flight remains to be seen.”).

advertising in space at all, how much of it we allow, and what it might look like. In general, laws and social norms will be essential in space because, according to one of the few lawyers to have worked closely with space advertising: “Laws and social norms . . . [have] kept us from eating each other for 10,000 years, and it is only through the combination of both that we can hope to survive as a species off-planet.”³¹⁶

The Outer Space Treaty and subsequent treaty regime provide overarching principles; however, international law has not adapted to specifically address existing problems.³¹⁷ It is therefore unlikely that advertising in outer space will be handled by an international convention, but rather addressed most effectively by major spacefaring states’ claiming expansive jurisdiction and implementing domestic licensing laws that apply to advertising payloads and launch vehicles.³¹⁸ Domestic laws are not the perfect solution, but they are easier to enact and more enforceable than any comparable international space law.

In crafting provisions in domestic space law, states should consider potentially useful aspects of analogous areas of law. For instance, the Precautionary Principle, as arguably applicable to Antarctica, could be tailored to outer space, as could the notion that only states showing some interest in utilizing the area get to participate in international discussions on its future.³¹⁹ Scholars have called for the law governing the Antarctic to be “flexible enough to deal” with new challenges and opportunities,³²⁰ and the same should apply to outer space. The Internet analogy is also helpful because the Internet, like outer space, is an area in which we generally accept that commercial activity is a positive thing. This conceptual understanding of the Internet means that regulations are driven by a desire to ensure that advertising does not interfere with more valuable commercial uses, and are not driven by notions of aesthetics or historical “rights.”³²¹ Finally, foreign laws governing outdoor advertisements are instructive because they incorporate an appreciation for context and complexity, and do not impose overly rigid rules like the U.S. regulations limiting advertisements to on-grounds goods and services.³²² Of course, analogies should not be the end-all and be-all of space lawmaking, but recommending these elements of analogous laws at least gets the ball rolling on issues that have, to date, remained unaddressed.

Among the factors contributing to the industry’s ultimate success or failure will be the application of laws and the formulation of regulations governing the carriage of human beings into space. . . . Shortly after the turn of the millennium, with the possibility of successful manned experimental flights like that of *SpaceShipOne* on the horizon, the emerging industry demanded greater legal certainty in order to secure insurance and attract further investment.”)

316. James E. Dunstan interview, *supra* note 35.

317. *See supra* section II.A.

318. *See supra* section II.C.

319. *See supra* section III.A.

320. Neumann & Bunge, *supra* note 244, at 162.

321. *See supra* section III.B.

322. *See supra* section III.C.

Domestic laws on outer space should for several reasons *not* entirely prohibit or excessively burden all forms of space advertising. Given the current absence of law on the issue, those who support a total prohibition on space advertising should be pleased with *any* domestic regulation.³²³ On the other hand, those who recognize the many positives that might flow from advertising in outer space should still have an opportunity to obtain those benefits. First, private entities taking larger roles in space exploration provide the funding needed to continue researching and launching new space technologies.³²⁴ Russia has already demonstrated that when the federal budget is inadequate to pay for space activities, private entities can supplement government funding.³²⁵ Just as Russia has accepted this economic reality, the United States may someday be forced to do the same. NASA has already indicated that it might consider outside financing through sponsorships and other encouragement of private commercial work.³²⁶ Second, as commercial entities invest money and place resources in outer space, they will also have increased interests in protecting space itself from any future threat.³²⁷ This means private parties will have an interest in removing debris and preventing the dangerous militarization of space, because the more investors place valuable assets into orbit, the more incentive there will be to prevent collisions or armed conflict in space.³²⁸ Finally, to the extent that the advertisers are “customers” in the market for launch vehicles to which they can attach payloads, advertisers will benefit from competition amongst potential launchers because an increased supply of launch options will cause a drop in the price of putting up payloads. Therefore, increasing private commercial use of space may actually lead private investors

323. Huebert & Block, *supra* note 132, at 485 (“[T]hose who dislike advertising may find the results of a lightly regulated domestic market more pleasing than the products of unfettered launches elsewhere.”).

324. *See id.* at 479 (“[T]he money the sponsors pay presumably goes to fund further space ventures.”); Mineiro, *supra* note 131, at 784; Abbey Klaassen, *An Ad-Space Odyssey*, *ADVERTISING AGE*, Oct. 9, 2006, available at <http://www.commercialalert.org/issues/culture/outer-space/an-ad-space-odyssey>.

325. *See* Erickson, *supra* note 132; Huebert & Block, *supra* note 132, at 485 (“[S]pace advertising may be inevitable. The technology exists, and if someone wants to put up the money, he can have his name in lights in space. If the United States will not allow the launch, Russia or another country that cannot afford the luxury of turning down such business will.”); Isidore, *supra* note 11.

326. NASA 2001 COMMERCE STRATEGY, *supra* note 58 (“The advent of the International Space Station (ISS) and increased commercial activity in space provides the opportunity for enhanced relationships between NASA and private sector companies. Therefore, it is timely and appropriate to develop a formal process for granting and controlling the right of companies to sponsor NASA missions and programs.”).

327. *Cf.* Roberts, *supra* note 5 (discussing how in order to prevent degeneration of Antarctica because of commercial use, it is necessary to commercialize Antarctica to the public); Kim Severson, *An Unlikely Way To Save a Species: Serve It for Dinner*, *N.Y. TIMES*, Apr. 30, 2008, at F1 (describing a man who advocates protecting endangered plants and animals by eating them, thus creating an industry that has a vested interest in their survival).

328. *See* LYALL & LARSEN, *supra* note 14, at 565 (advocating the creation of a “Resource Utilisation Fee” charged to commercial space users and spent on debris clearing technology); Tannenwald, *supra* note 89, at 368.

(advertisers) to support expanding space capabilities into the non-spacefaring states that historically feel that they are not equitably participating in, or benefiting from, space activities.³²⁹ The benefits of space advertising remain speculative, but it is important to consider these possibilities and develop ahead of time a legal structure that promotes, or at least allows, the potentially valuable commercial activity that might someday take place in the infinite expanses of outer space.

As with most new technologies, there has been much overreaction to the possible problems associated with private companies commercializing outer space.³³⁰ Those who are especially cautious about this whole area of private space activity are right about one thing: “What our country does in space is a direct expression of what we really are.”³³¹ But a similar accusation—that “[T]o sell advertising and peddle entertainment products in space is to confirm the most cynical view of ourselves”³³²—does not logically follow. Instead, advertising and “peddling” products actually confirm that we are a people who can efficiently combine scientifically valuable exploration with economically valuable private commerce. That is not “cynical” at all, but rather shows exactly how humanity can achieve the goal of reaching the farthest corners of the universe: by allowing commercial entities to invest in the activity through advertising, thus providing necessary financial support. And while domestic space laws should guard against the threats of excessively dangerous space debris or overcrowding of orbits, it should also encourage investment through advertising in outer space to space tourists.

329. Cf. LYALL & LARSEN, *supra* note 14, at 569. (“Space should not be for the profit of only the few. That said, we recognise that it is clear that most ‘benefit’ now comes from private enterprise, that without profit entrepreneurs will not invest and that high-risk ventures require the lure of the potential of high profit.”).

Essentially, the desire to launch cheap advertising payloads could even lead to new space technology moving into the same countries that have seen increases in manufacturing infrastructure over the last several decades: the countries that provide cheaper labor than current space powers. Someday, Americans may complain about the “outsourcing” of spaceports, but this might resolve the inequality issues raised by the Declaration on International Cooperation. *See* Declaration on International Cooperation, *supra* note 89.

330. *See, e.g.*, Ruskin, *supra* note 9 (“[W]e may soon see taxpayer-financed Burger King Space Shuttle missions, or perhaps a Disney Cassini mission to Saturn.”).

331. *Id.*

332. *Id.*