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This circular reasoning should not be the basis for denying constitutional rights. The equal protection clause under the United States Constitution demands that foreign persons prosecuted under United States laws receive constitutional protection.<sup>47</sup>

#### V. CONCLUSION

In the wake of *Marino-Garcia* and its progeny, a clear trend can be identified which dramatically alters the prosecution of suspected drug smugglers on the high seas. The Eleventh Circuit has begun to treat drug smuggling as a universal crime by expanding the jurisdictional base of section 955a. It does so by including invalid registration within its definition of stateless vessel and also by placing the burden of showing a nexus upon the defense. Instead of focusing on the statelessness of the vessel, international dialogue would be encouraged by focusing on the vessel's activities vis-à-vis drug smuggling. This would preserve the constitutional rights afforded crews of stateless vessels under United States law, while allowing for effective prosecution of illegal drug traffic on the high seas.

*Lynda Hettich Knowles*

## Directed-Energy Weapons On The "High Frontier"

#### I. INTRODUCTION

President Reagan recently announced the proposed development and deployment by the U.S. of a space-based ABM system utilizing directed-energy weapons (DEWs).<sup>1</sup> Although the proposal provoked a variety of intense reactions from the political and scientific communities in both the U.S. and U.S.S.R., it failed to arouse and sustain the public concern which might otherwise be forthcoming. The "Star Wars" quality of the plan perhaps renders it superfluous in the minds of most.

Although doubts exist as to whether the technology necessary to implement the President's proposal will ever be available, they do not warrant disregard of the impact which would be caused by the development

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erty has not suffered any loss of Fourth Amendment rights.

47. See NOWAK, ROTUNDA & YOUNG, *HANDBOOK ON CONSTITUTIONAL LAW* 592 (1982). The Fourth Amendment is applied through the Fourteenth Amendment, which requires equal protection under the law for all persons. "Aliens are persons, so they receive the protection of . . . the Equal Protection Clause." See also *United States v. Cadena*, 585 F.2d 1252, 1262 (5th Cir. 1979).

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1. *Reagan Proposes New Weapons*, *Denver Post*, Mar. 24, 1983, at 1-A, col. 2.

of such a system. This is particularly true in light of the increasing militarization of space and the desire of both the U.S. and Soviet Union to achieve and maintain military stability.

The Outer Space Treaty<sup>2</sup> and the ABM Treaty,<sup>3</sup> both designed to address these concerns, may be inadequate when applied to the emerging beam technology, in view of the probable U.S. and Soviet constructions of the relevant provisions of these treaties. Consequently, this article will focus on this problem of treaty interpretation, as well as on the nature of DEWs and the strategic value of their incorporation into an ABM system. Included also is a brief discussion of certain policy concerns associated with the development and deployment of these newest among the so-called "ultimate weapons."

## II. THE DEVELOPMENT OF DEWs

Throughout the 1970s, the Soviets experimented intensively with anti-satellite weaponry (ASATs),<sup>4</sup> and although the Pentagon claims to be at least fifteen years behind the Soviets in ASAT technology, the U.S. is scheduled to test its first ASAT later this year.<sup>5</sup> The development of directed-energy weapons such as the high-energy laser (HEL) and the particle beam weapon (PBW) have become more of a priority to both the U.S. and Soviet Union in recent years.<sup>6</sup> By 1978, the Soviets were suspected of having developed and successfully tested a PBW and of having developed the world's largest HEL.<sup>7</sup> Yet, the Pentagon has only recently

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2. Outer Space Treaty, Jan. 27, 1967, 18 U.S.T. 2410, T.I.A.S. No. 6347, 610 U.N.T.S. 205. This treaty reveals the early expectations of the signatories that space would eventually be used for military purposes and that general guidelines are necessary to restrain that activity to some degree.

3. ABM Treaty, May 26, 1972, United States-U.S.S.R., 23 U.S.T. 3435, T.I.A.S. No. 7503. As an integral part of the SALT I accords, this bilateral treaty prohibits anti-ballistic missile systems in an attempt to restrict the strategic offensive arms race. It is also the formal embodiment of the MAD (mutually assured destruction) doctrine, which proposes that if each state is exposed to the offensive nuclear weapons of the other, neither state will have the incentive to launch a first-strike attack.

4. See also STAFF OF SENATE COMM. ON COMMERCE, SCIENCE, AND TRANSPORTATION, 97TH CONG., 2ND SESS., SOVIET SPACE PROGRAMS 1976-80, at 184-91 (Comm. Print 1982) [hereinafter cited as SOVIET SPACE PROGRAMS].

5. *U.S. Military Arsenal Extending Into Space*, Rocky Mt. News, Aug. 22, 1983, at 32, col. 1.

6. The most promising HEL derives its power from chemical reactions and is capable of producing a 200-billion-watt beam of energy for 20 billionths of a second at the speed of light. This creates a thermal reaction within the target causing it to melt, vaporize, or possibly shatter as a result of internal shock waves, depending on the wavelength used, and the chemical composition and speed of the target. The PBW is a device "using directed beams of charged or neutral particles at high energies as projectiles to inflict damage." Such beams are essentially man-made lightning. For an excellent comprehensive analysis of the operational aspects of these particular DEWs and an in-depth study of the applicable international law, see E. FESSLER, DIRECTED-ENERGY WEAPONS: A JURIDICAL ANALYSIS 8-29 (1979).

7. Cady, *Beam Weapons in Space*, AIR U. REV., May-June 1982, at 33, 38. See also Vlasic, *Disarmament Decade, Outer Space, and International Law*, 26 MCGILL L.J. 135,

confirmed that it has successfully test-fired its own two-million-volt PBW as part of the top secret "White Horse" program.<sup>8</sup> Testing of HELs by the Department of Defense, however, has been in progress since 1973.<sup>9</sup> The Pentagon expects to begin testing the first generation of HELs with ASAT and ABM capability by 1987.<sup>10</sup> It has been recently disclosed that U.S. high-energy microwave weaponry is in an even further stage of development than both the HEL and PBW.<sup>11</sup>

Considering the relatively early stages of development of these DEWs, it is odd that the President made public the plan of their eventual deployment as the principle components of future ABM systems. In fact, the majority of the scientific community in the U.S. and Soviet Union, while acknowledging the viability of these weapons in component form, declares that the technology necessary to incorporate them into an effective ABM system is unachievable, as well as extremely destabilizing.<sup>12</sup> Others, however, including renowned physicist and current member of the White House Science Council, Edward Teller, believe that the current status of DEWs is comparable to the "same stage of development as was the Manhattan Project in 1940."<sup>13</sup> Teller further implies that with public support and massive research and development expenditures, ABM systems utilizing DEWs could be deployed before the turn of the century, perhaps even within the next decade.<sup>14</sup>

### III. PROJECT HIGH FRONTIER

Directed-energy weapons technology is currently being developed for integration into an ABM system, most notably the High Frontier proposal. High Frontier, a think tank funded by the conservative Heritage Foundation, is headed by retired Lieutenant General Daniel Graham, a former Director of the Defense Intelligence Agency and more recently Ronald Reagan's military advisor during the 1976 and 1980 presidential campaigns. The administration's support of the High Frontier plan clearly requires renunciation of the MAD (mutually assured destruction)

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164-65 (1981).

8. *Death Ray is Successfully Test Fired*, Rocky Mt. News, Apr. 7, 1983, at 4, col. 2.

9. *Laser Technology—Development and Application: Hearings Before the Subcomm. on Science, Technology, and Space of the Senate Comm. on Commerce, Science, and Transportation*, 96th Cong., 1st and 2nd Sess. 85-86 (1979-80) (statement of Dr. J. Richard Airey, Director, Directed-Energy Technology, Dept. of Defense) [hereinafter cited as *Hearings*].

10. *Attack on Spy Satellites Could "Blind" U.S.*, Rocky Mt. News, Aug. 25, 1983, at 30, col. 1.

11. *Microwave Beam May Some Day Join Nation's Weaponry*, Rocky Mt. News, Aug. 13, 1983, at 57, col. 1.

12. Rocky Mt. News, note 8 *supra*. See also *Soviet Scientists Slam U.S.*, Rocky Mt. News, Apr. 10, 1983, at 50, col. 3.

13. Beane, *High Energy Lasers: Strategic Policy Implications*, 5 STRATEGIC REV. 100-03 (1977). See also *Reagan For the Defense*, TIME, Apr. 4, 1983, at 12.

14. See TIME, note 13 *supra*.

doctrine, and is hoped to "fast thaw the nuclear freeze movement."<sup>15</sup>

In a speech delivered in 1982,<sup>16</sup> Graham outlined the High Frontier concept in some detail, referring to it as a "layered strategic defense" incorporating space and land-based beam weapons capable of filtering out most incoming Soviet missiles, as well as protecting other space assets.<sup>17</sup> Seven years and \$35 billion from now, High Frontier's "purely defensive" system could be fully operational.<sup>18</sup> Admittedly, the plan and its "purely defensive" application has some appeal in light of the nuclear alternative. There are some problems, however, which arise upon application of certain international treaties to the proposal.

#### IV. APPLICATION OF THE OUTER SPACE AND ABM TREATIES TO PROJECT HIGH FRONTIER

Despite proponents' apparent disregard for international legal restraints,<sup>19</sup> both the Outer Space Treaty and the ABM Treaty are immediately relevant to any discussion of the implementation of the High Frontier proposal. However, intentional ambiguities in the drafting of these two treaties and an inclination to construe their relevant provisions very narrowly makes them nearly inadequate to address the plan.

##### A. *The Outer Space Treaty*

The Outer Space Treaty is flawed by the inclusion of two ambiguous phrases: "peaceful purposes" and "weapons of mass destruction." Because of the vagueness of these terms, the treaty's applicability in allowing or prohibiting space-based DEWs is uncertain. The main problem concerns the construction of article IV.<sup>20</sup> Applying the maxim *inclusio*

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15. Fossedal, *Exploring the High Frontier*, CONSERVATIVE DIGEST, June 1982, at 3-4.

16. Defense and Development on the High Frontier, a speech by Lt. Gen. Daniel Graham as part of a seminar entitled *Preventing World War III*, delivered Feb. 3, 1982 at Hillsdale College's Center for Constructive Alternatives, Hillsdale, Michigan, reprinted in *IMPRIMIS*, June 1982, at 1 [hereinafter cited as Graham].

17. *Id.* at 2.

18. *Id.* at 4-5. The High Frontier program also involves the utilization of non-nuclear space-based missiles, the development of a "high performance space plane," upgrading of the current Space Shuttle Program, development of a manned low-earth orbit space station and a space power station, and a stepped-up civil defense program. In addition, the plan envisions a space industrial systems research and development program to be funded mostly through private enterprise.

19. Consider the statement of Major Steven Cady, an enthusiastic supporter of beam-weaponry deployment in space: "Throughout history, great nations wishing to remain great have interpreted principles of law in a manner consistent with their own needs and interests. A preoccupation with the niceties [sic] of law . . . has always been the road to disaster. Cady, *supra* note 7, at 36. (Emphasis added).

20. The Outer Space Treaty, *supra* note 2, at art. IV, states:

States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.

*unius est exclusio alterius* to this article, it appears that outer space itself is not restricted to exclusively "peaceful purposes," whereas the "moon and other celestial bodies" are restricted.<sup>21</sup> The early Soviet position maintained that "peaceful purposes" meant "non-military,"<sup>22</sup> but both the Soviets and the U.S. currently view the term as meaning "non-aggressive."<sup>23</sup>

In addition, the treaty's proscription against specific military activities can easily be interpreted as allowing all other military activities.<sup>24</sup> This means that unspecified military activity will be permitted on the moon and other celestial bodies as long as it is non-aggressive. This interpretation would also imply that aggressive activity is permissible in outer space, since article IV's first paragraph does not contain the "peaceful purposes/non-aggressive" limitations.

High Frontier seems to dismiss the "peaceful purposes" issue altogether. If the U.S. currently equates this phrase with "non-aggressive", then former Lieutenant General Graham's revealing comment that "[we] should harbor no illusions that space can be limited to 'peaceful uses' . . ." <sup>25</sup> may be an indication that those orchestrating the plan have little intention of maintaining a "non-aggressive" posture, let alone a "non-military" one.

Another controversial element of article IV is the phrase "weapons of mass destruction," which is generally construed to prohibit the orbiting, installation, or stationing in space of weapons capable of "inflicting damage to extensive geographical areas or injury to substantial populations, such as nuclear, chemical, or bacteriological weapons."<sup>26</sup> This interpretation is thought to permit extremely selective, albeit destructive weapons, including conventional weaponry of less destructive power.<sup>27</sup> Consequently, since DEWs are comparatively clean, discriminating, and controllable weapons capable of being operated so as to avoid the excess of devastation sought to be prevented, they may well fall outside of the treaty restrictions.

On the whole, the Outer Space Treaty seems to delegate to the superpowers "a large degree of freedom to turn this common domain into an area of bilateral arms competition to the detriment of all the others."<sup>28</sup>

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The moon and other celestial bodies shall be used . . . exclusively for peaceful purposes. The establishment of military bases . . . , the testing of any type of weapons and the conduct of military maneuvers on celestial bodies shall be forbidden.

21. E. FESSLER, *supra* note 6, at 51.

22. *Id.* at 49.

23. Vlastic, *supra* note 7, at 171.

24. E. FESSLER, *supra* note 6, at 51.

25. Graham, *supra* note 16, at 4.

26. E. FESSLER, *supra* note 6, at 53. See also *Hearings on the Outer Space Treaty Before the Senate Foreign Relations Comm.*, 90th Cong., 1st. Sess. 76 (1967).

27. For a more detailed discussion, see E. FESSLER, *supra* note 6, at 52-56.

28. Vlastic, *supra* note 7, at 174.

## B. *The ABM Treaty*

The Reagan administration claims that the planned research and development of this proposed "high tech" ABM system will not violate provisions of the ABM Treaty, and that only at the deployment stage would there be any actual conflict with its provisions.<sup>29</sup> This assertion is probably incorrect since the purpose of the treaty is to forego the development of such systems, limiting each party's exposure to the existing offensive weaponry of the other. By this process, "the pressures of technological change and its destabilizing effects on the strategic balance" will be minimized.<sup>30</sup>

Several problems arise in the application of this treaty to the High Frontier proposal of using DEWs in an ABM mode. For example, article II describes specific components of an ABM system.<sup>31</sup> The problem is whether this description is an *exclusive* or *exemplary* listing of the components intended to be prohibited. If intended as examples, then DEWs *within an ABM system* are likely to be proscribed. If article II is intended to be an exclusive enumeration of prohibited components, then DEWs, not having these components, would fall outside the provision's prohibition.<sup>32</sup>

Agreement (D) of the treaty provides that "in the event ABM systems based on other physical principles . . . are created in the future, specific limitations on such systems and their components would be subject to discussion in accordance with Article XIII of the Treaty."<sup>33</sup> This would imply that future developments in ABM technology, including DEWs, were *not* intended to be included in the components listed in article II.

Despite this interpretation, DEWs as components within an ABM system would be prohibited from being developed, tested, and deployed pursuant to article V, but only where they were "sea-based, air-based, space-based, or mobile land-based."<sup>34</sup> These components could therefore be developed and tested if fixed and land-based, assuming that DEWs are not construed as being included under article II.

Ironically, DEWs could be developed, tested, and deployed in space within an ASAT mode as long as they were not actually used to interfere with verification satellites protected by article XII.<sup>35</sup>

Both the Outer Space and the ABM treaties are, in reality, binding only to the extent that the signatories wish to be bound; thus, circumvention of their purpose and specific provisions can easily be accomplished by self-serving interpretations. However, in light of the potentially grave

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29. Denver Post, note 1 *supra*.

30. Vlasic, *supra* note 7, at 176.

31. ABM Treaty, *supra* note 3, at art. II, para. 1.

32. E. FESSLER, *supra* note 6, at 69.

33. ABM Treaty, *supra* note 3, at Agreed Interpretations, para. D.

34. *Id.* at art. V, para. 1.

35. *Id.* at art. XII, para 2. See also *Hearings, supra* note 10, at 88.

consequences of proceeding with the High Frontier proposal without clearly-defined restraints, it would be in the best interests of both super-powers to come to some agreement on procedure before a destabilizing imbalance occurs.

#### V. OTHER POLICY PROBLEMS PRESENTED BY THE HIGH FRONTIER PROPOSAL

In addition to doubts about the viability and effectiveness of the High Frontier plan, the issue of destabilization has caused prominent members of the scientific community to condemn the President's proposal.<sup>36</sup> The essence of their opposition is that the extension of the arms race into space merely increases the possibilities of war on earth.<sup>37</sup> Any shift in the balance of power caused by either nation's sole possession of these "ultimate weapons" would be likely to set in motion a dangerous escalation of DEW development by both nations, as well as the escalation of other weapons designed to penetrate the other's system. For example, if the U.S. suspected the Soviets of having attained first-strike capability without fear of a retaliatory strike, it might then be induced to launch a first-strike against the Soviets before the Soviet ABM system is fully developed.

While the President has proposed the use of DEWs in a purely defensive manner, former Lieutenant General Graham has proposed other possible uses, including the preservation of the West's access to raw materials<sup>38</sup> and the assurance of U.S. preeminence in space for military and commercial exploitation.<sup>39</sup> His philosophy is to "move the contest into a new arena where we could exploit the technological advantages we hold."<sup>40</sup>

Other strategists envision even first generation DEWs as "politically useful instruments for achieving critical objectives of American foreign policy . . .,"<sup>41</sup> and as permitting the "fighting [of] non-nuclear wars with the Soviet Union involving vital U.S. national interests . . ."<sup>42</sup> This kind of diplomatic blackmail is not new. Threats of using atomic and hydrogen bombs to coerce other nations to comply with U.S. demands has apparently been practiced by every President (with the exception of Gerald Ford) since Harry S. Truman.<sup>43</sup>

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36. *Soviet Scientists Slam U.S.*, note 12 *supra*.

37. *Space Weapons Invite Earth War*, Rocky Mt. News, May 13, 1983, at 29, col. 1. Featured in this article are the comments of Astronomer Carl Sagan and Columbia University Professor of Physics Richard Garwin, who spoke in Washington, D.C. in favor of a resolution to ban space weapons.

38. Graham, *supra* note 16, at 2.

39. *Id.* at 4.

40. *Id.* at 2.

41. Smernoff, *Strategic Value of Space-Based Laser Weapons*, AIR U. REV., Mar.-Apr. 1982, at 12.

42. *Id.* at 11.

43. Ellsberg, *Introduction to E. THOMPSON & D. SMITH, PROTEST AND SURVIVE* at v-vi



Because DEWs can be used offensively within an ABM system for detonating nuclear warheads and other purposes, it is naive to assume that they will only be restricted to defensive measures, especially since they may not be singularly effective and may be extremely vulnerable as well. The main criticism of the High Frontier plan is that in order for such a system to provide more than just the illusion of security, it would have to be 100% effective.<sup>44</sup> Leakage of 5-10% is not a problem, however, according to former Lieutenant General Graham, who asserts that “[d]efenses throughout military history have been designed to make attack more difficult and more costly—not impossible.”<sup>45</sup>

## VI. CONCLUSION

The containment of space militarization and the alleviation of the continuous threat of nuclear war are two worthy and compatible goals. However, if judged to be in the interests of “national security,” the development and deployment of a space-based ABM system for the stated purpose of defense will most likely be pursued by the U.S. and the Soviet Union, despite possible treaty restrictions and the undesirable effect of destabilization. Such a course will not be the panacea that President Reagan and his advisors envision, however. Technology breeds technology, and it is almost ludicrous to believe that either superpower will ever be able to develop the ultimate, impenetrable defensive system. In fact, inherent in the development and testing of such a system is the simultaneous development and testing of technology designed to counteract or limit its effectiveness. On the other hand, once a certain level of technology has been achieved, it can then only be *channeled*, not suppressed or ignored. The threat of the military application of such technology will exist as long as the materials, knowledge, and technology exist. An attempt to stifle the military exploitation of directed-energy technology by application of ambiguously worded treaties destined to be ignored, or worse, abused, is a futile effort. New treaties could be formulated, however, with unambiguous provisions specifically addressing the issue of space-based DEWs and providing effective sanctions in case of violations. This would allow research in this area to proceed within well-defined guidelines to the mutual advantage of all parties.<sup>46</sup>

With or without new or renegotiated treaties, the suggestion has been made that research and development of DEWs should continue as a joint effort so as to strengthen the validity of U.S. and Soviet claims of “purely

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(1981). See generally *id.* at i-xxviii.

44. Rocky Mt. News, note 37 *supra*.

45. Graham, *supra* note 16, at 3.

46. The Soviets have apparently submitted a draft of a proposed treaty to the UN calling for participant states “not to test or deploy . . . any space-based weapons intended to hit targets on Earth, in the atmosphere, or in outer space” in addition to other provisions addressing the militarization of space. *Soviets Want UN to Ban Manned Military Spacecraft*, Rocky Mt. News, Aug. 22, 1983, at 32, col. 3.

defensive" intentions.<sup>47</sup> Although a well-reasoned approach, this is a highly unlikely alternative, in spite of the almost inevitable destabilization resulting from a unilateral breakthrough. A better and more palatable solution would be the simultaneous reduction of offensive weaponry by both nations, which would serve to demonstrate further the sincerity of their intentions. Recent developments demand that we begin *now* to re-evaluate our dependence on largely ineffective legal restraints and consider the propriety of these and other proposed methods designed to avoid the over-militarization of space as well as the catastrophic destabilization that would be likely to occur with the implementation of High Frontier.

Mark A. Clark

### ***Powell v. U.S. Bureau of Prisons:* The Treatment of Mexican Work Credits by U.S. Authorities Under the Prisoner Transfer Treaty with Mexico**

In its recent decision in *Powell v. U.S. Bureau of Prisons*,<sup>1</sup> the Court of Appeals for the Fifth Circuit determined that the work credits earned in a Mexican prison by a prisoner subsequently transferred to the United States represented only a conditional reduction in the offender's sentence. The court held that U.S. authorities could order such work credits forfeited when the offender violated the conditions of his parole. Through the court's interpretation of the terms of the United States-Mexico Prisoner Transfer Treaty,<sup>2</sup> the decision clarifies the Treaty's jurisdictional allocation of sentencing issues to the Transferring State and parole issues to the Receiving State.

The United States entered into the treaty negotiations with Mexico in response to public concern over the frequently inhumane treatment U.S. nationals received in Mexican prisons and out of a desire to lessen the bilateral tensions which resulted.<sup>3</sup> Under the terms of the Treaty, U.S. nationals serving time in Mexico can be transferred to American custody for the remainder of their sentences.<sup>4</sup> Mexican nationals held in U.S.

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47. Buckley, *Share Defense Research*, Rocky Mt. News, Apr. 7, 1983, at 70.

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1. 695 F.2d 868 (5th Cir. 1983).

2. Treaty on the Execution of Penal Sentences, Nov. 25, 1976, United States-Mexico, 28 U.S.T. 7399, T.I.A.S. No. 8718.

3. Kowalski, *Penal Transfer Treaties and the Application of 'Unconstitutional Conditions' Analysis*, 12 U. Tol. L. Rev. 1, 5-6 (1980).

4. In addition to several conditions which must be met before a transfer can be ef-