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A-to Military Superiority Add-On

Satellites Not Key Overwhelming U.S. Military Checks – Economic Resources, Air Power, Conventional Forces

Posen ‘3(Barry R, Professor of Political Science at the Massachusetts Institute of Technology and a member of its Security Studies Program, “Command of the Commons: The Military Foundation of U.S. Hegemony,” <http://www.mitpressjournals.org/doi/abs/10.1162/016228803322427965>, Summer 2003)

 What are the sources of U.S. command of the commons? One obvious source is the general U.S. superiority in economic resources. According to the Central Intelligence Agency, the United States produces 23 percent of gross world product (GWP); it has more than twice as many resources under the control of a single political authority as either of the next two most potent economic powers— Japan with 7 percent of GWP and China with 10 percent. With 3.5 percent of U.S. gross domestic product devoted to defense (nearly 1 percent of GWP), the U.S. military can undertake larger projects than any other military in the world. The specific weapons and platforms needed to secure and exploit command of the commons are expensive. They depend on a huge scientific and industrial base for their design and production. In 2001 the U.S. Department of Defense budgeted nearly as much money for military research and development as Germany and France together budgeted for their entire military efforts. The military exploitation of information technology, a field where the U.S. military excels, is a key element. The systems needed to command the commons require significant skills in systems integration and the management of large-scale industrial projects, where the U.S. defense industry excels. The development of new weapons and tactics depends on decades of expensively accumulated technological and tactical experience embodied in the institutional memory of public and private military research and development organizations. Finally, the military personnel needed to run these systems are among the most highly skilled and highly trained in the world. The barriers to entry to a state seeking the military capabilities to fight for the commons are very high. During the Cold War, the Soviet Union challenged U.S. command of the sea with its large force of SSNs. The U.S. Navy quietly won the “third battle of the Atlantic,” though the Soviet successes in quieting their nuclear submarines in the 1980s would have necessitated another expensive and difªcult round of technological competition had the Cold War not ended. At more than $1 billion each (more than $2 billion each for the new U.S. SSN), modern nuclear submarines are prohibitively expensive for most states. Aside from the United States, Britain, China, France, and Russia are the only other countries that can build them, and China is scarcely able. 19 Several partially built nuclear attack submarines remained in Russian yards in the late 1990s, but no new ones have been laid down. 20 Perhaps 20–30 Russian nuclear attack submarines remain in service. 21 Currently, the U.S. Navy has 54 SSNs in service and 4 under construction. It plans to build roughly 2 new boats every three years. It also has a program to convert 4 Ohio-class Trident ballistic missile submarines into nonnuclear cruise missile–carrying submarines for land attack. The U.S. Navy also dominates the surface of the oceans, with 12 aircraft carriers (9 nuclear powered) capable of launching high-performance aircraft. 22 The Soviet Union was just building its First true aircraft carrier when its political system collapsed. Aside from France, Command of the Commons 11 17. The actual wartime missions of SSNs in the canonical major regional contingencies—aside from lobbing a few conventional cruise missiles and collecting electronic intelligence close to shore—are murky at best. 18. Owen R. Coté Jr., The Third Battle: Innovation in the U.S. Navy’s Silent Cold War Struggle with Soviet Submarines (Newport, R.I.: Naval War College, 2003), pp. 69–78. 19. Construction of a new Chinese nuclear attack submarine has been delayed many times, and one is not expected to be completed until 2005. France does not have a nuclear attack submarine under construction, but it has a program planned for the 2010s. Britain has ordered three new nuclear attack submarines, and one is currently under construction. See A.D. Baker III, “World Navies in Review,” Naval Institute Proceedings, Vol. 128 (March 2002), pp. 33–36. 20. According to A.D. Baker III, “Submarine construction in Russia had all but halted by the fall of 1998.” At the time, there were four incomplete Akula-class nuclear attack submarines and one incomplete new-design attack submarine in Russian yards. Baker, “World Navies in Review,” Naval Institute Proceedings, Vol. 125 (March 1999), pp. 3–4. See also Baker, “World Navies in Review,” March 2002, pp. 35–36. One of the Akulas was ªnally commissioned at the end of 2001. One more may yet be completed. 21. IISS, Military Balance, 2002–2003, p. 113, suggests 22. Baker, “World Navies,” (March, 2002), suggests about 30. I count Oscar-class cruise missile submarines as attack submarines. 22. For ªgures on the U.S. Navy and Marine Corps, see IISS, Military Balance, 2002–2003, pp. 18– 21.which has 1, no other country has any nuclear-powered aircraft carriers. At $5 billion apiece for a single U.S. Nimitz-class nuclear–powered aircraft carrier, this is no surprise. 23 Moreover, the U.S. Navy operates for the Marine Corps a ºeet of a dozen large helicopter/VSTOL carriers, each almost twice the size of the Royal Navy’s comparable (3 ship) Invincible class. To protect its aircraft carriers and amphibious assets, the U.S. Navy has commissioned 37 Arleigh Burke–class destroyers since 1991—billion-dollar multimission platforms capable of antiair, antisubmarine, and land-attack missions in high-threat environments. 24 This vessel is surely the most capable surface combatant in the world. command of space Though the United States is not yet committed to actual combat in or from space, it spends vast amounts on reconnaissance, navigation, and communications satellites. 25 These satellites provide a standing infrastructure to conduct military operations around the globe. According to Gen. Michael Ryan, the chief of staff of the U.S. Air Force, the United States had 100 military satellites and 150 commercial satellites in space in 2001, nearly half of all the active satellites in space. 26 According to Air Force Lt. Gen. T. Michael Moseley, air component commander in the U.S.-led invasion of Iraq in March 2003, more than 50 satellites supported land, sea, and air operations in every aspect of the campaign. 27 Secretary of Defense Donald Rumsfeld plans to emphasize the military exploitation of space, and has set the military the mission of “space International Security 28:1 12 23. For costs of current U.S. warships, see Ofªce of the Comptroller, U.S. Department of Defense, “Shipbuilding and Conversion,” National Defense Budget Estimates for the Amended FY 2002 Budget (Green Book), Procurement Programs (P1), pp. N. 17–18. 24. See http://www.globalsecurity.org/military/systems/ship/ddg-51-unit.htm. 25. The Pentagon has been hinting for some time that it would like to put weapons into space both for antisatellite attacks and for attacks on terrestrial targets. Many independent space policy analysts oppose this because the United States gets more out of space than any other state. They acknowledge that this makes U.S. space assets an attractive target, but they argue that hardening satellites, ground stations, and the links between them makes more sense than starting an expensive arms competition in space. Implicitly, they also rely on deterrence—the superior ability of the U.S. military to damage the other side’s ground stations, links, and missile launch facilities, as well as to retaliate with nascent U.S. antisatellite systems against the other side’s satellites. See, for example, Theresa Hitchens, Weapons in Space: Silver Bullet or Russian Roulette (Washington, D.C.: Center for Defense Information, April 19, 2002); Michael Krepon with Christopher Clary, Space Assurance or Space Dominance? The Case against Weaponizing Space (Washington, D.C.: Henry L. Stimson Center, 2003), chap. 3; and Charles V. Pena and Edward L. Hudgins, Should the United States “Weaponize” Space? Policy Analysis No. 427 (Washington D.C.: Cato Institute, March 18, 2002), pp. 5–10. 26. Vernon Loeb, “Air Force’s Chief Backs Space Arms,” Washington Post, August 2, 2001, p. 17. 27. Jim Garamone, “Coalition Air Forces Make Ground Gains Possible,” American Forces Press Service, April 5, 2003, http://www.defenselink.mil/news/APR2003/n04052003\_200304053.html.control.” 28 For ªscal years 2002–07, the Pentagon plans to spend $165 billion on space-related activities. 29 Other states can and do use space for military and civilian purposes. Though there is concern that some commercial satellites have military utility for reconnaissance and communications, many belong to U.S. companies or U.S. allies, and full exploitation of their capabilities by U.S. enemies can be severely disrupted. 30 The NAVSTAR/GPS (global positioning system) constellation of satellites, designed and operated by the U.S. military but now widely utilized for civilian purposes, permits highly precise navigation and weapons guidance anywhere in the world. Full exploitation of GPS by other military and civilian users is permitted electronically by the United States, but this permission is also electronically revocable. 31 It will not be easy for others to produce a comparable system, though the European Union intends to try. GPS cost $4.2 billion (in 1979 prices) to bring to completion, signiªcantly more money than was originally projected. 32 Command of the Commons 13 28. According to the 2001 Quadrennial Defense Review Report, “The ability of the United States to access and utilize space is a vital national security interest.” Moreover, “the mission of space control is to ensure the freedom of action in space for the United States and its allies and, when directed, to deny such freedom of action to adversaries.” According to the report, “Ensuring freedom of access to space and protecting U.S. national security interests are key priorities that must be reºected in future investment decisions.” Ibid., p. 45 29. General Accounting Ofªce, Military Space Operations: Planning, Funding, and Acquisition Challenges Facing Efforts to Strengthen Space Control, GAO-02–738 (Washington, D.C.: GAO, September 2002), p. 3. It appears that U.S. military spending on space has nearly doubled since 1998, when it was estimated at $14 billion. See John Pike, “American Control of Outer Space in the Third Millennium,” November 1998, http://www.fas.org/spp/eprint/space9811.htm. 30. Pike, “American Control of Outer Space.” 31. The United States formerly corrupted the GPS satellite signals to reduce the accuracy that a nonmilitary user terminal could achieve. On May 1, 2000, President Clinton ended this policy due to the vast commercial possibilities of highly accurate positional information. At that time, the U.S. government believed that it could employ new techniques to jam the GPS signals regionally in a way that would prevent an adversary from exploiting them, but not dilute the accuracy elsewhere. See President Bill Clinton: “Improving the Civilian Global Positioning System (GPS),” May 1, 2000, http://www.ngs.noaa.gov/FGCS/info/sans\_SA/docs/statement.html. 32. This is the cost of the development and deployment of the system, and the acquisition of sufªcient satellites (118), to achieve and sustain a 24-satellite array. By 1997, $3 billion had been spent on “user equipment,” the military terminals that calculate location on the basis of the satellites’ signals. See U.S. Department of Defense, “Systems Acquisition Review Program Acquisition Cost Summary as of June 30, 1997.” See also General Accounting Ofªce, Navstar Should Improve the Effectiveness of Military Missions—Cost Has Increased, PSAD-80–91 (Washington, D.C.: GAO, February 15, 1980), p. 14. The European Union has decided to produce a competing system to GPS, called Galileo. It is estimated that 3 billion euros will be required to buy and operate 30 satellites. European advocates of Galileo explicitly argue that Europe must have its own satellite navigation systems or lose its “autonomy in defense.” See Dee Ann Divis, “Military Role for Galileo Emerges,” GPS World, Vol. 13, No. 5 (May 2002), p. 10.The dependence of the United States on satellites to project its conventional military power does make the satellites an attractive target for future U.S. adversaries. 33 But all satellites are not equally vulnerable; low earth orbit satellites seem more vulnerable to more types of attack than do high earth orbit satellites. 34 Many of the tactics that a weaker competitor might use against the United States would probably not be usable more than once—use of space mines, for example, or so-called microsatellites as long-duration orbital interceptors. The U.S. military does have some insurance against the loss of satellite capabilities in its fleet of reconnaissance aircraft and unmanned aerial vehicles. A challenge by another country could do some damage to U.S. satellite capabilities and complicate military operations for some time. The United States would then need to put a new generation of more resilient satellites in orbit. One estimate suggests that the exploitation of almost every known method to enhance satellite survivability would roughly double the unit cost. 35 The United States has had a number of antisatellite research and development programs under way for many years, and some are said to have produced experimental devices that have military utility. 36 The planned U.S. ballistic missile defense system will also have some antisatellite capability. U.S. conventional military capabilities for precision attack, even without the support of its full panoply of space assets, are not trivial. It is quite likely that an opponent’s own satellites, and its ground stations and bases for attacking U.S. satellites, would quickly come under sustained attack. The most plausible outcome of a war over space is that the United States would, after a period of difªculty, rebuild its space assets. The ªght would not only leave the adversary devoid of space capability, but would also cause the United States to insist on the permanent antisatellite disarmament of the challenger, which it would try to enforce. Finally, the United States would probably assert some special interest in policing space. International Security 28:1 14 33. Tom Wilson, Space Commission staff member, “Threats to United States Space Capabilities,” prepared for the Report of the Commission to Assess United States National Security Space Management and Organization (Washington, D.C.: Government Printing Ofªce [GPO], January 11, 2001). Secretary of Defense Donald Rumsfeld chaired this commission. 34. A technically competent country with limited resources may be able to develop a capability to damage or destroy U.S. reconnaissance satellites in low earth orbit. See Allen Thomson, “Satellite Vulnerability: A Post–Cold War Issue,” Space Policy, Vol. 11, No. 1 (February 1995), pp. 19–30. 35. This is based on my simple addition of the maximum estimated cost increases associated with hardening satellites, providing them the capability for autonomous operations, giving them some onboard attack reporting capability, making them maneuverable, supplying them with decoys, and providing them with some self defense capability. See Wilson, “Threats to United States Space Capabilities,” p. 6. 36. Pike, “American Control of Outer Space in the Third Millennium.”command of the air An electronic ºying circus of specialized attack, jamming, and electronic intelligence aircraft allows the U.S military to achieve the “suppression of enemy air defenses” (SEAD); limit the effectiveness of enemy radars, surface-to-air missiles (SAMs) and ªghters; and achieve the relatively safe exploitation of enemy skies above 15,000 feet. 37 Cheap and simple air defense weapons, such as antiaircraft guns and shoulder-ªred lightweight SAMs, are largely ineffective at these altitudes. Yet at these altitudes aircraft can deliver precision-guided munitions with great accuracy and lethality, if targets have been properly located and identiªed. The ability of the U.S. military to satisfy these latter two conditions varies with the nature of the targets, the operational circumstances, and the available reconnaissance and command and control assets (as discussed below), so precision-guided munitions are not a solution to every problem. The United States has devoted increasing effort to modern aerial reconnaissance capabilities, including both aircraft and drones, which have improved the military’s ability in particular to employ air power against ground forces, but these assets still do not provide perfect, instantaneous information. 38 Conªdence in the quality of their intelligence, and the lethality and responsiveness of their air power, permitted U.S. commanders to dispatch relatively small numbers of ground forces deep into Iraq in the early days of the 2003 war, without much concern for counterattacks by large Iraqi army units. 39 The U.S. military maintains a vast stockpile of precision-guided munitions and is adding to it. As of 1995, the Pentagon had purchased nearly 120,000 airlaunched precision-guided weapons for land and naval attack at a cost of $18 billion. 40 Some 20,000 of these weapons were high-speed antiradiation missiles Command of the Commons 15 37. Barry R. Posen, Inadvertent Escalation: Conventional War and Nuclear Risks (Ithaca, N.Y.: Cornell University Press, 1992), pp. 51–55. For a detailed description of a suppression operation, see Barry D. Watts and Thomas A. Keaney, Effects and Effectiveness: Gulf War Air Power Survey, Vol. 2, Pt. 2 (Washington, D.C.: GPO, 1993), pp. 130–145. 38. During Desert Storm, the United States employed one experimental JSTARS (joint surveillance target attack radar system) aircraft, a late Cold War project to develop an airborne surveillance radar capable of tracking the movements of large enemy ground forces at ranges of hundreds of kilometers. The U.S. Air Force has 15 such aircraft. Similarly, U.S. forces employed few if any reconnaissance drones in Desert Storm; the U.S. Air Force now operates both high- and low-altitude reconnaissance drones. Under the right conditions, drones allow U.S. forces to get a close and persistent look at enemy ground forces. For current U.S. Air Force holdings, see IISS, Military Balance, 2002–2003, pp. 22–23. 39. Lt. Gen. James Conway, U.S. Marine Corps, “First Marine Expeditionary Force Commander Live Brieªng from Iraq,” May 30, 2003, U.S. Department of Defense news transcript, http:// www.defenselink.mil/transcripts/2003/tr20030530–0229.html. 40. General Accounting Ofªce, Weapons Acquisition: Precision-Guided Munitions in Inventory, Production, and Development, GAO/NSIAD-95–95 (Washington, D.C.: GAO, June 1995), p. 12.(HARMs), designed to home in on the radar emissions of ground-based SAM systems, a key weapon for the SEAD campaign. Thousands of these bombs and missiles were launched in Kosovo, Afghanistan, and Iraq, but tens of thousands more have been ordered. 41 The capability for precision attack at great range gives the United States an ability to do significant damage to the infrastructure and the forces of an adversary, while that adversary can do little to harm U.S. forces. 42 Air power alone may not be able to determine the outcome of all wars, but it is a very signiªcant asset. Moreover, U.S. air power has proven particularly devastating to mechanized ground forces operating offensively, as was discovered in the only Iraqi mechanized offensive in Desert Storm, the battle of al-Khafji, in which coalition air forces pummeled three advancing Iraqi divisions. 43 The United States can provide unparalleled assistance to any state that fears a conventional invasion, making it a very valuable ally.

Destruction of Satellites Would Only Be A Temporary Disturbance – US Would Prevail

Caton 96(USAF, is assigned to the Space Standardization and Evaluation Division, Cheyenne

Mountain Operations Center, U.S. Space Command. – Joint Force Quarterly – Winter – 1995/96 edition http://www.fas.org/spp/eprint/1310.pdf)

If prepared, the Armed Forces could probably operate in remote theaters without the aid of space systems. However, based on the increasing strength of space dependency links, they would have problems operating under the immediate and unexpected loss of critical space support, which would give at least temporary advantage to an enemy. That edge could increase by synchronizing attacks on space systems with assaults on terrestrial forces. While this may not enable an enemy to triumph militarily, it may cause loss of life and materiel sufficient to bring our withdrawal.

A-to Prepositioning Add-on

( ) Nuclear Weapons not pre-positioned now – no time frame on when they would be.

( ) US would not pre-position until the threat was quite imminent – international law and US law blocks

Gerrard ‘98

(Michael Gerrard is Andrew Sabin Professor of Professional Practice and Director of the Center for Climate Change Law at Columbia Law School – New York Law Journal, Volume 219, Number 58

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Within a day, previous approaches of the asteroid were found in archived photographs, and the path was recalculated. The Jet Propulsion Laboratory in Pasadena, Calif., announced that the object would pass 600,000 miles away--well outside the moon's orbit of 240,000 miles. [FN1] What had loomed as a threat of global cataclysm became fodder for Jay Leno and a classic New York Post headline, "Kiss Your Asteroid Goodbye." As it happens, just a year ago, at a New York University Environmental Law Journal symposium on the law of outer space exploration and development, this writer and colleague Anna Barber presented a paper on legal issues in defending against asteroids and comets. [FN2] There actually are substantial legal issues, chiefly relating to the principal method that would be used to defend against an incoming object: the launch of nuclear weapons. Both U.S. and international law regulate the use of such weapons in space.