

### 3 Critical astropolitics

## The geopolitics of space control and the transformation of state sovereignty<sup>1</sup>

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Who controls low-earth orbit controls near-Earth space. Who controls near-Earth space dominates Terra. Who dominates Terra determines the destiny of humankind.

(Dolman 2002a: 8)

#### Introduction

Explicitly invoking a “space Pearl Harbor” as a potential disaster the United States must strive to avoid, the 2001 *Report of the Commission to Assess United States National Security Space Management and Organization* urged action on “five matters of key importance” (Commission 2001: 9). First among those recommendations is the “demand that U.S. national security space interests be recognized as a top national security priority.” In making this call, the Commission was speaking in terms increasingly familiar to the national security community, including Congress. Indeed, the mandate of the Commission established in the *National Defense Authorization Act for Fiscal Year 2000* [Public Law 106–65, Section 1622] was similarly framed:

The commission shall, concerning changes to be implemented over the near-term, medium term and long-term that would strengthen United States national security, assess the following: (1) The manner in which military space assets may be exploited to provide support for United States military operations.

(Commission 2001: 1)

Such statements of official policy for the United States to develop singular military capacity in space are now far from unusual. More than political rhetoric is involved, however, as substantial resources are being invested in research and development, indicating clearly that Earth’s orbital space is currently an object of military-security planning.<sup>2</sup> The United States’ strategic imaginary in the early twenty-first century expressly includes securitization of, through, and from orbital space under such rubrics as missile defense, space control, and force application from space. Space weapons,

then, are no longer just a fantasy, an unrealizable fiction. They are rapidly becoming a very real possibility, actively sought in strategic policy.

This policy commitment, unlike those of previous eras, regards control of Earth's orbital space as strategically crucial. While it is surely true that efforts to bring grand strategic visions into being often fall short, or even founder, it is also the case that pursuit of them has the potential to have very significant consequences for the structure and stability of the international system. The question that arises is: what are likely effects on the future international system of the active pursuit, and perhaps the actualization, of this current policy of attempted control over orbital space by the United States?

In addressing that question in this chapter, we approach the policy as expressive of a geopolitical strategic vision, and, accordingly, turn initially to the analytical tools of geopolitical theory. The now largely neglected discourse of geopolitics – which had its heyday during the late nineteenth and early twentieth century – attempted to ask a similar question to ours about the impact that new technologies, particularly steamships, railways, and airplanes, would have on the course of world politics (see for example Mahan 1890; Mackinder 1912). Recently some international relations scholars have attempted to revive principles of geopolitical theory and apply them to the terrain of space (both Earth's orbital space and the area beyond Earth's gravity well). Out of these “astropolitical” theories two distinct models of the future of the international system have emerged, one reflecting realist tenets and the other more liberal-republican in its inflection. The first, developed most fully by Everett Dolman, sees *astropolitik* (a realpolitik version of astropolitics) as the ability of great powers to dominate the Earth through the competitive mastery of space. The second, articulated powerfully by Daniel Deudney, argues that the expansion of global politics into orbital space has the potential to foster a republican form of international government on Earth. After reviewing these liberal-republican and realist strands of astropolitics, we turn to insights in critical geopolitics, inspired by critical social theory more generally, to challenge some of their core assumptions, especially assumptions that permit an effective ignoring of implications of basic principles of power and control recognized in the epigraph from Dolman with which this chapter began. We then extend the opening provided by the turn to critical theory to consider constitutive effects of the operation of power, and especially to theorize how U.S. hegemony in space weaponization would re-constitute global political order. For this, we move to an engagement with contemporary critical theories of sovereignty to highlight consequences of contemporary U.S. astropolitical strategy in constituting a historically unprecedented form of empire, which would have profound impact on the structure and functioning of international relations. We argue that U.S. geopolitical strategy of attempting control of orbital space has the strong potential to transform the constitution of sovereignty of modern territorial states. In place of an anarchic system of sovereign territorial states – capable either of great power competition or federation through collaboration – we

see the likely development of a historically unprecedented form of empire, administratively deterritorialized, but centralized in locus of authority.

## Astropolitics: realist and liberal strands

### *Realism and astropolitik*

Everett Dolman<sup>3</sup> draws on the writings of Mackinder and Mahan as inspiration for his development of a theory, which he titles *Astropolitik*. By the term, *astropolitik*, Dolman means “the application of the prominent and refined realist vision of state competition into outer space policy, particularly the development and evolution of a legal and political regime for humanity’s entry into the cosmos” (Dolman 2002a: 1). While Mahan focused on the structure of the ocean to develop his theories, and Mackinder focused on the topography of land, Dolman turns his attention toward the cartography of outer space. Whereas, at first glance, space may appear to be a “featureless void,” Dolman argues that it “is in fact a rich vista of gravitational mountains and valleys, oceans and rivers of resources and energy alternately dispersed and concentrated, broadly strewn danger zones of deadly radiation, and precisely placed peculiarities of astrodynamics” (Dolman 2002a: 61). In a manner similar to Mahan’s focus on natural sea lanes and “choke points” and Mackinder’s emphasis of geographic regions, Dolman emphasizes orbits, regions of space, and launch points as geopolitically vital assets over which states can be expected competitively and strategically to struggle for control.

Orbital paths are important because stable orbits require virtually no fuel expenditure for satellites, whereas unstable orbits make it impossible for satellites to remain in space for a long time. Furthermore, different types of orbits pass over different parts of the earth at different frequencies. As such, the mission of a spacecraft determines in large part which orbit is most useful for it. There are essentially four types of orbits: low-altitude (between 150 km and 800 km above the Earth’s surface); medium-altitude (ranging from 800 km–35,000 km); high-altitude (above 35,000 km); and highly elliptical (with a perigee of 250 km and an apogee of 700,000 km) (Dolman 2002a: 65–7). In addition to pointing to the division of space into orbital planes, Dolman also identifies four key regions of space:

- 1 *Terra*, which includes the Earth and its atmosphere up until “just below the lowest altitude capable of supporting unpowered orbit” (Dolman 2002: 69);
- 2 *Earth Space*, which covers the region from the lowest possible orbit through to geo-stationary orbit;
- 3 *Lunar Space*, which extends from geo-stationary orbit to the Moon’s orbit; and
- 4 *Solar Space*, which “consists of everything in the solar system ... beyond the orbit of the moon” (Dolman 2002a: 70).

For Dolman, Earth Space is the astropolitical equivalent of Mackinder's Outer Crescent, because controlling it will permit a state to limit strategic opportunities of potential rivals and at the same time allow the projection of force for indirect control (i.e. without occupation) of extensive territory of vital strategic importance, in this case (unlike Mackinder's) potentially the entire Earth. "Control of Earth Space not only guarantees long-term control of the outer reaches of space, it provides a near-term advantage on the terrestrial battlefield" (Dolman 1999: 93).

On the basis of these principles, Dolman develops an "*Astropolitik* policy for the United States" (Dolman 1999: 156), which calls on the U.S. government to control Earth Space. In the current historical-political juncture, no state controls this region. However, rather than leave it as a neutral zone or global commons, Dolman calls for the U.S. to seize control of this geo-strategically vital asset. According to Dolman's reasoning, the neutrality of Earth Space is as much a threat to U.S. security as the neutrality of Melos was to Athenian hegemony. To leave space a neutral sanctuary could be interpreted as a sign of weakness that potential rivals might exploit. As such, it is better for the U.S. to occupy Earth Space now.

Dolman's *astropolitik* policy has three steps. The first involves the U.S. withdrawing from the current space regime on the grounds that its prohibitions on commercial and military exploitation of outer space prevent the full exploitation of space resources. In place of the global commons approach that informs that regime, Dolman calls for the establishment of "a principle of free-market sovereignty in space" (Dolman 2002a: 157), whereby states could establish territorial claims over areas they wish to exploit for commercial purposes. This space rush should be coupled with "propaganda touting the prospects of a new golden age of space exploration" (Dolman 2002a: 157). Step two calls for the U.S. to seize control of low-Earth orbit, where "space-based laser or kinetic energy weapons could prevent any other state from deploying assets there, and could most effectively engage and destroy terrestrial enemy ASAT facilities" (Dolman 2002a: 157). Other states would be permitted "to enter space freely for the purpose of engaging in commerce" (Dolman 2002a: 157). The final step would be the establishment of "a national space coordination agency ... to define, separate and coordinate the efforts of commercial, civilian and military space projects" (Dolman 2002a: 157).

Within Dolman's theory of *astropolitik* is a will-to-space-based-hegemony fuelled by a series of assumptions, of which we would point to three as especially important. First, it rests on a strong preference for competition over collaboration in both the economic and military spheres. Dolman, like a good realist, is suspicious of the possibilities for sustained political and economic cooperation, and assumes instead that competition for power is the law of international political-economic life. He believes, though, that through a fully implemented astropolitical policy "states will employ competition productively, harnessing natural incentives for self-interested gain to a mutually beneficial future, a competition based on the fair and legal commercial

exploitation of space” (Dolman 2002a: 4). Thus, underpinning his preference for competition is *both* a liberal assumption that competitive markets are efficient at producing mutual gain through innovative technologies, *and* the realist assumption that inter-state competition for power is inescapable in world politics. As we will note more fully below, this conjunction of liberal and realist assumptions is a hallmark of the logic of empire as distinct from the logic of a system of sovereign states.

The second and most explicit of Dolman’s key assumptions is the belief that the U.S. should pursue control of orbital space because *its* hegemony would be largely benign. The presumed benevolence of the U.S. rests, for Dolman, on its responsiveness to *its* people.

If any one state should dominate space it ought to be one with a constitutive political principle that government should be responsible and responsive to its people, tolerant and accepting of their views, and willing to extend legal and political equality to all. In other words, the United States should seize control of outer space and become the shepherd (or perhaps watchdog) for all who would venture there, for if any one state must do so, it is the most likely to establish a benign hegemony.

(Dolman 2002a: 157)

However, even if the U.S. government is popularly responsive in its foreign policy – a debatable proposition – the implication of Dolman’s *astropolitik* is that the U.S. would exercise *benign* control over orbital space, and, from that position, potentially all territory on Earth and hence *all people*, by being responsible to its 300 million citizens. As such, this benign hegemony would in effect be an apartheid regime where 95 percent of the world would be excluded from participating in the decision-making of the hegemonic power that controls conditions of their existence. This, too, is a hallmark of empire, not of a competitive system of sovereign states.

Third, Dolman’s *astropolitik* treats space as a resource to be mastered and exploited by humans, a *Terra Nullius*, or empty territory, to be colonized and reinterpreted for the interests of the colonizer. This way of looking at space is similar to the totalizing gaze of earlier geopolitical theorists who viewed the whole world as an object to be dominated and controlled by European powers, who understood themselves to be beneficently, or, at worst, benignly, civilizing in their control of territories and populations (Ó Tuathail 1996: 24–35). This assumption, like the first two, thus also implicates a hallmark of the logic of empire, namely what Ó Tuathail (1996) calls the ‘geopolitical gaze’ (about which we have more to say below), which works comfortably in tandem with a self-understanding of benign hegemony.

When these three assumptions are examined in conjunction, Dolman’s *astropolitik* reveals itself to be a blueprint for a U.S. empire that uses the capacities of space-based weapons to exercise hegemony over the Earth and to grant access to the economic resources of space only to U.S. (capitalist)

interests and their allies. This version of astropolitics, which is precisely the strategic vision underlying the policy pronouncements of the *National Security Space Management and Organization Commission* (Commission 2001) – and subsequently President George W. Bush – with which we began this chapter, is a kind of spatial, or geopolitical, power within the context of U.S. *imperial* relations of planetary scope. Its ostensive realist foundations are muted, except as a rather extreme form of offensive realism, because the vision is not one of great power competition and strategic balancing, but rather one of imperial control through hegemony. As such, it brings into question the constitution of sovereignty, since empire and sovereignty are fundamentally opposed constitutive principles of the structure of the international system – the subjects of empire are not sovereign. Thus, if astropolitics is to be in the form of Dolman's *astropolitik* (and current U.S. policy aspirations), the future of sovereignty is in question, despite his efforts to position the theory as an expression of the realist assumption of great power competition. In later sections of this chapter, we attempt to show what this bringing sovereignty into question is likely to mean, conceptually and in practice. Before turning to that principal concern, however, we consider an alternative geopolitical theory of astropolitics.

### *Liberal-republican astropolitics*

Over the past twenty-five years, in a series of articles and recently a major book, Daniel Deudney has attempted to rework the tenets of geopolitics and apply them to the contemporary challenges raised by new weapons technologies – particularly nuclear and space weapons (Deudney 1983, 1985, 1995, 2000, 2002, 2007).<sup>4</sup> While Deudney finds geopolitical theory of the late nineteenth century and early twentieth century theoretically unsophisticated and reductionist, he believes that geopolitical attention to material conditions, spatiality, change, and political processes could form the basis of a theoretically sophisticated contextual–materialist security theory of world politics.

Deudney starts from a premise about space weaponization similar to the core of Dolman's *astropolitik*, namely that if any state were able to achieve military control of space, it would hold potential mastery over the entire Earth.

One preliminary conclusion, however, seems sound: effective control of space by one state would lead to planet-wide hegemony. Because space is at once so proximate and the planet's high ground, one country able to control space and prevent the passage of other countries' vehicles through it could effectively rule the planet. Even more than a monopoly of air or sea power, a monopoly of effective space power would be irresistible.

(Deudney 1983: 17)

Rather than developing the implications of this as a strategic opportunity for any one state (e.g. the U.S.), however, Deudney sees it as a collective problem to be kept in check through collaboration; his project is to avoid space-based hegemony through cooperation among states. In a series of articles on global security written in the 1980s – while Cold War tensions between the U.S. and the U.S.S.R. continued to frame much theoretical discussion in international relations – Deudney saw the space age as a double-edged sword in superpower relations. On the one side, space weaponization posed a risk that the superpowers would extend their conflict extra-terrestrially and devise new, deadlier technologies that would enhance the risk of exterminating all of humanity; on the other, according to Deudney, the space age had found productive opportunities for the superpowers to deal with their rivalries in stabilizing collaboration. He notes that the Sputnik mission, while in the popular understanding only an escalation of the Cold War, initially was the result of an internationally organized research program – the International Geophysical Year (Deudney 1985; though see Dolman 2002a: 106–107 for an alternate interpretation of these events as Cold War competition). Another example was President Eisenhower’s proposed “Atoms for Peace” project, which involved the great powers sharing nuclear technology with developing nations for energy purposes. Most famous was the collaboration between the Soviet Union and the U.S. during the 1970s on the rendezvous between an Apollo capsule and the Soyuz space station. Similar multinational collaborations continue to this day, with the most notable example being the International Space Station. In addition to promoting collaboration, according to Deudney, the space age has also enhanced the ability of space powers to monitor each other – through spy satellites – thereby increasing the likelihood that they abide by arms control treaties.

Deudney believes that these types of collaboration and increased surveillance could be strengthened and deepened so that great powers could be persuaded over time to “forge missiles into spaceships” (Deudney 1985: 271). In the 1980s this led Deudney to develop a set of specific proposals for a peaceful space policy, including collaboration between space powers on manned missions to the Moon, asteroids, and Mars. The development of an International Satellite Monitoring Agency would make “space-based surveillance technology accessible to an international community” for monitoring ceasefires, crises, compliance with international arms control treaties, and the Earth’s environment (Deudney 1985: 291). These proposals are aimed at promoting collaboration on projects of great scientific and military significance for the individual states. Deudney’s expectation is that such cooperation would mitigate security dilemmas and promote greater ties between states that would co-bind their security without sacrificing their sovereignty.

While Deudney has not been explicit about how his astropolitics of collaboration would alter world order, in his more theoretical writings he has elaborated the logic of a liberal-republican international system. In a 2002 article on geopolitics and international theory, he developed what he called a

'historical security materialist' theory of geopolitics: "[I]n which changing forces of destruction (constituted by geography and technology) condition the viability of different modes of protection (understood as clusters of security practices) and their attendant 'superstructures' of political authority structures (anarchical, hierarchical, and federal-republican)" (Deudney 2002: 80).

In that work, he identified four different eras in which distinct modes of destruction were predominant: *Pre-modern*; *Early Modern*; *Global Industrial*; and *Planetary-Nuclear*, as well as two modes of protection: *real-statism*, which is based on an internal monopoly of violence and external anarchy; and *federal-republicanism*, which is based on an internal division of powers and an external symmetrical binding of actors through institutions that reduces their autonomy in relation to one another. According to Deudney, in the Planetary-Nuclear age the federal-republican mode of protection is more viable because states "are able to more fully and systematically restrain violence" than under the power balancing practices of real-statist modes of protection (Deudney 2002: 97; see also Deudney 2007: 244–277 for an elaboration of this argument).

Although Deudney has not extended his "historical security materialist" approach into explicitly theorizing space weapons, per se (dealt with only tangentially and implicitly in the last two chapters of his recent book), his proposals during the Cold War to foster institutional collaboration between space powers as a way of promoting peace can safely be understood as a form of the mutually binding practices that he associates with the federal-republican mode of protection. In addition, one of the general conclusions that Deudney reaches about "historical security materialism" is that the more a security context is rich in the potential for violence, the better suited a federal-republican mode of protection is to avoid systemic breakdown. Therefore, it seems reasonable to conclude that within Deudney's work is a nascent theory of how a federal-republican international system could limit conflict between space powers by binding them together in collaborative uses of space for exploratory and security uses. In this sense, Deudney can be read as the liberal-republican astropolitical counterpart to Everett Dolman.<sup>5</sup>

While Deudney's astropolitical theorizations hold out the promise of a terrestrial pacification through space exploration it is interesting to note a significant aporia in his theory – empire as a possible mode of protection. While real-statist modes of protection have an internal hierarchical authority structure, they are based on assumptions of external-anarchy, which is to say a system of sovereign states. Conversely, the federal-republican model is based on a *symmetrical* binding of units, in a way that no single unit can come to dominate others and accordingly in which they preserve their sovereignty (Deudney 2000, 2002, 2007). In a third mode, to which Deudney gives only scant attention, the case of empire, the hegemony of a single unit is such that other units are bound to it in an *asymmetrical* pattern that locates sovereignty only in the hegemon, or imperial center. Successful empires, including the Roman, British, and American, permit local autonomy in areas that are not of



the imperial power's direct concern while demanding absolute obedience in areas that are of vital concern to it, particularly when it comes to issues of security.<sup>6</sup> Deudney's implicit astropolitical theory thus ignores structurally asymmetric relations – in effect he ignores power. It is as if in wanting to have the world avoid the possibility of a planetary hegemony at the heart of the premise with which he and Dolman began their respective analyses, he white-washes it by failing to acknowledge the profound asymmetries of aspirations and technological–financial–military capacities among states for control of orbital space.

In the next two sections we respond to Deudney's call for "historical security materialism" by focusing on the premise that he skirts but that Dolman emphasizes, that military control of space means (at least the possibility of) mastery of the Earth. Specifically we examine how a new mode of destruction – space weapons – is the ideal basis for the third mode of protection – empire – through its potential for substantial asymmetry. We argue that the power asymmetries of space weapons have very significant constitutive effects on sovereignty and international systemic anarchy, and underlie the constitution of a new, historically unprecedented, form of empire. Before turning to that central thesis, however, we will first sketch the general contours of a critical astropolitics, which builds on the foundational premise of Dolman and Deudney, but modifies their theories in light of the significant insights of critical theory, particularly with respect to constitutive power. We ask: what consequences of astropolitics can a critical approach illuminate that may be concealed by an astropolitics informed by either liberal-republican or realist assumptions? How can insights offered by the revival of geopolitics in the writings of Deudney and Dolman – particularly the call for a new security materialist mode of analysis – be used to supplement and refine critical international relations theory?

### Critical astropolitics

In the broad intellectual tradition of geopolitics, advocates of a critical perspective – particularly Simon Dalby, John Agnew, and Gearóid Ó Tuathail – have challenged mainstream geopolitical theory for assuming and validating power relations implicit in the production of geopolitical knowledge, and for a tendency to be a reifying and totalizing discourse that erases difference and political contestation from processes of representing space (Agnew 2003, 2005; Dalby 1991; Dalby and Ó Tuathail 1998; Ó Tuathail 1996).

Ó Tuathail has criticized earlier forms of geopolitics for their ocular-centrism and what he terms the "geopolitical gaze." Drawing on the work of Michel Foucault, he reads geopolitical discourse as power/knowledge, such that knowledge of spaces produces subjects empowered for expansive control. Geopolitical representations – what Ó Tuathail terms geo-power – are in a mutually supportive relation with the imperial institutions in which they are produced (Ó Tuathail 1996: 6–20). Empires cannot function

without clear representations that explore, chart, and bring under control cartographic spaces. The spatial imaginary of the “geopolitical gaze,” then, is immanent to empire. In a related vein, Simon Dalby, too, has studied the role that geographical representations play. He has examined official policy documents and academic analyses of U.S. strategic thinking in both Cold War strategies and the Bush doctrine to determine how geographical representations of the earth shape U.S. imperial strategy (Dalby 2007). Additionally, John Agnew’s work examines how a particular geopolitical imagining – a global order constituted by sovereign states – “arose from European–American experience but was then projected on to the rest of the world and in to the future in the theory and practice of world politics” (Agnew 2003: 2).

Such scholarly work of critical geopolitics makes two crucial contributions. First it draws on the interpretive strategies of various theorists – from Foucault to Derrida and others – to critique the assumptions of mainstream geopolitical analysis. Second it moves toward a reformulation of geopolitics in a form that is more conscious of how power operates in the theory and practice of world politics. In the first two parts of this chapter we have drawn on the first of those contributions for our critical reading of realist and liberal-republican astropolitics, albeit without our making explicit reference to specific social theorists. Thus, just as Mackinder’s geopolitics re-presented how the world operated in a way that could be understood and controlled by British imperialists, it can be argued, following Agnew’s, Ó Tuathail’s and Dalby’s lead, that the kinds of representations of space proffered by Dolman (as orbits, regions, and launching points of strategic value) make the exercise of control over space intelligible from an American imperialist perspective. The “astropolitical gaze” and its cartographic representations are mutually productive with the current U.S. policy of attempting to secure control over orbital space. As we saw, realist astropolitics celebrates the ways in which extending U.S. military hegemony into space could amplify America’s imperial power. Yet, Dolman’s realist *astropolitik* leaves under-theorized the normative implication of space-based imperialism. Instead, Dolman merely asserts that America would be a benevolent emperor without explaining what checks on U.S. power might exist to prevent it from using the “ultimate high ground” to dominate all the residents of the Earth. Conversely, Deudney focuses on the potential for inter-state collaboration to produce a federal-republican global political order. However, Deudney leaves under-theorized the very real possibility that a unilateral entry into space by the U.S. could create an entirely new mode of protection and security.

While our approach to critical astropolitics shares the political commitments and many of the theoretical foundations of critical geopolitical scholarship, our interest is more in the study of the constitutive as opposed to the representational consequences of astropolitics. Accordingly, in the remainder of this chapter we draw on the second contribution of critical geopolitics – the reformulation of geopolitical theory through concepts of critical theoretical

analysis – to address the normative and theoretical absences we have identified in the realist and liberal astropolitical writings of Dolman and Deudney. First, we will draw on the critical theories of sovereignty offered in writings of Foucault, Agamben, and Hardt and Negri to theorize the form that the missing mode of protection/security from Deudney’s “historical security materialist” analysis – empire – would take. Second, we conclude by arguing that such a mode of protection/security would lack any effective counterbalances to its ability to project force, and as such it is unlikely that it would be the benevolent imperial power that Dolman claims it would be.

### Critical theories of sovereignty

There has been a recent explosion of critical theoretic reflection on modern sovereignty. Quite often, when there is a turn toward thinking about a concept it is because the practices to which the concept is related are undergoing a dramatic shift, stimulating the effort to comprehend that which is disappearing into the past. Hegel noted this most famously in his statement that “The owl of Minerva spreads its wings only with the falling of the dusk” (Hegel 1967: 13). One does not have to be a philosopher of history, however, to recognize that current global political realities, such as the coming out of the closet of U.S. empire, the demonstration of the insecurity of all territorial spaces, the triumph of a crisis-prone neo-liberal global economic order, and the creation of a “global village” through information technology, have at the very least called into question the sovereignty of the modern territorial state. There is no need to rehash well-worn empirical and theoretical debates about such transformative processes here. What we are interested in, instead, is using this renewed theoretical interest in the concept of sovereignty to think through how the mode of destruction of space weapons constitutes a new mode of protection/security – space-based empire.

Affecting much of the recent theorization of sovereignty is Michel Foucault’s argument about the misplaced attention to it. Throughout his later work, from *Discipline and Punish* (1977), through the first volume of *History of Sexuality* (1978), to his work on governmentality (2000), Foucault argued that sovereignty – which he identified with a juridical conceptualization of power – was in a mutually constitutive relationship with the forms of knowledge dominant in early modern European political thought. Foucault argued that this juridical form of power was composed of three distinct features: “of forming a unitary regime, of identifying its will with the law, and of acting through mechanisms of interdiction and sanction” (Foucault 1978: 87). This juridical conception of sovereignty has held captive the imagination of political theorists, thereby blinding them to other aspects of power, such as the bio-political. As an alternative to the juridical conception of sovereign power, Foucault introduced the term bio-power, which operates at two poles. First, there is the disciplinary form of power, whereby micro-rituals within social institutions constitute individual subjects. Second, at the macro-level, power

is exercised through the management of entire populations (Foucault 1978). Together, these macro and micro practices of power constitute a regime of rule that Foucault labeled “governmentality,” which refers to “the conduct of conduct” for “the right disposition of things so as to lead to a convenient end” (Foucault 2000: 208). The implication of Foucault’s analysis is that understanding rule in modern political society is best approached by *not* focusing on sovereign power, but instead through turning one’s attention away from – theoretically “cutting off the head” of – the sovereign. This means putting behind us the seventeenth-century European, juridical conception (from Hobbes and others) of the state as all-powerful unitary center, whose will is the law and which sits as maker of final decisions about taking life or letting live – that is to say, as political subject above (the chaos of) other subjectivities (Agnew 2005; Havercroft 2006).

In light of Foucault’s incisive analysis, focusing on how new technologies will alter the balance of power between sovereign states is precisely the wrong way to theorize the astropolitical impact of space weapons. Instead we should focus on the bio-political aspects of space weaponization along two axes: the management of populations and the disciplining/subjecting of individuals. On the population axis of biopolitics, the ability to project force to any point on Earth constitutes all the Earth’s inhabitants as a single population to be governed through surveillance and management. The possessor of space weapons, through its ability to potentially project force at all of the Earth’s inhabitants, in effect gains a monopoly on the means of violence over all of the earth. This leads to a dramatic re-ordering of the mode of protection that governs the international system. As opposed to the internal monopoly of violence and external anarchy of *real-statism* and the internal division of powers and external symmetrical binding of *federal-republicanism*, space-based empire has an external monopoly on violence that asymmetrically binds all people and institutions, including states, together under the hegemony of the imperial center. Again following Foucault, however, the most significant effect of this imperial center’s power is not apt to be its juridical capacity of interdiction and sanction. Instead, the most consequential effects of this asymmetrical power relationship may be the ability of the imperial center to govern its subaltern subjects by altering their interests and re-constituting their identities. The imperial center may need to use its space weapons only as a last resort. Simply by possessing this monopoly on violence, the imperial center will be able to conduct the conduct of its subjects, including client states, in a manner that is amenable to the interests of the empire.

On the individual axis, space weapons represent a powerful disciplinary capacity in the ability to target individuals with great precision. Many of the proposed weapons systems – most notably space-based lasers – are designed to project lethal force at very precise targets, even individuals. Presumably then a primary use of such weapons would be to destroy specific enemies of the imperial center. This ability to project force precisely to any point on Earth would have two political effects. First, it will strip all states that do

not possess them of their ability to protect themselves from intervention by the space-based empire, and thereby vitiate their claims to sovereignty. Second, the sole possessor of space-based weapons will be able to govern the conduct of individuals.<sup>7</sup> This bio-political power over individual lives would be far more significant than the ability to merely punish and kill dissidents to imperial power. The possession of the power to target any individual, anywhere on Earth, on very short notice would give the possessor of these weapons unprecedented power to discipline these individual's interests and identities so that their actions comply with the will of the imperial center.

These bio-political implications of astropolitics become clearer when we consider recent reformulations of Foucault's concept of bio-power in writings of Giorgio Agamben, and Michael Hardt and Antonio Negri. They have taken it in distinctly different directions in attempts to understand modern regimes of (sovereign) rule. In particular they have reconnected the elements of the distinction between bio-power and sovereign power that Foucault has emphasized, in order to recover the continued importance of the latter. Today, most critical theorists seem to believe that sovereign power, as well as bio-power, is central to modern rule and hence must be understood theoretically, but, following Foucault, not as formal-legal, juridical, concept.

Agamben argues that there is a hidden point of intersection between the bio-political and the sovereign regimes of power. He observes

that the two analyses cannot be separated and that the inclusion of bare life in the political realm constitutes the original – if concealed – nucleus of sovereign power. *It can even be said that the production of a biopolitical body is the original activity of sovereign power.* In this sense, biopolitics is at least as old as the sovereign exception.

(Agamben 1998: 6)

Agamben locates this intersection in the Ancient Roman figure of *homo sacer*, a person with “a capacity to be killed and yet not sacrificed, outside both human and divine law” (Agamben 1998: 73). The figure of *homo sacer* is a schism between one's political and biological lives. *Homo sacer* is “bare life,” the biological aspect of the individual that exists outside the law and hence outside political subjectivity. The paradox of *homo sacer* is that the sovereign is the one who decides who *homo sacer* is, and as such the sovereign power that excludes “bare life” from the realm of political subjectivity also constitutes “bare life” as *homo sacer*. As such, the bio-political regime that Foucault distinguishes from the sovereign regime of power is actually constituted by the sovereign's capacity to exclude “bare life” from political subjectivity. Agamben links the figure of *homo sacer* with the production of social spaces in which individuals are stripped completely of their political subjectivity. In this social space of “the camp,” “bare life” has no human rights at precisely the moment that he or she needs them most. Through the hegemonic

weaponization of space a new global regime of sovereignty emerges. One of the constitutive effects of a U.S. monopoly of space weapons is their capacity to ban specific individuals from the global rule of law, thereby constituting the targets of these weapons as fully “bare life.” So, one of the most pernicious effects of U.S. space control is the emergence of a global totalitarianism, wherein the space-based empire has the capacity to kill, but not sacrifice, all who oppose its objectives. While it does not logically follow that by possessing this capacity a space-based empire would necessarily use it, the possibility that a space-based empire would use such a power is significantly increased because of the lack of potential counter-powers to protect the vulnerable human population and thereby to produce a realm beyond “bare life.”

A final implication for state sovereignty of a singular U.S. project of space weaponization can be found through an engagement with the writings of Michael Hardt and Antonio Negri on Empire. They argue that the erosion of the sovereignty of the modern territorial state does not mean that sovereignty as such has disappeared. Rather, they maintain that a new, globally diffuse form of sovereignty has emerged that is “composed of a series of national and supra-national organisms united under a single logic of rule” (Hardt and Negri 2000: xii), which they call Empire. There is no longer a single, centralized governing apparatus located and bounded in the territorial state, or in a state’s (classical) imperial intervention into and control over other political societies. Instead there are now a multitude of bio-political governing apparatuses that rule over the different facets of political subjects’ existence. As Hardt and Negri remind us “Modern sovereignty has generally been conceived in terms of a (real or imagined) territory and the relation of that territory to its outside” (2000: 187). Under Empire “this dialectic of sovereignty between the civil order and the natural order has come to an end” (2000: 187). The sovereignty of Empire not only de-territorializes power, it also eliminates the boundary-drawing aspect of modern sovereignty that constitutes particular spaces politically as either inside or outside. Simply put, according to Hardt and Negri, under conditions of Empire “There Is No More Outside” (2000: 186).<sup>8</sup> Space-weaponization is a material manifestation of Hardt and Negri’s idea of imperial sovereignty as de-territorializing and boundary erasing. By possessing the capacity to project force from orbital space to any point on Earth, this new mode of destruction would make the two dominant modern modes of protection/security – the sovereign real-state and the liberal-republican federation – irrelevant. Neither the self-help of sovereign states nor the collective security of a pacific union could counteract or even deter the ability to project force from outer space. Without the ability to protect its territory and population from external threats, the sovereignty of the state would effectively wither away. In its place would emerge a new mode of protection/security, although calling it a mode of domination may be more appropriate (Agamben 1998). This mode – space-based empire – would have a centralized authority constituted by those who controlled the space-based military infrastructure. However, because its capacity to govern would rest on its ability to project force to any point on

Earth at a moment's notice, there would be no need for it to control territory. As such, this new form of imperial sovereignty would have three features not encountered in previous political forms. First, it would have a centralized locus of authority, while being de-territorialized in terms of what it governed. Second, it would asymmetrically bind all individuals and institutions, including nominal states, into a hierarchical relationship with the imperial center at the top. Finally it would possess a monopoly on the external violence between (then non-sovereign) states as well as the capacity to target any specific individual within a state at any point in time. Effectively, this space-based empire would possess sovereignty over the entire globe (Duvall and Havercroft 2008).

### **Conclusion: (bare) life under empire of the future**

In his *Astropolitik* Dolman calls upon U.S. defense policy-makers to weaponize orbital space so as to enhance U.S. hegemony over the planet. He does not address the astropolitical issues we have discussed here about what impact a space-based hegemony would have on the structure of the international system. Dolman, however, is confident that America would be responsible in using this awesome power to promote democracy and global capitalism. Setting aside the very contentious issues of whether or not America should be involved in "promoting" democracy and capitalism and whether or not current U.S. hegemony has been beneficial for the Earth's population, the moral and political implications of a space-based empire are not nearly as clear-cut as Dolman makes them out to be.

One of the fundamental principles of classical geopolitics was that sea-based empires (such as Athens, Britain, and America) tended to be more democratic than land-based empires (such as Sparta, China, and Rome). The reason for this is that sea-based empires needed to disperse their forces away from the imperial center to exert control, whereas land-based empires exercised power through occupation. Military occupations made it increasingly likely that the army would seize power whenever it came into conflict with the government. Classical geopolitical theorist Otto Hintze argued that land powers tended toward dictatorships (Hintze 1975; see also Deudney 2007). Dolman builds upon these classical geopolitical insights by arguing that because space-based empires would not be able to occupy states, military coups would be less likely and democracy would be more likely (Dolman 2002a: 29). There is, however, a significant difference between space power and sea power. While neither is capable of occupying territory on its own, space power is capable of controlling territory from above through surveillance and precise projection of force – control without occupation. While space power may not result in the dictatorships normally associated with land power, it would be a useful tool in establishing a disciplinary society over all the Earth.

A second obstacle to the benevolent space-based empire that Dolman imagines is the lack of counterbalancing powers. Under the two other modes of protection/security we have considered here – the real-statist and the

federal-republican – there are checks that prevent even the most powerful states in the system from dominating all the other units. In real-statism, the sovereignty of states means that any potential hegemon would have to pay a significant cost in blood and treasure to conquer other states. While this cost may not be enough to dissuade a superpower from conquering one or two states, the cumulative cost of conquest and occupation makes total domination over the Earth unlikely. In the federal-republican model, the collective security regime of the entire system should act as a sufficient deterrent to prevent one state from dominating the others. Conversely, in a space-based empire the entire world is placed under direct surveillance from above. There is no point on Earth where the imperial center cannot project force on very short notice. So long as the space-based empire can deny access to space to rival powers through missile defense and anti-satellite technologies, there is no possibility that other states can directly counteract this force. As such, the space-based empire erases all boundaries and places the Earth under its control.

While the possibility to resist such an empire will exist, the dynamics of resistance will be considerably altered. Traditional insurgencies rely on physical occupation of territory by the conquering forces to provide targets of opportunity to the resistance. Because space weapons would orbit several hundred to several thousands of miles above the Earth, they would not be vulnerable to attack by anything except weapons systems possessed by the most advanced space powers, such as ballistic missiles and advanced laser systems. Even such counter-measures, however, would only raise the financial cost of space-based empire, not the cost in human lives that insurgencies rely upon to diminish domestic support for imperial occupations. Consequently a space-based empire would be freer to dominate the Earth from above than a traditional land-power occupation would be. Without obvious counter-powers or effective means of resistance, the space-based empire would be able to exercise complete bio-political control over the entire planet, turning all of Earth's inhabitants into "bare life." Under such a political arrangement the likelihood that the imperial center would be a benevolent one, uncorrupted by its total domination of the Earth, is very slim indeed.

## Notes

- 1 We thank Tarak Barkawi, Michael Barnett, Daniel Deudney, Penny Griffin, Ayten Gündoğdu, Brian Job, Ron Krebs, Richard Price, Aaron Rapport, Karthika Sasikumar, and James Tully for helpful comments on earlier versions of this chapter. We also thank the University of Minnesota's Graduate Research Partnership Program and the Canadian Department of Defence's Security Defence Forum for providing financial support for the research.
- 2 The fiscal year 2009 budget of the U.S. Air Force for space weapons programs, for example, is \$11.9 billion, and that is just one branch of the military. Multiple agencies are involved, each devoting appreciable resources. Indicative, and separate from the Air Force budget figure cited above, the Pentagon recently contracted Lockheed Martin for \$5.7 billion to develop the "Future, Fast, Flexible,



Fractionated, Free-Flying Spacecraft United by Information Exchange” Program to link clusters of small satellites through wireless networks, one element of a complex project of weaponizing space. The U.S. Congress is increasingly supportive and unquestioning of this project. See the Center for Defense Information Space Security Update for March 28, 2008 at [www.cdi.org](http://www.cdi.org). The *New York Times Magazine* (Sunday, December 10, 2006, p. 70) reports that “one study of nonclassified budgets released earlier this year indicated that spending on space-weapons research has grown by more than a billion dollars each year since 2000, with an eye toward establishing uncontested ‘space superiority.’”

- 3 Dolman is not the only person writing about astropolitics from a realist perspective. We choose to focus on him because his theory is most fully and systematically explicated. But others also play an influential role in the articulation of realist astropolitical views, especially in relation to current U.S. policy. See, for example, Tellis (2007).
- 4 Deudney is not alone as liberal-inspired scholar of astropolitics, but we focus on his work because it is a most systematic articulation of theory. We must note that his work is not comfortably characterized as liberal, in part because he explicitly differentiates his republican theory from liberal theory. Nevertheless, we describe his republican theory as liberal-inspired because of the historical relationship between the two strands of thought, as he acknowledges (Deudney 2007). More expressly liberal theoretic contributions to the analysis of space weapons include Moore (2008), among others.
- 5 It should be noted that Dolman was Deudney’s graduate student. While they share similar interests in geopolitics and space, and while they begin from a similar basic premise, however, their international political orientations are markedly different, as we highlight here.
- 6 For an alternative conceptualization of the condition of empire, see Nexon and Wright (2007).
- 7 We develop a more detailed analysis of the constitutive effects of the technical capacities of various space weapons systems in Duvall and Havercroft (2008).
- 8 As an aside, the Commissioners of the 9/11 Report came to a strikingly similar conclusion. They criticized the U.S. for creating an artificial barrier within the government between domestic and foreign affairs, and argued that the mantra for the U.S. government should now be that “the American Homeland is the planet” (National Commission on Terrorist Attacks upon the United States 2004: 362). Implicit in this view, however, is the projection of U.S. state sovereignty globally, rather than the de-centered concept, which Hardt and Negri would have us see.