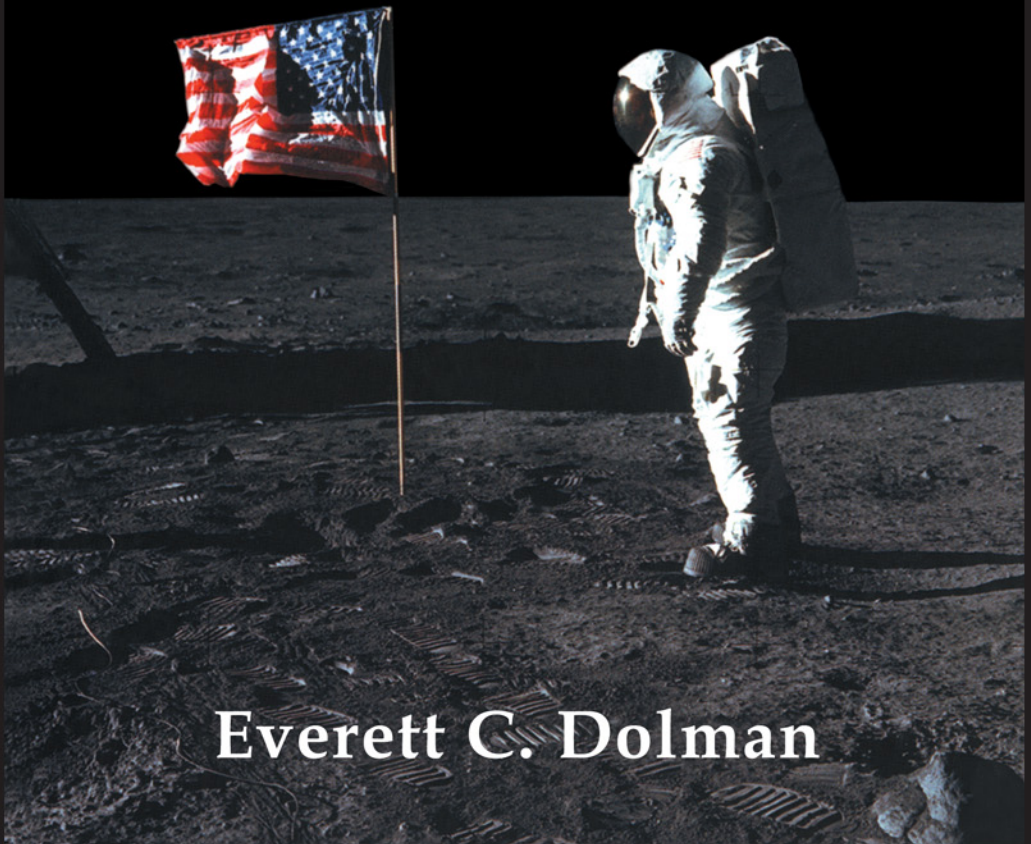


# ASTROPOLITIK

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## Classical Geopolitics in the Space Age



Everett C. Dolman

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Classical Geopolitics in the Space Age

*Everett C. Dolman*

*School of Advanced Airpower Studies, Maxwell  
Air Force Base, AL*



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*For Denise and Mary*

*Love and Hope*





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## Series Editor's Preface

One of our objectives as Series Editors for the Cass Series on Strategy and History is to challenge readers with frontier studies. Everett Dolman's *Astropolitik* all but defines such a one. In this extraordinary book, Dolman takes strategy into outer space in a way that has not even been attempted before, let alone effected successfully, as here. Many people may have difficulty crediting the claim, but it happens to be the case that until now, nearly 60 years into the space age (from the testing of the first V-2 rocket in 1942), there has been next to nothing worth reading on space as a strategic environment.

The world is becoming ever more dependent on the convenience of space systems. Those technologies quintessentially are signature features of 'globalization'. So routine has become the use of Earth orbit, that we no longer marvel when CNN, *inter alia*, shows us footage from halfway around the world via a live satellite feed. But how should we think about outer space? Is it the new 'great commons' for mankind, somehow uniquely and benignly devoid of the kind of strategic hazards so familiar to us from the land, sea and air environments? Or, is it simply a matter of time before strategic history climbs the new high ground? Anyone seeking answers to Big Questions such as these will have a research problem. The literature on space is vast, but—beyond the explicitly fictional—comprises technical manuals, works of political advocacy, and—in the military realm—a library of 'studies' pro and con the proposal of the day for ballistic missile defence (BMD).

Regardless of where one stands on BMD, a subject on which few people are short of a firm opinion, the public debate on the matter has a Gresham-like effect on the strategic consideration of the space environment. Whatever one says about the military utility of orbit is placed swiftly into the quasi-ideological context of contending theories of (Cold War-derivative) strategic stability. Thus far, there has been virtually no public discussion of the space realm as such. Of course, space is different in scale from the other geographies. But the fact of that near-infinite vastness is of only limited significance for humans who are likely to be confined for many decades to come to function within the Earth-Moon system. So how should we function in space? Should we eschew military behaviour? Well, it is too late for that by more than 40 years. How about prohibiting weaponization? Thus far only weapons of mass destruction are banned from orbit (by the Outer Space Treaty of 1967). Should we seek to protect satellites by international arms-control agreement? Since an anti-satellite (ASAT) weapon could be anything that impairs the performance of a space system, it is apparent that, as usual, formal measures of arms control could not work. ASATs could menace ground-control stations, electronic up and down links, as well as vehicles in orbit. More to the point, perhaps, should we be thinking about war in space at all?

Everett Dolman performs a great public and scholarly service by treating the space environment as just another geography. True, it is extra-terran geography, but no matter. Naturally, it is Earth's gravity well that dominates movement in the Earth-Moon system.

Dolman's *Astropolitik* is a complex, but more than satisfactory, blend of international history, strategic theory and orbital mechanics. This book provides not only a prescient guide to the meaning of space for the human future, but also offers the reader an excellent explanation of movement into, in and out of particular orbits. Much as there are basic features to the land, sea, air and now cyber environments which limit what can and cannot be done on, in and through them, so also there are for space. For example, some grasp of the laws of orbital motion is necessary in order for one to appreciate why the People's Republic of China will not be able to monitor/target from space (low-Earth orbit) a US carrier task force moving on the high seas—except at economically prohibitive cost.

*Astropolitik*, together with Jim Oberg's *Space Power Theory* (1999), may be said to open a new phase in the strategic understanding of space. The Royal Navy practised sea power long before Alfred Thayer Mahan wrote in 1890 telling the world what they had been doing. So it is with space power, at least up to a point. A great navy seizes and exercises sea control (including sea denial) in order to enable friendly maritime mobility and to project power against the shore. Space power implies a function parallel to sea control in space control. But in order to seize and exercise space control, first a polity needs to understand space as an environment for war, in essence no different from the land, the sea, the air or cyberspace. Everett Dolman brings to bear upon the distinctive space geography our accumulated learning in strategic theory, and the historical experience of international terrestrial conflict. The result is a book that we are proud to publish as a true milestone on the road to holistic strategic understanding of the space environment.

Colin S.Gray  
*Series Co-Editor*

# Abbreviations

AABNCP	Advanced Airborne National Command Post
ABM	anti-ballistic missile
AEC	Atomic Energy Commission
AHCOPUOS	Ad Hoc Committee on the Peaceful Uses of Outer Space
ASAT	anti-satellite
BMD	Ballistic Missile Defense
C3I	Command, Control, Communications, and Intelligence
CNES	French National Space Agency
COPUOS	Committee on the Peaceful Uses of Outer Space
DEW	Defense Early Warning
DoD	(US) Department of Defense
ELINT	electronic intelligence
EMP	electromagnetic pulse
ESA	European Space Agency
FSA	First Strike Advantage
GPS	Global Positioning Satellite
GSLV	Geostationary Space Launch Vehicle
HOPE-X H-II	Orbiting Plane—Experimental
HUMINT	human agent
IC	Intelligence Community
ICBM	intercontinental ballistic missile
IGY	International Geophysical Year
INPE	Brazilian National Space Agency
ISRO	Indian Space and Research Organization
LDC	Less Developed Country
LEO	Low Earth Orbit
LoW	launch on warning (of attack)
MAD	Mutual Assured Destruction
MRBM	Medium Range Ballistic Missile
NASA	National Aeronautics and Space Administration
NASDA	Japanese National Space Agency
NAVSTAR/GPS	Global Positioning Satellite
NPT	Non-Proliferation Treaty

NSC	National Security Council
OST	Outer Space Treaty
PSLV	Polar Space Launch Vehicle
SAC	Strategic Air Command
SBIRS	space-based infrared system
SDI	Strategic Defense Initiative
SLV	space launch vehicle
SMEC	Strategic Missiles Evaluation Committee
SRBM	Short Range Ballistic Missile
TMD	Theater Missile Defense
TREE	Transient Radiation Effects on Electronics
UNCLOS	United Nations Convention on Law of the Sea
WTO	World Trade Organization



## Introduction: Realism and Geopolitics

*Astropolitik* is grand strategy. Indeed, it is the grandest strategy of them all. The entirety of the Earth is reduced to a single component of the total approach, critically important to be sure, but in many cases no more than a peripheral component. Within this brief text, an attempt is made to outline the framework of a consistent strategic approach to the current and near future realms of state rivalry in outer space. This is not an operational or tactical account. Technologies of war and the intricacies of force application are considered only to the extent that they illuminate and rationalize strategic policy.

In its narrowest construct, *Astropolitik* is the extension of primarily nineteenth- and twentieth-century theories of global geopolitics into the vast context of the human conquest of outer space. In a more general and encompassing interpretation, it is 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. This work considers the former view, begun with a few keen insights from Dandridge Cole and Marc Vaucher but never adequately synthesized into a coherent theory, to be more academically provocative.<sup>1</sup> The basic format of this more precise and rigorous model is fully delineated here for the first time. The latter view, which encompasses a sizable and growing body of pertinent literature, nowhere expressed better than in the magnificent study of superpower confrontation in the space age by Walter McDougall, is addressed to reinforce and help explain the former view.<sup>2</sup>

This is not meant to denigrate or minimize the importance of the realist, even harsh *Realpolitik*, view of humanity's tendency toward confrontational diplomatic exchange in the history of space exploration. Political realism is a central theme of this work. Without the jurist's and historian's painstaking chronicle of the Space Age, astropolitics as elaborated upon here might not be comprehensible. It is simply to acknowledge that others have served the genre much better, and that if this work is judged to have any merit it will not be for adding significantly to that splendid astrohistorical collection. The effort herein is primarily an attempt to place a more stringent conceptual framework around and among the many vectors of space policies and chronicles, to establish a separate domain of realist academic and theoretical study in the space arena, and to reinforce what is astropolitical and what is not. Just as the term geopolitics is over-used, diminishing its explanatory power and reducing its utility, astropolitics has been likewise abused. If everything that happens in space is astropolitical, then the term loses its meaning.

Thus I propose corraling the elements of space and politics recognized as realist into their proper places in grand strategy. Colin Gray, in his penetrating analysis of the meaning and place of modern strategy, makes an almost unassailable case that the

elements of strategy are unchanging, and applicable across all levels of analysis—that is, across system, across level, and across time.<sup>3</sup> His argument is wholly compatible with the tenets of astropolitics and *Astropolitik*: ‘there is an essential unity to all strategic experience in all periods of history because nothing vital to the nature and function of war and strategy changes’.<sup>4</sup> In his rigorous definition, Gray asserts that strategy is ‘the use that is made of force and the threats of force for the ends of policy’.<sup>5</sup> Threats may be implicit or explicit, but the connection between violence and policy is vital to an understanding of grand strategy. While it may seem barbaric in this modern era to continue to assert the primacy of war and violence—‘high politics’ in the realist vernacular—in formulations of state strategy, it would be disingenuous and even reckless to try to deny the continued preeminence of the terrestrial state and the place of military action in the short history and near future of space operations. Even as states publicly denounce the use of violence and force in space operations, all spacefaring states today have military missions, goals, and contingency space-operations plans. A case will be made here that the reality of confrontation in space politics pervades the reality of the ideal of true cooperation and political unity in space which has never been genuine, and in the near term seems unlikely.

At this juncture it is probably necessary to set down a defense of the selection of an admittedly contentious term for the title. Astropolitics is innocuous enough. It conjures a sense of commingled realms of politics and space-age technology. It is narrower and more powerful than that, as will be shown, but as an appellation it should not rankle. *Astropolitik*, as the saying goes, is another kettle of fish. Yet it is chosen carefully and with much thoughtful deliberation. The text nowhere concludes that a harsh realist outlook is the only one for the future of space exploration and exploitation. It simply avers that this has been the pattern, and that policymakers should be prepared to deal with a competitive, state-dominated future in space. Nor is there any intimation that such an environment is inevitable or even probable. In the author’s view, in the long term, such a sustained policy is counterproductive and detrimental. The colossal effort to conquer space will be done much more efficiently by a united world, if for no other reason than that the enormous expense of a truly large-scale conquest and colonization effort may require the enthusiasm and support of all Earth’s people. Simply put, in a world of modern territorial nation-states (whose demise has been prematurely announced<sup>6</sup>), collective action dilemmas will prevent those political entities from cooperatively exploiting the realm, and efforts to enjoin states to do so will have negative if not countervailing results. These views are discussed in greater detail in Chapters 4–6. In the short term, despite our best intentions, we may be relegated to a harsh, discordant, entirely realist paradigm in space.

Therefore the term *Astropolitik* is chosen as a constant reminder to those who would read this book, and carefully weigh many of its claims, of the horrible depths to which other geopolitical-based *Realpolitik* strategies of dominance ultimately degenerated. The German school of *Geopolitik*, despite the equivocal intentions of its founders, became a racist and utterly unscientific invective about the superiority of the ‘Aryan’ race and its inevitable domination of the world. *Geopolitik*, too, was a grand strategy, an action plan for conquest. The good intentions of the author of the current work aside, the potential for misuse and abuse of *Astropolitik* is plain. The theory describes the geopolitical bases for

power in outer space, and offers suggestions for dominance of space through military means. Policymakers ignore such a strategy at their state's peril. When the time has come for a theoretical perspective to emerge, and that perspective cuts across the grain of extant ideology, wishing it were not so cannot make it go away. Some state will likely employ the principles of *Astropolitik* and may come to dominate space as a consequence. It is to be hoped that this state will be a relatively benign one. It is with some trepidation and angst, then, that this argument is put forward. The author understands and accepts the opinion that practitioners who believe the world is evil and dangerous will in their actions continually tend to recreate it. Before this degenerates into a self-absorbed *mea culpa*, it is essential to note that astropolitics and *Astropolitik* make no distinction among the many motives of those who might apply them. The following chapters do make a few specific calls for action. A new regime for outer space that could reignite the fervor for space exploration that culminated during the 1960s, and a military policy based on territorial control are pre-eminent among them. Neither of these moves by themselves, nor the realist foundations upon which they are based, necessarily engenders evil or malicious outcomes. The tenets within, however, cannot and should not escape the past from which they were drawn, and so the title is chosen as a constant reminder of that past, and as a grim warning for the future.

The simple fact that Gray's definition of strategy is accepted, and is itself a modification of Clausewitz's renowned if widely misinterpreted dictum that war is a continuation of political discourse by other (extreme) means, indicates the hard-realist paradigm of ever-present violence and fear cannot be separated from *Astropolitik* and nor should it be. *Astropolitik*, like *Realpolitik*, is hardnosed and pragmatic, it is not pretty or uplifting or a joyous sermon for the masses. But neither is it evil. Its benevolence or malevolence will become apparent only as it is applied, and by whom. For instance, it is anticipated, that a critical understanding of the propositions cautiously proffered here could lead the reader to anticipate a future where violent competition is transferred to an economic realm. In that case, 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. The axioms of astropolitics and *Astropolitik* fit just as well in an economically competitive environment as in a continuously warring one.

There is some hope for this view. Mounting empirical evidence points to the proliferation of modern liberal democracy as a pacifying force in international relations. Liberal-democratic states have not gone to war with each other, and, although they have had considerable conflicts of interest, appear content to resolve common disputes with rare resort even to the threat of military violence. Such is the enormous drain on national economies that advanced liberal-democratic states are the most likely to undertake and *sustain* a dominating space program. As more states democratize, these observations lead to the promise of an ever-widening democratic zone of peace, ultimately encompassing the globe then spreading out to the cosmos and ushering in an era of true cooperation and stability.

Although David Singer and Melvin Small first empirically described the phenomenon, it was Michael Doyle who provoked a storm of activity with his attempt to tie the observation to Kant's claim that liberal-democratic states would be naturally less prone to

war.<sup>7</sup> Tests of the hypothesis showed that democratic states appear just as likely to engage in war as any alternative politically organized state. What remained intriguing, and promising, was the empirical evidence and rationale that democratic states do not go to war *with each other*.<sup>8</sup> Causal explanations tend to cluster around structural and normative factors of government capacities and leadership qualities, and represent some of the most sophisticated international analyses in ongoing political science debates.<sup>9</sup> If mutual liberal democracy is in fact a sufficient precondition for inter-state peace, then democratic peace theory provides both the means and end for a stable and pacific world (and presumably space) order. Any policy that efficiently enhances the process of democratization in authoritarian and developing states will have positive inter-state results, and should be thoughtfully considered. When all states are democratic, war will be a social relic. Astropolitics and *Astropolitik* encompass the social and cultural effects of new technologies, in this case space technologies, on the subsequent evolution of political institutions (Chapters 2 and 5). The direction of influence on democratization of astropolitical variables is introduced here, though it is not definitively announced. If, however, primarily democratic states enter and exploit space, and these states are best equipped to sustain robust space programs, then the tenets of *Astropolitik* are structurally less malicious—since these states are unlikely to pursue violent confrontation with each other—and so can be used for commercial and system stability (policing) and productive economic advantages.

Needless to say, a contradictory thesis is prevalent. For many traditional peace theorists, who concentrate on eliminating war by reducing and eliminating the military capacity to engage in combat, democratic peace theory appears fully complementary to their views. Since war is the problem democracy is held to correct, they presume that the tools of war are, by association, ‘anti-democratic’.<sup>10</sup> The widely held belief that disarmament promotes peace has long been acknowledged, and then quickly dismissed, by such eminent theorists as Friedrich Schumann and Hedley Bull.<sup>11</sup> Still, the notion hangs on and is the prescriptive cornerstone of the World Peace Movement.<sup>12</sup> Reducing or eliminating arms promotes peace and decreases external threats, so the argument goes, which in turn fosters domestic development of individual liberty. William Thompson makes precisely this point as he argues that peace causes democracy, not the reverse.<sup>13</sup> Moreover, say the peace theorists, when all states are democratic there will be no need to maintain the military forces necessary to prosecute war, and all states will be able, if not compelled by socio-economic necessity, to complete any remaining process of disarmament. For these advocates, astropolitics and *Astropolitik* will be considered politically and socially reprehensible, if not dangerous. The preferred prescription is that humanity begins its entry into the cosmos without weapons, warriors, or Clauswitzian theorists. If the non-weaponized model is pursued, peaceful coexistence is inevitable. Unfortunately for their utopian position, the short history of space exploration already belies that hope. The militarization and weaponization of space is not only an historical fact, it is an ongoing process.

Most international realists choose to discount the democratic peace (this work is a distinct exception). They aver that the correlation is a coincidental facade, that democratic states have not gone to war simply because traditional power politics inducements have not yet presented themselves.<sup>14</sup> Democratic states have too short a

history, and in that brief time they have always been allied against ideological positions that sought the end of liberalism—first monarchy, then fascism, then communism. It is only recently that liberal-democratic states have shared borders, the realists will point out, as their numbers have risen to important minority status in the community of states only since 1945. They argue it is not weapons or armed force that destabilizes, it is the attitudes and perceptions of the potential wielders of weapons that matter. States must anticipate increasing resource and market competition in the future, and should expect democratic states to act as any other power-optimizing state, regardless of domestic governing arrangements. Stable peace, wholly desirable but fragile, can be obtained only via balancing strategies based on mutual positions of strength.<sup>15</sup> Democratic states may be especially vulnerable in a less militarized world, since their societies tend to be more open, mobilization is public and difficult, and they are thus susceptible to first strike attacks.<sup>16</sup> Under these conditions, all states should avoid eliminating or unduly weakening their armed forces. To do so would be an invitation to war.

The concerns of the realists are well argued, and cast a wary doubt on the abundance of empirical evidence cited by the democratic peace proponents. If one accepts for the moment, as an *analytical assumption* only, the proposition that liberal-democratic states do not go to war with each other, then an alternate and exceptionally cooperative future can be projected. Indeed, if such states do not go to war with each other, then the level of armaments they possess or the military attitudes they project should not be a serious threat. Calls for disarmament may be economically efficient, but they should not be necessary. Liberal-democratic states have nothing to fear from other such states, and the size and strength of their armed forces need not be of concern. If one further accepts that a stable inter-state peace is the goal of both liberal and realist theory—a reasonable one in that a stable peace has been the holy grail of international theorists since the possibility of global destruction via nuclear devastation has been hypothesized—then a compatible path is opened. The means of one school (realist military preparedness) are reconciled with the means (liberal democratization) and ends (global then interstellar peace derived from the condition of full democracy) of the other. The point of harmonization is democracy itself.

The bulk of democratization theory correctly emphasizes socioeconomic factors as the foundation of democracy, and my analysis is not intended to contradict this significant body of established theory. If anything, the relationship between rising wealth and rising democracy is an ‘iron law’ of political science. Should the vast wealth of space be tapped and brought to constructive use on Earth, the wealth of all people should dramatically rise (at least in terms of per capita income, but undoubtedly in more meaningful ways as well). Significant infusions of capital, such as that observed in the sixteenth century after the discovery of the New World by the Spanish, serve to ignite systemic economic booms. The principles of astropolitics and *Astropolitik* promote such economic endeavors, and rising wealth should have a complementary effect enhancing democratization, in this way limiting the negative effects of space-based militarization. To be sure, the state that too aggressively pursues military power will lose ground in commercial productivity. If war never occurs, then all attempts to prepare for it are (in the liberal view) wasted. On the other hand, if the democratic peace is not so robust, and in the future democratic states may indeed go to war, then the realists have not sacrificed their defensive postures. Vigilance and force of arms will be ready to assure the peace in

a breakdown of theory. Astropolitics and *Astropolitik* constitute but one view of the future, which cannot accurately foretell real world events. It can only provide predictions of what the model will output if certain expressed assumptions are accepted. Readers will find evidence both for and against a prognosis of peace, but by itself it is neither a threat to that peace nor a guarantee of hostile military action.

The paradox that maintaining effective means for war is the best guarantor of peace has been staunchly defended by balance-of-power realists and relentlessly attacked by pacifists. Based solely on calculations of capacities for war, there appears to be no compromise solution. John Owen points out that realists and liberals ‘have been loathe to cede any ground’ when discussing the democratic peace. Nonetheless, Owen cites John Elster’s argument that opposite tendencies can cancel each other out in practice and promote a working synthesis, and he joins Stephen Walt’s balance of threat and Alexander Wendt’s ideational framework as a possible realist-liberal synthesis along Elster’s model.<sup>17</sup> In a side argument, *Astropolitik* proposes shifting the dispute to the role of military forces in shaping social and political institutions. Under a precise (and historically rare) set of organizing conditions, military forces can both promote democracy and enhance deterrent policies, an argument to be taken up in Chapter 2. Despite a requirement for specific military preparation, however, war is neither necessary nor beneficial to the process of democratization, and so *Astropolitik* does not project a certain future of applied violence in space. In this manner, the means of both liberals and realists are supported *en route* to a common goal. This is to be the ultimate contribution of astropolitics and *Astropolitik*: a full and heuristic understanding of the geopolitical determinants of space, an application of the assumptions of realism to the astropolitical model, and, in the end, an economically robust and peaceful exploration of the cosmos by humanity.

Chapters 2 and 3 identify and evaluate the relationship between outer space geography and geographic position (*astrography*) and the evolution of current and future military space strategy. Throughout, five primary propositions are explored. First, many classical geopolitical theories of national military development are fully compatible with, and will prove readily adaptable to, the realm of outer space. Second, the most applicable of these theories will be military power assessments of geographical position in light of new technologies. Such assessments have been made for sea, rail, and air power, and can be viewed with analytic perspicacity as segments of an evolutionary process. Space power is their logical and apparent heir. Third, the special terrain of solar space dictates specific tactics and strategies for efficient exploitation of space resources. These strategies impact on political development, highlighting the geo/astrodeterminist political relationship. Fourth, the concept of *space* as a power base in classical, especially German, geopolitical thought will require some modification, but will easily conform to the exploitation and use of outer space as an ultimate national power base. Finally, a thorough understanding of the astromechanical and physical demarcations of outer space can prove useful to political planners, and will prove absolutely critical to military strategists. An optimum deployment of space assets is essential for victory on the current terrestrial and future space-based battlefields. In order to animate these positions, and in accordance with the examples set by Sir Halford Mackinder and Nicholas Spykman, the formulation of a neoclassical astropolitical dictum is established: Who controls low-Earth orbit controls

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

Critical to assessing the outcome of a possible *Astropolitik*-generated future, it is useful to have a basic grasp of the historical and political events that have shaped the current international structure, or regime, that dominates this area. Chapters 4 and 5 provide a realist interpretation of that foundation, in order to show that international accord in outer space, in every case, was shaped by competition. It will be argued that the guise of cooperation has been freely employed as a tool of astropolitical diplomacy and statecraft, and that cooperation in space as it exists today is dependent upon—and would not exist without—international competition.

To accomplish this task, several analyses will be presented. The first will describe the international setting from which the current regime emerged. It should become evident that the cooperative end result was merely the vehicle for consistent foreign policies in a decentralized, decidedly uncooperative international environment of Cold War antagonism. The United States, its dominance in space challenged by the Soviet Union, felt compelled to ensure that no other nation could carve out an empire in space. The highly touted international cooperation that produced the 1967 Outer Space Treaty was not in truth evidence of a newly emerging universalism; rather, it was a reaffirmation of Cold War realism and national rivalry, a slick diplomatic maneuver that both bought time for the United States and checked Soviet expansion. Related descriptions will include: the competitive military environment which provided the motivation and technology for space exploration; evidence that the scientific roots of the world's first satellite endeavors were grounded not in international fraternity but in epistemic conflict and Cold War manipulation; proof that, once the criteria for cooperation were accepted, the very terms of cooperation became points of contention; the air and sea law foundations for negotiation, suggesting the Outer Space Treaty is itself the jumbled consolidation of a body of conflicting precedents; and a chronology of the negotiations for the 1967 Outer Space Treaty that highlight its devolution into a perverse competition of who could out-cooperate whom.

Analyses in these chapters will further examine the notions of common heritage and collective ownership as they apply to space. This is done to support a recommendation for a new outer-space regime. The political realism pervasive among the participant states, to include the peculiar effects of a geopolitical heritage on their decision-making processes, will be described. An exploration of the negotiation history and positions of the major players will provide a structure for analysis. Included will be a brief description of the major treaties and declarations of the international outer-space regime, including two unratified but significant agreements that may signify a future shift in basic political outlooks. Suggestions of the future role this regime will play in a political world that has fundamentally changed since the regime was emplaced, to include an assessment of its validity and prospects for stability and order, will be offered. Finally, the outline for a new regime, one that harnesses the self-interested nature of the continuing territorial state, will be offered.

Chapter 6 describes the current status of national policy and strategy for outer space in astropolitical terms. The theoretical environment is quite sparse. In an era when change is the norm, few have come forward to propose a bold, new approach. Michael Doyle has

urged that, in times of theoretical flux, a return to the classics of international theory is warranted. Of the base models—realism, liberalism, and Marxism/socialism—realism has suffered the most from a lack of theorists willing to promulgate its applications (much less its virtues) into the realm of outer space. Without question, military planners recognize the need for space support and are increasingly likely to raise the call for weapons in space, but only a few have successfully merged military force and political strategy in a manner reminiscent of Alfred Thayer Mahan's call for a new diplomatic paradigm based on sea power.<sup>18</sup> *Astropolitics* and *Astropolitik* take up the challenge and in this chapter provide a simple but effective blueprint for space control.

Chapter 7 reiterates the foundations of cooperation in a competitive world. As humanity stands poised at the beginning of a new millennium, a unique opportunity is presented. The state-rivalry focus of geopolitical theory has remained at significant odds with globalist recommendations for space exploitation, but a compromise may be possible. Truly efficient exploration of space, in the latter view, presupposes a unity of effort unimpeded by national rivalries. Indeed, the effort of space exploration is presumed so encompassing that only a world government shorn of the distractions of inter-state rivalry and war could focus the resources necessary to accomplish such a massive project. With the surety of their convictions and the imperatives of evolution, the globalists insist that humans have filled and dominated the biological niche that is earth, and must now spill out into the heavens to meet their collective destiny. Such future endeavors are best articulated under some framework of effective world government, they aver, but would be minimally possible given a politically stable terrestrial environment—one in which states have achieved a sturdy peace and an equitable working agreement for the division of space resources. At a time when the possibility of effective one-world government is remote, *Astropolitik* offers a plan for achieving those minimum conditions.

## NOTES

1. Among Dandridge Cole's many works on the subject, see *Beyond Tomorrow: The Next 50 Years in Space* (Amherst, WI: Amherst Press, 1965); with D.Cox, *The Challenge of the Planetoids* (Philadelphia, PA: Chilton Press, 1963); and with I.M.Levitt, *Exploring the Secrets of Space: Astronautics for the Layman* (London: Prentice-Hall International, 1963). See also M.Vaucher, 'Geographic Parameters for Military Doctrine in Space and the Defense of the Space-Based Enterprise', in U.Ra'ana and R.Pfaltzgraf (eds), *International Security Dimensions of Space* (Medford, MA: Archon, 1984), pp. 32–46. My own initial attempt to formalize the model was published as 'Geopolitics in the Space Age', *Journal of Strategic Studies*, Vol. 22 (Fall) 1999, pp. 83–106, also included as a chapter in C.Gray and G.Sloan (eds), *Geopolitics: Geography and Strategy* (London: Frank Cass, 1999), pp. 83–106.
2. W.McDougall, *...the Heavens and the Earth* (New York: Basic Books, 1987). This book, for which McDougall won the 1986 Pulitzer Prize for history, spans the history of space exploration only through 1985. For a text that does an admirable job of continuing the saga to the late 1990s, see M.Von Bencke, *The Politics of Space:*



- A History of US-Soviet Competition and Cooperation* (Boulder, CO: Westview, 1997).
3. C.Gray, *Modern Strategy* (London: Oxford University Press, 2000), p. 1.  
Specifically, Gray says ‘elements common to war in all periods, in all geographies, and with all technologies’.
  4. *Ibid.*
  5. *Ibid.*, p. 17.
  6. As early as 1957, John Herz was proclaiming ‘The Rise and Demise of the Territorial State’, *World Politics*, Vol. 9 (1957), pp. 473–93. More recently, see A.Linklater, ‘Citizenship and Sovereignty in the Post-Westphalian State’, *European Journal of International Relations*, Vol. 2 (1996), 77–103.
  7. D.Singer and M.Small, ‘The War-Proneness of Democratic Regimes’, *Jerusalem Journal of International Relations*, Vol. 1, No. 4 (Summer 1976), pp. 50–69; M.Doyle, ‘Kant, Liberal Legacies, and Foreign Affairs’, Parts 1 and 2 in *Philosophy and Public Affairs*, Vol. 12, Nos 3 and 4 (Summer and Fall 1983), pp. 206–35 and 323–53, see also ‘Liberalism and World Politics’, *American Political Science Review*, Vol. 80, No. 4 (December 1986), pp. 1151–69.
  8. See S.Chan, ‘Mirror, Mirror on the Wall... Are Freer Countries More Pacific?’, *Journal of Conflict Resolution*, Vol. 28, No. 4 (December 1984), pp. 616–48; E.Weede, ‘Democracy and War Involvement’, *Journal of Conflict Resolution*, Vol. 28, No. 4 (December 1984), pp. 649–64; and Z.Maoz and N.Abdolai, ‘Regime Types and International Conflict’, *Journal of Conflict Resolution*, Vol. 33, No. 1 (March 1989), pp. 3–35. See also D.Bremer, ‘Dangerous Dyads: Interstate War, 1816–1965’, *Journal of Conflict Resolution*, Vol. 36, No. 2 (June 1992), pp. 309–41, and ‘Democracy and Militarized Interstate Conflict’, *International Interactions*, Vol. 18, No. 3 (Fall 1993), pp. 231–49; and W.Dixon, ‘Democracy and the Peaceful Settlement of International Conflict’, *American Political Science Review*, Vol. 88, No. 1 (March 1994), pp. 14–32.
  9. J.Owen, ‘How Liberalism Produces Democratic Peace’, *International Security*, Vol. 19, No. 2 (Fall 1994), pp. 87–125; J.O’Neal, F.O’Neal, Z.Moazand B.Russett, ‘The Liberal Peace, Interdependence, Democracy, and International Conflict, 1950–1985’, *Journal of Peace Research*, Vol. 33, No. 1 (Winter 1996), pp. 11–28.
  10. David Apter’s view is typical: ‘The Military Is a Particularly Important Obstacle to Democracy’, in *The Politics of Modernization* (Chicago, IL: University of Chicago Press, 1965), p. 450.
  11. F.Schumann, *International Politics*, 5th edn (New York: McGraw-Hill, 1953), p. 230; H.Bull, *The Control of the Arms Race* (New York: Praeger, 1961), pp. 31–3.
  12. G.Blainey, *The Causes of War* (New York: Free Press, 1973), pp. 135–7, 151–2.
  13. W.Thompson, ‘Democracy and Peace: Putting the Cart Before the Horse’, *International Organization*, Vol. 50, No. 1 (January 1996), pp. 141–74.
  14. See J.Mearsheimer, ‘Back to the Future: Instability in Europe After the Cold War’, *International Security*, Vol. 15, No. 1 (Summer 1990), pp. 5–56; Also R.Schweller, ‘Domestic Structure and Preventative War: Are Democracies More Pacific?’ *World Politics*, Vol. 44, No. 2 (January 1992), pp. 235–69; D.Lake, ‘Powerful Pacifists: Democratic States and War’, *American Political Science Review*, Vol. 86, No. 1 (March 1992), pp. 24–37; C.Layne, ‘Kant or Cant: The Myth of the Democratic

- Peace', *International Security*, Vol. 19, No. 2 (Fall 1994), pp. 5–49; and S. Peterson, 'How Democracies Differ: Public Opinion, State Structure, and the Lessons of the Fashoda Crisis', *Security Studies*, Vol. 5, No. 1 (Autumn 1995), pp. 3–37. Ed Mansfield and Glenn Snyder warn that instability in democracies in transition may undermine the pacifying effects of stable liberalism, see 'Democratization and War', *International Security*, Vol. 20, No. 1 (Summer 1995), pp. 5–38; Henry Farber and Joanne Gowa find 'no statistically significant relationship between democracy and war before 1914, [and] it is only after 1945 that the probability of war or serious disputes is significantly lower between democratic states than between members of other pairs of states', 'Politics and Peace', *International Organization*, Vol 20, No. 2 (Fall 1995), p. 124.
15. Whether a balance (J.Mearsheimer, *Conventional Deterrence* (Ithaca, NY: Cornell University Press, 1983)) or a preponderance of power (A.Organski and J.Kugler, *The War Ledger* (Chicago, IL: University of Chicago Press, 1980)) is more stable is still disputed. See E.Mansfield, *Power, Trade, and War* (Princeton, NJ: Princeton University Press, 1994); R.H.Wagner, 'Peace, War, and the Balance of Power', *American Political Science Review*, Vol. 88, No. 3 (September 1994), pp. 593–607; and R.Powell, 'Stability and the Balance of Power', *World Politics*, Vol. 48, No. 1 (January 1996), pp. 239–67.
16. See B.Russet, *Grasping the Democratic Peace: Principles for a Post-Cold War World* (Princeton, NJ: Princeton University Press, 1993) for the best overview.
17. J.Owen, 'How Liberalism Produces Democratic Peace', *International Security*, Vol. 19, No. 2 (Fall 1994), pp. 122–3; J.Elster, *Political Psychology* (Cambridge: University Press, 1993); S.Walt, *The Origin of Alliances* (Ithaca, NY: Cornell University Press, 1993); and A.Wendt, 'Anarchy is What States Make of It: The Social Construction of Power Politics', *International Organization*, Vol. 46, No. 2 (Spring 1992), pp. 391–425.
18. Colin Gray asks who will be the Mahan of Space (in 'The Influence of Space Power upon History', *Comparative Strategy*, Vol. 15, No. 4 (1996), pp. 293–308)? It is presumptuous to lay claim to the mantle, and I certainly do not do so here. What I do hope to accomplish, however, is to shift the dialogue to a trajectory where the next Mahan can emerge.

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