

New Frontiers, Old Realities

Everett Carl Dolman

THE COMING WAR with China will be fought for control of outer space. Although its effects will be widely felt, the conflict itself will not be visible to those looking up into the night sky. It will not be televised. Most will not even be aware it is occurring. It may already have begun.

And yet, this new kind of war will not be so different that it will be unrecognizable. The principles of war and the logic of competition remain as they have always been. Only the context has changed. When we have this mind-set and apply the tenets of traditional realist and geopolitical theories that have survived millennia in their basic forms, the unavoidable conclusion is that the United States and the People's Republic of China (PRC) are on a collision course for war.

The following offers an interpretation of the neoclassical geopolitical context that shapes the potential for conflict between the United States and China, places that discussion within a broader theory of strategy, tactics, and war, and assesses the potential for a twenty-first-century Great Wall in low-Earth orbit.

Neoclassical Geopolitics

Almost 2,500 years ago, Thucydides foresaw the inevitability of a disastrous Peloponnesian war due to “the rising power of Athens and the fear it caused in Sparta.”¹ Indeed, whenever an extant international order is challenged by a rising power, the reigning hegemonic authority is obligated to respond. Such conditions are relatively rare in history, but when they occur, the resulting war is not for minor spoils or border modifications,

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but for leadership of a new world order. It is a great war, a hegemonic war.² This is the context in which the world now exists. The relatively stable global hegemony of the United States since 1945, punctuated by limited wars and shifting balances of opposition, is directly challenged by the rising power of the PRC—and the fear it is generating in the United States is palpable. Such determinist theory is quickly countered by those who find its implications abhorrent. Inevitability is a crass and unsubtle divination. Because a thing has always happened does not mean that it always will. Nor does the reverse necessarily hold. Because something has never happened does not mean that it cannot be so. The realist paradigm of power politics does not have to hold sway. The cruelly consistent narrative of history need not be eternally retold. Nothing is inevitable, counter the idealists. The world can be made different; the world today *is* different.

The power of possibility is tantalizing, but the brusque strength of probability, for a decision maker, usually holds sway. The past foreshadows the future—and the calculation of probability over time, combined with risk, is more persuasive than platitudes. If an event is likely, its influence is plain and its outcome perceptible, then preparations must be made to mitigate its effects. If an event is unlikely, even if its impact is serious, actions to mitigate it are often deferred to the future—even though this form of political gambling tends to magnify the deleterious effects of the event when it eventually comes to pass. If the state's sovereignty is at risk, however—no matter how unlikely the event—it must be dealt with directly. The well understood—if not everywhere accepted—logic of *raison d'état* calculations is fully in accord with classical geopolitical dictums dating back at least as far in their theoretical lineages.

The resurrection of geopolitics as a valid body of military theory is in full swing. By applying the tenets and dicta of geopolitics to the current age with a focus on space activities, I hope to contribute to its revival. That classic geopolitical thought should require resurrection means that it has gone through a period of disfavor and decline, a history that will require further examination. For now it is enough to assert that geopolitics collapsed of its own weight, from the misuse and abuse that followers subjected it to by taking its less-defensible precepts to their extreme ends. Just as neoliberalism, neorealism, and neo-Marxism seek to return to founding theories for their inspiration and avoid the perversions and misapplications of often well-meaning but logically off-track followers, so too does

neo-geopolitics seek a reaffirmation of basic principles and an explanation for the misuse of them in history.

Geopolitics looks to geographic or Earth-centered physical and spatial characteristics for its explanatory power.³ The unit of analysis is the state. Its location, size, resources, and population are placed in the context of political ideology, sociocultural values, and technology to assess the dominant forms of war in a given time. The manipulation of this knowledge is called *geostrategy*—a state-dominant assessment of the geospatial bases of power in plans or strategies for continuing military, economic, diplomatic, and sociocultural advantage.

Geopolitics as a unified body of theory was not apparent until the latter nineteenth century, but its inherited lineage is clear in retrospect. To the extent that the strong do what they will and the weak suffer what they must, as Thucydides had the imperial Athenians tell the neutral Melians in his celebrated dialogue on state power and pride, realpolitik has always focused on manipulating the extant balance of power for its persuasiveness.⁴ Although it is conceptually separate from geopolitics, in both meaningful theory and practice, the two schools of thought are logically inseparable.

Geopolitics describes the sources—the what—of state power; *geostrategy* explains the how. Neither provides the underlying rationale, the why. That requires a broader theoretical perspective. The one that dominated the architects of geopolitical thought clusters under the rubric of realism.

If state power, expressed in terms of capacity for violence, is the ultima ratio of international relations,⁵ then geopolitical theory is extremely useful. Thucydides and Machiavelli perceived the self-interest of states coincident with that of humanity: a hierarchy of fear, interest, and honor.⁶ The state that does not protect itself will be overcome; that which does not grow will wither and die. Cardinal Richelieu summed it up in the phrase “raison d’état.”

In an environment of relative scarcity, the interests of states overlap, and conflict can be expected. Prudent leaders will recognize the geographically advantageous positions and capacities that enhance state power and will attempt to control those positions—or at a minimum deny control of those positions to an opponent—to ensure the continued health and growth of the state. A study of such capacities, incorporated into a plan for continuing advantage, is called *geostrategy*.

For example, Alfred Thayer Mahan argued that in the modern era, great power required the possession of a navy capable of projecting influence

globally.⁷ It was time, he asserted near the end of the nineteenth century, for the United States to develop a maritime force equal to its economic clout, throw off its cloak of isolationism, and take its rightful place at the forefront of nation-states. Mahan was an American nationalist, to be sure, but his theories applied to any state in a similar position. Great power leads to great responsibility, he reasoned, and America was abrogating its obligations by failing to lead.

The first truly global geostrategist, Halford Mackinder, described a cyclical clash of land and sea powers through history, a view that coincides with other prominent theories of recurring rivalries, such as the interplay of offensive or defensive technologies or capacities for maneuver or mass that tend to dominate the battlespace in a given era. Sea power, Mackinder argued, in ascendance with the development of reliable oceangoing shipping after 1500, was by the beginning of the twentieth century ceding maneuver dominance to mass-force land power as the technology of the railroad created relatively fast and inexpensive internal lines of supply and communication.⁸

As technology developed, the details of geostrategic theory morphed toward actionable decisions, but the essential logic persisted. Similar arguments were made for air and missile power and are currently in vogue for space power. As we work through the ramifications of an *astropolitik* approach, several conclusions are readily apparent:⁹

- Classical geopolitics provides the most enduring realist explanations for change in the international system.
- Many classical geopolitical theories prove readily adaptable to the realm of outer space.
- These theories, tailored for sea, rail, air, and missile power, can be viewed as segments of an evolutionary process. Space power is their logical and apparent heir.
- The special terrain of outer space dictates tactics and strategies for efficient exploitation of space resources.
- Space is a national power base today—an optimum deployment of space assets is essential on the current terrestrial and future space-based battlefield.

US and PRC or US versus PRC?

At first glance, geopolitical forces may seem to be in dynamic balance. The United States is the overwhelming sea and air power, offensively oriented and favoring maneuver and precision strike for advantage in war. The PRC is potentially the greatest land power the world has ever known, defensively established and reliant on masses of infantry as its core strength. Neither has a globally significant advantage vis-à-vis the other. There is no plausible near-term scenario in which the United States could invade and sustain an occupation of the Chinese mainland. Likewise, the United States is currently impervious to any invasion and occupation by Chinese forces. Neither state's sovereignty appears in doubt because of actions by the other. At the level of grand strategy, neither maneuver nor mass, offense nor defense, has a transformational advantage. From this perspective, war, inevitable though it might be, is not imminent.

Less-venerable theories of conflict and cooperation are more favorable toward long-term peace.¹⁰ Economically, the United States and the PRC are tightly bound. Chinese markets are opening, and the productivity of PRC manufacturing has allowed the United States to move into a post-industrial economy. Trade is increasing substantially, and China holds much of America's foreign debt, to the point that neither state benefits fiscally by engaging in a conflict that will sever (or even just weaken) these ties. Culturally and historically, the Chinese and American people are inclined toward mutual admiration and respect. Despite the political differences between Chinese communism and Western liberal democratic capitalism, both sides value human connections and government rapprochement. An appreciation of American technological innovation and Chinese work and spiritual ethics imbues the still-developing relationship. Both sides seem willing to engage diplomatically and sustain a world system in which each nation-state has its place and its independence.

In every sphere but one, it seems, the two great powers are building toward peace. In every sphere of competition, with one exception, there is room for negotiation and mutually beneficial outcomes. That one incompatible, uncompromising realm is outer space.

Western Action versus Eastern Timing

The essential strategic view that confounds cooperation in space is paradox. The Western mind sees transparency and openness as the surest way

to peace. When one state can effectively monitor another, fears of surprise attack are mitigated, and the tendency to overestimate a potential opponent's capacities and intentions is minimized. With transparency, the security dilemma is obviated and cooperation is possible.¹¹

But transparency as a confidence-building measure is a purely Western mode of thought. To an Eastern strategist, letting an opponent know precisely one's strengths and weaknesses merely invites attack. The key to stability in this view is uncertainty—not knowing how strong or how weak an opponent is and never, under any circumstances, revealing one's own strengths or weaknesses. The more sure the knowledge, the more crafty the countervailing plan, and the more likely its success.

The essential disconnect between West and East in the conduct of war is in the difference between action and timing.¹² The Western strategist too often seeks to force change through positive steps. Analyses focus on the likely response to specific activities and assessments of whether more or less force is necessary to accomplish change. The future is constructed wholly through the effort and interplay of action.

To the Eastern strategist, proper war-making is a matter of timing. Balance of force is not a single calculation but a continuing one. Power is a function of capabilities, position, and morale—just as it is in the West—but it is also a result of numerous immutable and sometimes unknowable forces. Structure dominates agency. Rather than force a change through positive actions, the Eastern strategist bides time until the moment to strike is ripe. Indeed, the gardening analogy is a strong one in Chinese military writings. No matter how much effort one puts into growing a crop—learning how to garden, preparing the soil, tending the plants—there is no benefit in harvesting too early or too late.

My interaction with Chinese strategists and generals anecdotally confirms such biases. When someone suggests long-term planning is advantageous, these officials are liable to chuckle and say, “I do not know what will happen tomorrow, how can I know what will happen in years or decades?” The Eastern strategist studies, prepares, and waits. Through careful study and reflection, the strategist learns about the opponent's forces and his or her own, as well as the terrain, technologies, and sociopolitical contexts that shift in time. Through preparation and training, military forces required by the strategist are available when needed. Awaiting the proper moment for action guarantees success.

Western hubris and Eastern inscrutability thus dominate security relations between those regions. When Douglas MacArthur famously stated that there is no substitute for victory, he was affirming an agent-centered dictum.¹³ His meaning was clear. Those who prevail in war need make no excuses for the manner in which the battles were fought. History is written by the victor. Alternatively, when Sun Tsu claimed that the apex of skill is to win without fighting, he did not refer to a passive or inactive strategy.¹⁴ He averred that following the study-prepare-and-wait model leads to a position where the outcome is obvious to all parties, and a capable opponent will choose to negotiate the best terms rather than fight to a foregone and disastrous conclusion.

Geopolitical analysis has the capacity to accept the logic of both East and West. Rather than choose one over the other, the geostrategist perceives them holistically and seeks a third way that links the two without diminishing the power of either.

Strategy and the Space Domain

Within military strategy are operational categories of violence or force that are separated by domain.¹⁵ This is more than an economizing or efficiency categorization of force. It is recognition that strategies for each realm are unique and have individual requirements for tactical proficiency. It is also the operational concept that links the logic of strategy with the grammar of tactics.

A military strategist understands the requirements of organizing, training, and equipping for war. This is the unique purpose of military power. As such, the top military strategist prepares overall force structures and establishes a plan for their continuing health and proficiency. Dividing the domains of war into land, sea, and air is useful for assigning service authority (for the United States, to the Army, Navy, and Air Force, respectively). Today space is widely recognized as a separate domain, and some state militaries have separate services for it—Russian Rocket Forces, for example. To the extent that these domains are merely convenient delineations, strategy applies equally across all, even though tactical expertise may be quite diverse in different realms. As such, how forces are divided is merely a preference, subordinate to an overall theory of war. To have a separate strategy for each domain, the unique purposes of each must be discerned. To have a strategy for space—that is, a theory

of space war—the strategist must distinguish the unique roles and missions of the space domain. If nothing is unique, then a distinction does not add value.

Moreover, the distinct realms or domains of land, sea, air, and space (and perhaps cyberspace) need to be more than physically and conceptually separable. They must be of complementary value—otherwise they should be subordinate to another domain—and nested within the proper role of military power. Typically, domains are separable by physical characteristics or platform operations. In the former case, ground territory is the domain of land power, oceans and waterways define sea power, and the aerodynamic properties of the skies or orbital characteristics of the heavens define air and space power. In the latter, if it walks or moves on the earth, it is land power and properly under the control of the Army; if it floats or operates in the water, it is the Navy's responsibility; and if it flies through the air or space it is—for the United States—properly controlled by the Air Force. This causes problematic overlap when assigning domain responsibility, however. Can the Navy use aircraft to patrol the oceans? Who should own and operate a submarine-launched ballistic missile which begins in the ocean but travels through the air and space and targets a city on the earth? Does the source or origination define the authority in the submarine case (sea power), or should the target be the discriminator (land power)? Taken to an extreme, all sea, air, and space operations begin on the land; should navies and air-space forces exclusively engage in support activities for the army? This, too, creates more problems than it solves. If I discriminate by target, am I conducting economic warfare when I destroy a factory, regardless of the means? If I bomb a school with an airplane, am I conducting educational warfare?¹⁶ That is absurd. Fortunately, the model for power discrimination has already been defined; as with military force as a means of state power, domain authority is best understood as a function of purpose. When defined this way, the conundrums above disappear.

The military purpose of land power is to take and hold territory. This is understood as control and is the mission properly assigned to armies. The military purpose of sea power is to control the sea. Navies do this. The military purpose of air power is to control the air. Fittingly, the military purpose of space power is to control space. Following the primary dictum of classical geopolitics, if one cannot achieve or sustain control, then it is vital that one's potential adversary cannot achieve or sustain control. This is called *contestation*. Land forces should thus be organized, trained, and equipped to control and contest the ground, naval forces the seas, and

air forces the sky; critically, if space is a separate war-fighting domain, then space forces must be prepared and capable of controlling and contesting space.

Control provides the capacity to use the domain to create effects. In other words, what one does with land, sea, air, or space power is entirely dependent on the capacity to operate from or through the land, sea, air, or space. In the airpower case, the capacity to bomb, move supplies, or do observation with aircraft requires that one can get into the air and then to the target. As with land power, however, gaining control so that the domain can be used does not necessarily mean constant or pervasive application of military force throughout the domain. In an uncontested environment, access is based entirely on the capacity to get and use the resources necessary to move from one point to another and the extent to which legal rules are followed to deconflict operating in congested areas (e.g., airport flight control regimes). However, the continuing presence of an uncontested domain has historically been due to the existence of a military or police capacity held in reserve to ensure rules are obeyed and that unauthorized inhibiting of movement through the domain is punished. This is the current case for the global sea and air commons. The US Navy is the primary agent to ensure that the current 12-mile extension of national sovereignty into the oceans is not exceeded (as with its actions against Libya in the Gulf of Sidra), that vital narrows in sea lanes of commerce are not blocked (e.g., the Strait of Hormuz), and that nonstate criminal activity is prevented or punished (such as the ongoing efforts against Somali pirates in the Indian Ocean). However, without the ability to apply force on and in the seas, to board and inspect suspicious or rules-defying vessels, to escort and defend innocent passage, and more, the US Navy cannot defend or deter on the seas without violating other states' sovereignty or relying on non-naval assets for deterrence and punishment.

In space, no state has yet attempted to gain general control of a discernible location, and nations capable of operating in space have for the most part done so in accordance with legal or treaty obligations. This is the model that air followed in its initial development (and probably sea access, at some time in prehistory). Until World War I, the air was not contested. Unfettered access was a function of desire, technology, aerodynamics, weather, law, and money. Such is the case with space today. No state has yet acted militarily to contest any other state's use of space (that we know of). The geostationary belt is regulated by international

agreement, and various rules limit the placement of weapons of mass destruction in space. Registration and liability rules have been crafted and widely accepted, and the effects available from spacecraft and the use of space are generally available to all—and yet the exploitation of space is still suboptimal.¹⁷ No US Navy equivalent is lurking ready to ensure that rogue states cannot extend their sovereign territory beyond generally accepted limits of air-powered flight or to stop illegal activities if and when they occur. Military activities create debris and other navigational hazards, yet there is no equivalent of a minesweeper to clear out unwanted military detritus. And if some state or organization should desire to contest or control space, denying the fruits thereof to another state, there is simply no defense against such an action—there is only deterrence through the threat of asymmetric, Earth-centered retaliation.

Contestation is the ability to block or deny access to a domain. Critically, contestation does not give the capacity to use a domain; it only inhibits. This is why, to a military strategist, control is a vital concept. Control may be general or limited to specific times and places, but without the ability to get into the domain and operate there, the strategist cannot use the domain to create effects. Thus for every military domain, control is possible only from within the domain. This is obvious when the domain is contested, but control also must be exercised in an uncontested domain when illegal or harmful activities are occurring there.

A military must control a domain to be able to use it. To maintain control, a military planner must be able to contest the littoral areas of those domains that are adjacent to it. For example, a military requires an army or land force to gain control and then use contested territory. This is the much-vaunted concept of “boots on the ground”: to the extent a military needs territorial control, it requires boots on the ground (or wheels, tracks, etc.). To the extent a military desires air control over enemy territory in order to bomb targets there, boots on enemy ground may be immaterial. Let us call this the “wings in the air” dictum and make another one for “oars in the water.” To use the domain, I must be able to operate in the domain.

The land force that is occupying or controlling territory will not be able to maximize use of the domain if the air space above it is not controlled by friendly forces. The land force must therefore try to block access to opposing air forces or accept the free flight of enemy aircraft over its positions. The latter may be a necessity if the means to contest the air are not available, but it is an undesirable operational condition. For this reason, land forces

generally have antiaircraft artillery and missiles. Land forces also properly construct coastal defenses to prevent seaborne attacks and invasion. Since the purpose of these actions is to contest the littorals of the land domain, they are properly assigned to and integrated into army operations and doctrine. For their part, navies maintain land forces—marines and shore police—to contest beaches and protect ports. Navies also have significant antiaircraft capabilities on their ships and maintain fleets of aircraft to contest the antishipping efforts of opponents. Air forces must secure bases as well and contest the antiair efforts of armies and navies. Space forces likewise should have the capacity to deny ground-, sea-, and air-based antisatellite weapons from space.

In some instances, a state may not need or desire domain control or contestation. A land-locked state will see no need to develop a naval force for sea control and likely will not acquire specialized sea-contestation capability. Most states will attempt to acquire air-contestation capabilities, such as advanced surface-to-air missiles, but many will not be able to afford air control assets. Their military strategies will develop with an understanding that effects delivered from or through the air, such as close air support or aerial resupply, are not likely to be available in a time of conflict or crisis.

If space is a military domain, then it should follow the same logic. A state that relies on military support from space—the effects it achieves from having assets in space—must plan to gain at least limited or temporary control of space in times of conflict. And, as is obvious from the description of analogous domains above, control is possible only from within the domain. If the state is unwilling to put weapons into space, then it cannot hope to ensure effects from space when another state attempts to contest its position. Its logical recourse is to wean itself quickly from space support, enhancement, and enablement, and move to a pre-space military force structure. It must then stop wasting procurement money, production, and personnel on military space. If the military might be forced to fight without assured space support, then it should train to do so. The most efficient military in a space-denied environment will be the one that does not require the use of space at all. Of course, if a military force is proficient in fighting without space, why should it spend scarce resources to organize, train, and equip itself to fight any other way? It is the height of folly for a commander to rely on a capacity that may or may not be available when needed. With the military force preparing to fight without

space, government funding for military space support will be scaled back and ultimately cut. Without a military presence to protect fragile space assets and ensure treaty compliance in space, along with drastic reductions in the space industry as military contracts end, commercial space development will be severely curtailed. Developing ground-, sea-, and air-based antispace weapons would be prudent for such a military so that an opponent cannot use space freely against it, but to waste capital and effort on a nice-to-have capacity in space that is not needed to conduct operations on the earth would be ludicrous. Following this logic, denying oneself the capacity to put military force in space is tantamount to giving up on the military (and probably civil) value of space.

To be sure, the cost to weaponize space effectively will be immense. It is a cost that America, or any other state, needs to undertake if it wants a military force structure that relies on space support and enablement to operate as it does now and will increasingly do so in the future. Weaponizing space will have benefits for the military that may not be readily apparent.

Where will we get the money for this space weapons capacity? It will not come from school budgets or foreign aid programs. It will not come at the expense of health care reform or corporate bailouts. It will come at the expense of conventional military capabilities on the land and sea and in the air. There will be fewer aircraft carriers and high-dollar fighter aircraft and bombers. If the United States deploys space weapons capable of targeting the earth, relatively slow-moving ships and aircraft will become conceptually obsolete, instantly vulnerable to space weapons. As we scrounge money for space lasers and exotic kinetic-kill satellites, the systems these space weapons make defenseless will be scrapped. More funding will come from current ballistic and antiballistic missile development and deployment, as global ballistic missile defense from space is more cost-effective and practically effective than comprehensive ground- or sea-based systems. And most importantly, it will come from personnel reductions—from ground troops currently occupying foreign territory. In this way, the United States will retain its ability to use force to influence states around the world, but it will atrophy the capacity to occupy their territory and threaten their sovereignty directly. The era of US hegemony will be extended, but the possibility of US global empire will be reduced.

Maybe. The future is not determined or even determinable. I have argued elsewhere the practicality of controlling space. I will not add to that argument here. I have also pointed out that the theory animating these

conclusions is precise and well-developed, but the real world is too complex to mirror theory. The political will necessary to weaponize space and follow up with a regime capable of ensuring commercial and cooperative development of space is not yet evident, and such a pure, realist *astropolitik* vision is thus not currently viable. But support for the common or collective good that could come from a properly weaponized space force may change that. Space weapons have some potential missions that could help generate the will to pay for and use them. These missions do not detract from the primary purpose of the weapons but complement the goal of space control. For example, nuclear-powered space-based lasers could, in theory, clean up debris from high-traffic orbits—good target practice for their operators. Assured access to space provided by a robust space control force could pave the way for clean, permanent nuclear and toxic waste disposal, as such items currently stored on Earth could be sent into the sun. Space-based solar power generation could provide the world with cheap, abundant energy that would deemphasize the value and authority of current oil-producing states and fundamentally change the geopolitical landscape of the Earth. These scenarios are far more likely with the monitoring and protection provided by a space-based military or police power.

These scenarios are an even more difficult dilemma for those who oppose weapons in general and space weapons in particular. Ramifications for the most critical current function of the Army, Navy, and Marines—pacification, occupation, and control of foreign territory—are profound. With the downsizing of traditional weapons programs to accommodate heightened space expenditures, the ability to do all three would wane significantly. At a time when many are calling for *increased* capability to pacify and police foreign lands, in light of the no-end-in-sight deployments of US peacekeeping forces around the world, space weapons proponents must advocate *reduction* of these capabilities in favor of a system that will have no direct potential to pacify and police.

Hence, the argument that the unilateral deployment of space weapons will precipitate a disastrous arms race is further eroded. To be sure, space weapons are offensive by their very nature. They deter violence by the omnipresent threat of precise, measured, and unstoppable retaliation. But they offer no advantage in the mission of territorial occupation. As such, they are far less intimidating to the international environment than any combination of conventional weapons employed in their stead. Which would be more threatening to a state that opposes American hegemony:

a dozen lasers in space with pinpoint accuracy or (perhaps for about the same price) a dozen infantry divisions massed on its border? A state employing offensive deterrence through space weapons can punish a transgressor state, but it is in a poor position to challenge that state's sovereignty. A transgressor state is less likely to succumb to the security dilemma if it perceives that its national survival is not at risk. Moreover, the tremendous expense of space weapons would inhibit their indiscriminate use. Over time, the world of sovereign states may recognize that the United States could not and would not use space weapons to threaten another country's internal self-determination. The United States still would challenge any attempts to intervene militarily in the politics of others, and it would have severely restricted its own capacity to do the latter. Judicious and nonarbitrary use of a weaponized space eventually could be seen as a net positive—an effective global police force that punishes criminal acts but does not threaten to engage in an imperial manner.

A Twenty-First-Century Great Wall in Space

Slightly over three years ago, China successfully engaged one of its own satellites in space.¹⁸ This was extraordinarily provocative. The United States simply has no defense against such a weapon system, and China's antisatellite test was intended to remind the world of this weakness. Moreover, its use of a standard medium-range ballistic missile (which the PRC produces in mass) to propel the kill vehicle indicates a potential anti-satellite weapons capability sufficient to target the entire US low-Earth-orbit inventory. Current efforts to place ground-based missile interceptors in strategic locations would be useless, regardless of deployment, as these are designed to engage incoming ballistic missiles in the mid or terminal phase of flight. The Chinese missile achieves orbital altitude just minutes after launch, so the only possible defense against it—which would have the added advantage of ensuring any destructive debris from a successful engagement would land on Chinese soil—would be from a network of antiballistic missile satellites operating in Earth orbit.

Just such a space-based antimissile capability, envisioned for years and technically feasible since the late 1980s, has long been the optimum solution for military planners. Yet, such a system has been annually tabled due to high cost estimates and fears of encouraging other states to develop

antispace weapons. The latter concern is now overcome by events. But the cost issue remains.

With the global war on terrorism and major terrestrial deployments drawing the lion's share of attention and budget, shifting funds from immediate operational requirements to long-term security is a tall order. The *timing* of the Chinese antisatellite test coincides perfectly with their perception that the United States is ill positioned to respond with force, and they are probably right.

China's ultimate goal appears to be to assert its regional supremacy and achieve coequal (if not dominant) status as a global power. Control of space is a critical step in that direction. Without its eyes and ears in space to provide warning and real-time intelligence, the United States would be in a painfully awkward situation should the PRC put direct military pressure on Taiwan. To those who argue that China is as eager to avoid a damaging war in space as any other space-faring state, especially given its increasing integration into the world economy and dependence on foreign trade for its continuing prosperity; do not discount the capacities of its authoritarian leadership. This is the same regime that embraces the deprivations of government-induced cyclical poverty to spare its populace the moral decadence of capitalist luxury.

As with the famous Great Wall running across northern China, built for the dual purpose of inhibiting nomadic incursions and creating a magnificent public work to legitimize the government and inspire its domestic population, a significant military presence in low-Earth orbit has a parallel value for the PRC today. Its increasing capacity in space is extremely popular domestically (in addition, providing an enhanced reputation for China's capacity to develop high-technology products and services) and helps to diminish internal dissent by legitimizing the communist government. The massive government-led effort to build a dominating space presence is tantamount to the expenditures of states to create huge public works that were so important to past regimes (and modern ones as well; for example, the interstate highway system of the Eisenhower administration). Ultimately, however, the primary purpose of a controlling or at least lockdown contestation of space access would have the same general effect as the original Great Wall in keeping foreign influences out of the Middle Kingdom. For China, the past has always been prologue.

To be sure, China's increasing space emphasis and its cultural antipathy to military transparency suggest a serious attempt at seizing control of

space is in the works. A lingering fear is the sudden introduction of an unknown capability (call it Technology X) that would allow a hostile state to place multiple weapons into orbit quickly and cheaply. The advantages gained from controlling the high ground of space would accrue to it as surely as to any other state, while the concomitant loss of military power from the denial of space to America's already space-dependent military forces could usher in a significant reordering of the international system. The longer the United States dithers on its military responsibilities, the more likely a potential opponent could seize low-Earth orbit before it is able to respond.

And in such circumstances, the United States certainly would respond. Conversely, if the United States were to weaponize space, it is not at all sure that any other state or group of states would find it rational to counter in kind. The entry cost to provide the necessary infrastructure is still too high—hundreds of billions of dollars, at minimum. The years of investment needed to achieve a comparable counterforce capability—essentially from scratch—would provide more than ample time for the United States to entrench itself in space and readily counter preliminary efforts to displace it. The tremendous effort in time and resources would be worse than wasted. Most states, if not all, would opt not to counter US deployments *directly*. They might oppose American interests with asymmetric balancing, depending on how aggressively it uses its new power, but the likelihood of a hemorrhaging arms race in space should the United States deploy weapons first—at least for the next few years—is remote.

This reasoning does not dispute the fact that US deployment of weapons in outer space would represent the addition of a potent new military capacity, one that would assist in extending the current period of American hegemony well into the future. Clearly this would be threatening, and America must expect severe condemnation and increased competition in peripheral areas. But such an outcome is less threatening than another, particularly illiberal authoritarian state doing so. Although there is obvious opposition to the current international balance of power, the majority of states seem to regard it as at least tolerable. A continuation of the status quo is thus minimally acceptable, even to states working toward its demise. As long as the United States does not employ its power arbitrarily, the situation would be accommodated initially and grudgingly accepted over time.

Mirror-imaging does not apply here. An attempt by China to dominate space would be part of an effort to break the sea-air dominance of the

United States in preparation for a new international order with the weaponizing state at the top. Such an action would challenge the status quo rather than seek to perpetuate it. This would be disconcerting to nations that accept the current international order—including the venerable institutions of trade, finance, and law that operate within it. Simultaneously, it would be intolerable to the United States. As leader of the current system, the United States could do no less than engage in a perhaps ruinous space arms race, save graciously deciding to step aside and accept a diminished world status.¹⁹

Seizing the initiative and securing low-Earth orbit now, while the United States is dominant in space infrastructure, would do much to stabilize the international system and prevent an arms race in space. The enhanced ability to deny any attempt by another nation to place military assets in space and to readily engage and destroy terrestrial antisatellite capacity would make the possibility of large-scale space war or military space races *less* likely, not more. So long as the controlling state demonstrates a capacity and a will to use force to defend its position, in effect expending a small amount of violence as needed to prevent a greater conflagration in the future, the likelihood of a future war *in* space is remote.

Moreover, if the United States were willing to deploy and use a military space force that maintained effective control of space and did so in a way that was perceived as tough, nonarbitrary, and efficient, such an action would serve to discourage competing states from fielding opposing systems. It could also set the stage for a new space regime, one that encourages space commerce and development. Should the United States use its advantage to police the heavens and allow unhindered peaceful use of space by any and all nations for economic and scientific development, over time its control of low-Earth orbit could be viewed as a global asset and a public good. In much the same way the British maintained control of the high seas in the nineteenth century, enforcing international norms against slavery while protecting innocent passage and property rights, the United States could prepare outer space for a long-overdue burst of economic expansion.

There is reasonable historic support for the notion that the most peaceful and prosperous periods in modern history coincide with the appearance of a strong, liberal hegemon.²⁰ America has been essentially unchallenged in its naval dominance over the last 60 years and in global air supremacy for the last 15 or more. Today, there is more international

commerce on the oceans and in the air than ever. Ships and aircraft of all nations worry more about running into bad weather than about being commandeered by a military vessel or set upon by pirates. Search and rescue is a far more common task for the Navy than forced embargo, and the transfer of humanitarian aid is a regular mission. The legacy of American military domination of the sea and air has been positive, and the same should be expected for space.

Conclusion

Geopolitics is in ascendance because it provides practical blueprints for action to those who perceive the world in realist terms. Halford Mackinder confirmed the primary tenet of geostrategy. To dominate the battlespace, it is necessary to control the most vital positions. If the most vital positions cannot be controlled, then they must be contested. The opponent cannot have uninhibited access. This simple dictum, known by every strategist and tactician but articulated so clearly by Mackinder, is the essence of the geostrategist's logic. Control is desirable, contestation is imperative. This dictum applies to every medium and theater of war.

To be sure, America *will* maintain the capacity to influence decisions and events beyond its borders, with military force if necessary. Whether that capacity comes from space as well as the other military domains is undetermined. But the operational deployment of space weapons would increase that capacity by providing for nearly instantaneous force projection worldwide. This force would be precise, unstoppable, and deadly. The United States will maintain its position of hegemony as well as its security, and the world will not be threatened by the specter of a future American empire. 

Notes

1. Robert Strassler, ed., *The Landmark Thucydides: A Comprehensive Guide to the Peloponnesian War*, trans. by Richard Crawley (New York: Free Press, 1996), 16.
2. See Robert Gilpin, *War and Change in World Politics* (Cambridge: Cambridge University Press, 1981) for a full treatment.
3. I draw on definitions by Geoffrey Parker, *Western Geopolitical Thought in the Twentieth Century* (New York: St. Martin's, 1986) for this analysis.
4. Strassler, *Landmark Thucydides*, 352.
5. The position of neorealist founding father Kenneth Waltz, *Theory of International Relations* (New York: McGraw-Hill, 1979).

6. Jack Donnelly, *Realism and International Relations* (Cambridge: Cambridge University Press, 2000), 43–44.
7. Alfred Thayer Mahan, *The Influence of Seapower upon History: 1660–1783* (Boston: Little-Brown, 1890).
8. Halford Mackinder, *Democratic Ideals and Reality: A Study in the Politics of Reconstruction* (New York: Henry Holt, 1919).
9. These hypotheses are extracted from Everett Dolman, *Astropolitik: Classical Geopolitics in the Space Age* (London: Frank Cass, 2002).
10. Less so, at least in terms of longevity. These include cooperation-producing economic theories of interdependence, functionalism, and neofunctionalism, and variants of the so-called democratic peace theory to include the Kantian peace and capitalist peace theory.
11. On the original security dilemma, see Robert Jervis, “Cooperation under the Security Dilemma,” *World Politics* 30, no. 2 (January 1978): 167–74.
12. This argument is heavily indebted to Francois Jullien, *A Treatise on Efficacy: Between Western and Chinese Thinking* (Honolulu: University of Hawaii Press, 2004).
13. MacArthur was defending his conduct in Korea. For a counter opinion and critique, see Everett Dolman, *Pure Strategy: Power and Principle in the Space and Information Age* (London: Frank Cass, 2004), 6–7. For a positive account, see Theodore and Donna Kinni, *No Substitute for Victory: Lessons in Leadership from Douglas MacArthur* (Upper Saddle River, NJ: FT Press, 2005).
14. Sun Tzu, *The Art of War*, trans. by Ralph Sawyer (Boulder, CO: Westview Press, 1994), 177.
15. This section is distilled from a much fuller discussion of the roles of strategy, operations, and tactics in Dolman, *Pure Strategy*.
16. An argument adapted from an economic assertion made by David Baldwin, *Economic Statecraft* (Princeton, NJ: Princeton University Press, 1985), 6–15.
17. John Hickman and Everett Dolman, “Resurrecting the Space Age: A State-Centered Commentary on the Outer Space Regime,” *Comparative Strategy* 21, no. 1 (2002): 1–19.
18. For an apologist stance, see Li Jiuquan, “Legality and Legitimacy: China’s ASAT Test,” *China Security* 5, no. 1 (Winter 2009): 43–52.
19. Following the logic of hegemonic stability theory (HST) as generally outlined by Duncan Snidal, “The Limits of Hegemonic Stability Theory,” *International Organization* 39, no. 4 (Autumn 1985): 579–613.
20. Immanuel Wallerstein, “The Rise and Future Demise of the World Capitalist System: Concepts for Comparative Analysis,” *Comparative Studies in Society and History* 16 (1974): 387–415.