

The Globalized System, Air and Space Power, and the Geostrategic Value of Maritime Small and Middle Powers in Asia

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The question is not whether air strategy, the air domain, and air technologies can make island and peninsular nations such as Sri Lanka, South Korea, Indonesia, Malaysia, and so forth specifically of strategic value all on their own. Rather, the question is why and how these smaller nations can utilize their “buffered” geostrategic position with an “assist” from air and space power alike, particularly in the form of real-time command-and-control (C2) and intelligence, surveillance, and reconnaissance (ISR) capabilities linked or even shared across sovereign boundaries. To be specific, this article defines a nation as *buffered* geopolitically if it is removed from immediate land invasion geographically while also being politically and economically independent from any one “power pole” in foreign diplomacy, economic contacts, and, not least in a globalized world, transnational social networks. In turn, latent potentialities for an outsized role in geopolitics by powers from South Korea to Singapore to Sri Lanka are strongly linked to the features of the twenty-first-century era of interstate relations, particularly its increasingly *multipolar or multi-nodal nature*, which differs markedly from features and operation of the earlier Cold War system. The “fragmented,” often practically nonaligned, nature of such powers creates an international dynamic that air and space power can further build upon for purposes of overall system security, stability, prosperity, and, in short, a balance of interests as well as power between competitive rising powers in and beyond Asia.

This article argues that the globalized order, together with the paradoxically increasing role of disparate national ethnic identities, or the “cultural nation”

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within the “state,” have created a global and regional geopolitical reality of fragmented cooperation and competition that inherently gives “buffered maritime powers” outsized leverage across all instruments of power. In part, we argue this is because, with domestic identities still mattering as much as globalized cosmopolitanism (cooperative win-win ties) in the stability and prosperity of the “nation-state,” we now have a somewhat paradoxical reality. First, great powers must still create and field military-expeditionary capabilities for deterrence of each other, but, second, a greater “gap” now exists than ever before between mixed-interest, often mutual-sum policy goals at the grand-strategic level of relations and the zero-sum, destructive nature of military force at the tactical level of purely military objectives.

Of particular importance to mitigation of man-made and natural disasters, monitoring of ocean pollution and the environment generally, and curbing the illicit sides of globalization, will be the willingness and ability of buffered maritime powers to contribute singly and in coalitions to creating a *common operating picture* via much more intensive C2 and ISR networks in the global commons. We especially emphasize ISR and C2 capacities because the core of *all* potential civilian, economic, and military missions—cooperative or competitive with other states—is *on-time information acquisition and communication*, including as well *information processing, interpretation, and exploitation*. Capabilities to see, track, fix, and identify actors and platforms of both licit and illicit natures, including commercial and military activities alike, could support sustainment of the global commons via enforcement of ocean law and curbing of illicit trafficking of all kinds, while lending far more efficiency to combined regional and sub-regional efforts to mitigate disaster damage. The latter in particular is something that is already on the rapid uptick, due unfortunately to the quickly unreeling effects of climate change. Our prescriptions are in turn as much “aerospace” as “air” strategy precisely because the future is one of using common software and hardware to *link air assets with low Earth orbit (LEOSAT) networks*, thus, even better leveraging the “geostrategic” importance of a small or middle maritime power’s dual-use air platforms.

While nations such as Sri Lanka have already gone significantly down the road of providing large airlift services for UN peace and other emergency operations, we recommend that a core part of maritime small and middle powers’ air strategies be nationally and cooperatively devoted to the matching of ISR and C2 software and hardware to airframes. This would consist of not just purely defense or purely military efforts but also the use of economic diplomacy to foster and cement links to inevitably increasing dual-use imaging and communications capabilities in commercial low Earth orbit (LEO) over the next 20 years. In this

regard, air enterprise development (AED) efforts would best be coordinated very closely with the commercial sector and with the militaries of neighboring small and middle maritime states so as to have maximum technical interoperability.

The Great Power Dilemma: Mixed Interests in a Globalized World

For great powers, the new globalized order confuses high policy diplomacy and tactical planning for forces alike, constraining and burdening the ability to arrive at a rational military-technical definition of a *balance of power* in military planning terms. This is because, as Carl von Clausewitz noted early on, the logics of “mixed relationships” at a strategic level of interests do not blend all that well with the zero-sum threat and application of force at the truly tactical level of planned, concrete engagements and combat.¹ The tactical level of combat has, as he described, a “total” and brutal character: overthrowing the opponent’s will through direct destruction and killing (or planning and threatening thereof as part of deterrence in peacetime). Without such tactical equipping, training, and deploying, any latent sovereign threats of a deterrent nature—made to protect a notional balance of power and balance of interests—lack credibility because they rest upon vague and diffuse, unclear means. One must be specific at the tactical level of combat—in other words, to be capable and credible at a strategic level with the military instrument.² Yet, in a larger mixed environment of competing and overlapping interests as exists today, one does not typically harbor zero-sum intent, motivations, and objectives at a strategic or grand-strategic level. Indeed, tactical-level, completely coercive threats are meant to buttress, paradoxically, highly stable and usually cooperative, mutual-sum relations in commerce, culture, and technology sharing, even if “relative advantage” still plays a role in defining an international pecking order.

In short, four factors intersect or interlink to create a geostrategic role for maritime powers that are buffered entirely by ocean or by some combination of ocean and land from the societies, economies, and military combined armed forces of large continental powers:

1. The realities of continued sociopolitical (geopolitical) fragmentation at the level of domestic national identities that argues against traditional alliance behaviors by middle and small powers, even as great powers seek friends to shore up their position and deny spheres of influence to the other;
2. The fact that great powers (and smaller powers) are rarely truly “enemies” anymore but rather a complex combination of cooperative mutual benefit and zero-sum competitive distrust, the former based on dense

transnational network ties and the latter on competing cultural identities or political ideologies;

3. The fact that unique national identities still create a continued need for credible and capable military power projection (i.e., deterrent threats); and yet
4. The increasing distance between *grand-strategic cooperative goals in the global economy* and the *harsh realities of promised tactical military destruction* that underlies credible deterrence, a “gap” created by unprecedented cooperation in nonmilitary areas alongside the high “collateral costs” of any conflict in a globalized setting of socioeconomic interlinkages.

All such factors combine to create a very specific “geopolitical profile” for buffered maritime powers (both small and middle powers), which the special attributes of airpower may especially increase or expand upon, if utilized wisely. Namely, such capacities allow small and middle maritime nations who are not physically abutting a great power to pursue policies of opportunistic, fluid, and highly symbolic “limited alignments” to signal implicit approval or disapproval of a larger power’s actions across the instruments of power.³ In doing this balancing act—a balance of *interests* as much as power per se—maritime powers can gain a reputation as a responsible global actor in providing “global public goods,” thereby raising their status and reputation in global forums while also providing an indirect representation of policy stances in one direction or another—whether in peacekeeping, disaster relief, curbing illicit trafficking, latent conventional deterrence, or environmental monitoring and mitigation.

This reality increasingly seems unique to the twenty-first-century globalized system—a qualitative difference in global and regional geopolitics genuinely not seen in this exact form in earlier “systems” of great, middle, and small power interactions. We still live in a world where nations jealously guard their core ethno-political identities with weapons, even as they cannot imagine using those weapons to profitable purpose in all-out war in a globalized socioeconomic environment, despite the continuing need for sovereign deterrence of predation from rival ethnic cultures. We also live in a world where paradoxically, to protect, grow, and strengthen one’s internal political stability, wealth, and ultimately unique civic nationalist identity—that is, to increase one’s “sovereign autonomy”—one must simultaneously allow extremely interventionist, anti-sovereign transnational ties in the areas of commerce, manufacturing, direct investment, and technology sharing.

This yin-yang tension between striving to balance and deter while avoiding—at all costs—upsetting the globalized applecart creates a rather large gap between

the logic of cosmopolitan socioeconomic ties, on one hand, and the credible threat of tactical combat capabilities and concrete battle planning, on the other hand. Moreover, it is precisely the gray-area, behavioral balancing act of buffered maritime powers that will increasingly aid regional and global stability by filling this gap between strategy and tactics and nonmilitary and military instruments, practically and symbolically. Asian maritime powers seem especially adept at accepting such complexities, organically blending mutual-sum concerns about *maintaining domestic social order and economic development* with harder-edged *interstate and transnational security issues*. In addition, they do so in ways that do not slavishly follow a highly legalized, multilateral “sphere” of interactions that looks the same across spans of time, unaffected by *Realpolitik* bilateral interests and deals.⁴

For instance, in this regard, we judge it highly unlikely that Sri Lanka’s patterns of strategic relationships across the instruments of national power will dramatically differ from other small and middle maritime powers in South or Southeast Asia, which in turn do not differ in geopolitical behaviors as much as might be thought in comparison with Taiwan and South Korea further north. As broadly with the highly fragmented ethnic makeup of Malaysia and Indonesia, Sri Lanka is indeed still very much consolidating a new “civic” national identity beyond rancorous ethnoreligious divisions that defined a decades-long insurgency/counter-insurgency. This developmental task—involving not just economics but tough identity schisms and different rates of poverty—includes evolving tensions with the United Nations over Colombo’s halting institutionalization and implementation of a required “transitional justice” framework for reintegrating minorities, while also reforming police and paramilitary forces to better reflect a neutral rule of law, due process, and respect for individual rights.⁵ As it happens, these issues are entirely familiar to most Southeast Asian states—and even to some degree a South Korean populace still riven by left-right ideological schisms and human rights “skeletons in the closet” from the authoritarian Cold War years. These domestic patterns are not *sui generis* but are defining features of most small and middle powers in the Indo-Pacific arc. This means that powers from Sri Lanka all the way to South Korea may leverage and benefit from a unique role for middle powers and small island nations alike in symbolically undertaking limited alignments, politically and technologically, to aid contending stronger powers in creating a diffuse, hard-to-measure “balance of power and interests” that upholds the global and regional commons overall. Buffered maritime nations can do this using “soft-power balancing” (economics) and/or *military instruments in dual-use purposes* that simultaneously “signal” a latent ability to support another great power’s deterrent threats while more explicitly and publicly providing common security goods on nontraditional issues in the global and regional commons.

The Special Role for Air and Space Power in Leveraging the Strategic Potential of Buffered Maritime Powers

First, it is important to define what we mean by buffered, in part by giving an instance of its negative absence: The Chinese 1979 invasion of Vietnam. Our recommendations emphasize nations that have the geopolitical quality of “near distance.” This allows a small or middle power to leverage regional efficiencies, while maintaining some *choice* in free market network interactions at interstate and especially transnational (social) levels—at the same time enjoying latent geographic protection, whether by water alone *or some combination of both land and water*, from the nascent threats of a great power’s armed forces. We judge that the *absence of* direct, dense, inter-societal economic and human networks *across adjoining borders*, alongside the *absence of* the easy ability of land power (infantry, tanks, artillery) to invade, creates a de facto “safe space” that allows such maritime powers to have relative freedom of choice at strategic-elite levels of decision making. This is due to a much greater degree of *societal autonomy* in growing their own independent identity and because of a lack of an ever-present shadow or threat of invasion.

Witness, for instance, the strong latent threat of invasion still pressing upon the minds of Vietnamese political and military elites due to China’s costly, highly attritional, yet ultimately successful effort in 1979 to “teach Vietnam a lesson.” The largely punitive strike into the heart of Vietnam’s northern areas, including taking of several urban areas and latent threatening of the political capital—was enabled by the ease of traversing tens of thousands of combined-arms troops, tanks, artillery, and supporting logistics, across connected land.⁶ In contrast to such examples, landing ferries can be sunk or repulsed far more easily than a sudden landed assault can be stopped—a fact again born by Russia’s eventual conventional operations in Eastern Ukraine recently. Indeed, consider India’s armored blitz into East Pakistan in 1971 and creation of the state of Bangladesh, followed since by several tense politico-military crises involving at times up to 500,000 troops apiece in combined armored formations, staring at each other across porous borders ripe for tank and air force assaults.⁷ Consider also North Korea’s surprise blitz in 1950 that pushed US and South Korean combined forces almost into the sea at the southern tip of the peninsula; and of course Saddam Hussein’s rapid takeover of Kuwait City in 1990. To live in joined proximity to an army with thousands of artillery, infantry units, special forces battalions, tanks, and supporting short-range aircraft is to live in a virtual shadow of latent threat.⁸

This is something that large stretches of land and water help with greatly, even in the case of airpower, which against distant targets and with no landed occupation underneath *must play a sole and unaided role* with more committed

long-range aircraft *with only temporary and fleeting “presence” in the skies* (that is, ubiquity of flight sorties, but without true “persistence”).⁹ This is a lesson the Germans ruefully learned in trying to nullify the United Kingdom’s defenses with bomber and fighter sorties alone in the Battle of Britain.

In regard to the geopolitical position of buffered maritime powers, airpower’s range, speed, overhead observation, capacity for surprise, mobility in the form of both flexible dispersal and flexible concentration, and ability to be networked with land and air¹⁰ are, therefore, far more helpful in an island nation’s attempts to provide partial local balances of power and to take part in regional and global public goods provision than it is helpful to a landed great power to invade or threaten. The former is a positive contribution with virtually little political friction to get in the way, and no hard military opposition. The latter experiences gigantic political frictions (turning other maritime nations against the would-be invader) and severe military frictions for the great power because of the high likelihood of bloody, attritional homeland defense efforts by all branches of a defending maritime power’s military and society (the latter being important in our “age of nationalism,” involving strong ethno-nationalist connections to “homeland territory”). If a nation is buffered in the way defined here, this makes for a relative lack of threat that can then be combined with positive airpower contributions to “international civil society,” in turn giving buffered maritime nations outsized geopolitical weight with comparatively little cost in terms of their own core societies’ physical security—and indeed with increases in prosperity.

In leveraging this geopolitical position, airpower has arguably more relevance than any other military arm, given its efficiency compared to trying to field a sizable navy. First, airpower can offer much greater speed than sea or land domains, regardless of aircraft used. Moreover, depending on construction of makeshift or permanent airstrips in remote areas of islands or continental land, air assets can “touch down” in extremely hard-to-access areas denied to sea instruments that require ports or land transport that requires passable roads. Both of the latter are often notably beyond the reach of poorer nations or gigantic archipelagic nations such as Indonesia, where distant roads, constantly maintained in adverse jungle climates, may not be practicable for normal day-to-day affairs. Witness, for instance, the incredible dependence of Sri Lanka even in its own domestic sphere of society and economy on helicopters and aircraft to traverse complex, rough terrain of water, mountains, jungles, and fields, given still a relative lack of well-maintained and safe roadways in some areas beyond Colombo. This makes airpower especially useful for emergency response to man-made or natural disasters. Second, airpower is “flexible” in mass or concentration in terms of disparate forces being able to unite at a desired time and place in a final “mass point” of desired size

and lethality (if in military operations). That is, air travel is not tied utterly to the famous “lines of communication” that dominate land features and even, due to its utter vastness and the comparative slowness of ocean vessels, the world’s oceans and bays. While sea power theorists such as Alfred Thayer Mahan and Julian Corbett have made much of 100-percent flexibility in directional water travel,¹¹ in fact, commercial traffic is limited by cost and timeliness to certain well-known routes—and even military travel is hardly instant, therefore, again calling for picking a subset of seemingly infinite possibilities of ingress and egress. This is where the first factor, “speed,” comes in, combining with flexible traversal, to allow either humanitarian or military force concentration in time and place. Third, important given that large distances are often involved, air engines have only become increasingly more efficient, with today’s commercial Boeing 737s and 787s replacing gigantic 747s and even, seemingly, the new gigantic super Airbus, due to the former’s ability now to save up to one-third over old rates on fuel usage along with higher speed in delivering passengers.¹² Of course, long-range distance, tied to speed, tied to flexible traversal, all speak to delivering of lethal military effects—or, beneficial ISR—in a timely basis. In addition, this brings up another core characteristic: superior overhead observation of large swaths of the Earth from what Colin Gray has called “the overhead flank,” in which the greater the height, the more observed.¹³ Because of all of these innate qualities of airpower, dual-use air forces particularly offer opportunities in increasing three-dimensional awareness of the ocean, air, land, and space, or combined maritime environment, in ways that could contribute to deterrent and denial operations over key lines of communication.



Photo courtesy of the Sri Lankan Air Force

Figure 1. The Sri Lankan Air Force operates a commercial arm, Helitours. The operation uses rotary and fixed-wing aircraft not required for military use. It is currently the second-largest airline in Sri Lanka.

The Role of a Holistic Air Strategy: Pursuing Dual-Purpose AED

Generally speaking, because of all of the above characteristics, AED serves to develop a nation's globalized economic and commercial capacities and contribute to civilian peaceful operations. For instance, in regard to the domestic side,

Air Forces can be used for national development. AF engineers can build aviation hubs connecting a local economy to a global economy . . . [and in doing so], increase its global network of “well-wishers,” that is, stakeholders of distant powers. AF pilots can feed local civil aviation market—providing highly qualified, professional, and safety-conscious pilots. Air Forces can extend state reach into under-governed areas, providing medicine, government services, and incident awareness. Aircraft operations begin a virtuous cycle of increased technical competence, seeding the economy for other things. . . . Modern airports enable a nation faced with a disaster to rapidly receive foreign assistance when overwhelmed.¹⁴

These domestic benefits, in turn, segue into the international arena, because “aircraft purchases and joint training are multiyear commitments that enable persistent relationships and enlarge the number of stakeholders and well-wishers.”¹⁵ And on the international side, already it is clear that the preferred “indirect” form of military balancing lies not *primarily* in threats, combat, and hard coercion but rather in the form of peaceful, nondestructive “military engagements” at a tactical level that serve operational campaign objectives relating to governance and management of the global maritime commons. Specifically, *management of illicit globalization and its assorted ills, or “nontraditional threats,”* alongside smooth and trusted functioning of lines of communication, weather prediction, and disaster mitigation, will be the arena in which great powers “court” smaller powers and cooperate with geopolitically neutral states to “project power” toward nonviolent goals. This will not be primarily accomplished via hard and fast military alliances grounded in block-based deterrent threats but rather employment of dual-use (military-civilian) instruments, including especially the military mission of ISR to create a common operating picture. This is particularly needed for clamping down on the malicious sides of globalization such as illicit trafficking in humans, weapons, and drugs, alongside (hopefully, eventually) greater efforts to manage and prevent further massive degradation of the biosphere due to a burgeoning black market industry in overfishing, illicit forest cutting and burning, illegal poaching, and illicit industrial and private pollution of waterways and oceans.¹⁶

Schriever Scholar team member and Air Command and Staff College instructor Lt Col Pete Garretson has argued, that air forces can internationally

- Convey the status of a modern technological nation, [in which] the ability to sortie or provide forces externally establishes a nation as a potential coalition member while promoting it to middle-power status;
- Pursue armament not to contest a larger power directly, but to force that larger power to acknowledge that the smaller power could (on their own or in concert with others) create a problem, and therefore must be mollified with additional foreign aid of various kinds;
- Enable a small state to offer assistance in periods of disaster in their broader neighborhood, creating long-term good will, increasing the likelihood that they will be perceived as a “responsible actor” and a “capable actor,” leading to being invited to other rulemaking tables on global financial, trade, and new technological issues;
- Constitute highly agile, highly visible tools to signal alignment or non-alignment with major powers or coalitions (i.e., “Which team am I with” / “who am I standing beside”—or, giving the cold shoulder)—allowing a small power to communicate its pleasure or displeasure with another’s international behavior;
- Participate in joint exercises, deployments, and peacekeeping operations in ways that signal a small state’s reliability, while conversely allowing them to confer or deny legitimacy to the organizer of those activities.¹⁷

In this regard, Sri Lanka’s global peacekeeping and regional operations, such as frequent transport of peacekeeping contingents, disaster assistance, and technical parts to Nepal, Mali, South Sudan, Chad, and the Central African Republic, have already created an emerging “international effect.” Such operations in general “increase visibility and thus status . . . signaling a willingness and competency to be part of global enforcement of norms—something that is widely observed and says a lot about national competency and desirability as a partner or potential opponent” in the great-power deterrent equation.¹⁸

However, why should great powers care, given their superior power projection in cooperative and competitive spheres of economic and military activities? Mort Rolleston and Pete Garretson have summarized this from the opposite angle of a reigning great power’s dilemma, namely, finite resources and a confusing patchwork of sovereign air-space boundaries. This dilemma challenges global commitments: “The United States cannot effectively respond to every crisis in the world and needs the help of capable PNs [partner nations] that can contribute aviation

resources (such as airlift) to provide rapid assistance. . . . Further], neither the United States nor the international community can rapidly respond to crises if they fail to build and maintain overflight rights for the necessary route structures.”¹⁹ Thus again, domestic AED efforts can segue organically into aid for international efforts to sustain the prosperity and rule of law in the global commons—as well as diplomatic bargaining for crisis contingency planning such as air route requirements.

The Rising Importance of Globalized Command and Control and Intelligence, Surveillance, and Reconnaissance

The core of *all* potential civilian, economic, and military missions—cooperative or competitive with other states—will innately involve information acquisition, processing, delivery, interpretation, and exploitation. In addition, our prescriptions in this regard are as much *aerospace* as *air* strategy, precisely because the future is one of *linking air assets with LEO satellite imaging and communications networks now on the cusp of rapid commercial proliferation*.

Recall what Colin Gray had to say about airpower’s unique capabilities of observation from “the overhead flank.”²⁰ While Sri Lanka has already gone significantly down the road of providing large airlift services for UN peace and other emergency operations, we recommend that a core part of Sri Lanka’s and the Association of Southeast Asian Nations (ASEAN) island states’ air strategies be nationally and cooperatively devoted to the matching of ISR and C2 software and hardware to airframes. Such capabilities to see, track, fix, and identify actors and platforms of licit and illicit natures, including commercial and military activities, could support sustainment of the global commons via enforcement of ocean law and curbing of illicit trafficking of all kinds. At the same time, these capabilities could lend far more efficiency to combined regional and sub-regional efforts to mitigate disaster damage—*something that is already on the rapid uptick*, due unfortunately to the quickly unreeling effects of climate change.²¹ Finally, if needed, ISR alone and in flexible multinational combinations could enable flexible deterrence, whether that deterrence helps the nation itself, the interests of a coalition of small- and middle-power regional states, or the larger global deterrence efforts of an extraregional, supportive major power as needed.

In this regard, the growth of a LEO “revolution” in dual-use satellites is on the cusp of exponential expansion, given SpaceX’s demonstrated abilities to lower the most expensive component of satellites—the launching away from Earth’s gravity—via reuse of launchers and engines. Such efforts are complemented by smaller-scale efforts at quick, repeated launches by companies such as Rocket

Lab, Virgin Orbit, Athena (a Lockheed Martin spinoff), and Orbital ATK. There are also corresponding, complementary plans by multiple-launch companies to house multiple microsattellites in ever-larger nose cones on larger launchers, alongside continued downsizing in electronics and software that allow smaller satellite size (with less weight) with greater data throughput, with growing 3D printing usage to further drive costs down in this area.²² These globalized space and information technology trend lines are important because of the numbers of small satellites needed to escape the great powers' traditional monopolization of space-based ISR and C2. Numbers are extremely important in LEO, which is far cheaper for placement of satellites than very distant geosynchronous orbit (thus, more commercially realistic). Whereas a GEOSAT can observe up to one-third of the Earth's surface due to distance and breadth of vision, LEOSATs speed at thousands of miles per hour across different orbits against the natural rotation of the Earth, giving very low relative pass-over time to a given spot of terrain on Earth. Thus, greater numbers are needed to correct for this deficiency to provide 24/7 reliable coverage, and not just numbers, but engineering of hardware and software to "interlink" either in space or with ground terminals and back to space, to offer a "GEO-like" ISR function on a truly flexible basis.²³

All of this matters for buffered maritime small and middle powers because such globally interdependent orbits and capabilities are far safer from malicious offensive threats, as satellites that are "stationary" in space relative to a fixed point of the Earth in GEO orbits *are now nascently being targeted by the great powers, against each other*. This evolving coercive factor is abetted by the oft purely military aspects of such GEO imaging and communication satellites, untied to the global commons, something that increases the likelihood of their selective destruction with low collateral costs to the power using offensive means.²⁴

With enough dual-use LEO satellites in the right orbits, space ISR and C2 provides far more reliable "presence" and "persistence" compared to the "brevity of presence," as put by Colin Gray, which dogs aerial attempts at "control of the air"—which again loops back to high expense if one wants to use continual sorties to create an artificial "virtual persistence" in the air domain.²⁵ Finally, weather does not burden the orbital paths of satellites (although space debris does). Overall, space assets offer instantaneous acquisition of radio and light signals (imaging in infrared or electro-optical or multispectral radio-wave interception); improved onboard processing of such signals with advanced software; and increasingly flexible crosshatching of communications to either other linked satellites and/or to ground platforms, the latter of which then can again beam signals back to another passing satellite, and so on.

Therefore, one key recommendation is for all Asian middle and small powers, and particularly island powers of all sizes, to pursue assiduously win-win, mutual-sum contacts with each other's government ministries. Similar arrangements should be fostered with new globalized start-ups, industry conglomerates, and the evolving launch, telecom, and imaging consortiums in the business world (and sympathetic government agencies in these companies' home countries, such as the US Department of Commerce).²⁶ Such studious linkages would maximize synergies early on via "baking in" common hardware and software of commercial companies and military air establishments.

Creating "Air Diplomacy" in Relationships across Maritime Sub-regions in Asia

We in particular argue for buffered maritime powers to synergize technological acquisitions and procurements toward the goal of a common ISR operating picture that involves not only "maritime domain awareness" but rather true multi-domain awareness based upon aerospace assets. At the very least, such countries should coordinate and synergize doctrine, tactics, procedures, and operational exercises for combating nontraditional threats and sustaining the global commons via a common information network or "infosphere." The goal would be to create *latent foundational conditions* through studious AED programs that would allow for beneficial "coalitions of the willing and able" in ISR and C2 operational missions in the air domain when disasters and interstate conflicts alike arise, via shared technical interoperability alongside shared tactics and procedures.

Southeast Asian states in particular will resist such intensive operational cooperation. However, there are promising signs that Singapore, Thailand, Malaysia, and the Philippines are leading sub-regional efforts to start thinking along the lines of something the US Navy has been pushing off and on, increasingly in multilateral naval symposia: the idea of maritime powers to actually cooperate, at an operational military level with dual-use assets, to create a "*common operating picture*" (*ISR footprint*) in support of the maritime cooperative order, via achieving cooperatively "maritime-domain awareness."²⁷ Currently, such symposia, workshops, and exercises have largely supported gaming exercises that utilize principally Singapore as a politico-military hub via the latter's Information Fusion Center, using in turn a US-aided common communication network, the Combined Enterprise Regional Information Exchange System (CENTRIXS), as well separate maritime operations centers (MOC) in Brunei, the Philippines, and Thailand.²⁸ In our view, maritime small and middle powers could particularly utilize airpower to do this "on the cheap" via leveraging commercial off-the-shelf

technologies wherever possible. As argued in a recent thesis by two US Naval Postgraduate School student officers entitled “A Concept of Operations for an Unclassified Common Operational Picture in Support of Maritime Domain Awareness”:

The maritime domain is an area of significant strategic concern to the United States and its allies. When the need arises, U.S. forces are able to detect and monitor vessels of interest (VOIs) in support of maritime interests throughout the world. However, current maritime domain awareness (MDA) processes lack the ability to provide actionable information in a timely and usable manner. Advances in intelligence, surveillance and reconnaissance (ISR) technology—particularly unclassified data sources, analytical processes and tools—available in the commercial sector could be leveraged to make MDA data more accessible and productive.²⁹

All of this said, I am not, as a Western author, calling for a copying of US–Western “allied” practices of a value-based character; this would be extremely contrary to the systemic and regional realities outlined in this article. Rather, “slight outsiders” such as Sri Lanka—a similarly buffered maritime state external to Southeast Asia—should stubbornly pursue, even if diplomatically difficult, *dual-use, civilian–military aerial cooperation with the air forces of “core” ASEAN states*, particularly technology leader Singapore, in providing *a common, coordinated, and technically interoperable ISR and C2 mapping of the maritime terrain from Oman to the Philippines*, notably separate from any great power. The point would be to avoid de facto technological and geopolitical dominance of crucial energy and sea-lanes by either India, China, or, yes, the United States—even with India, for instance, owning the Andaman and Nicobar Islands near the mouth of the Malacca Straits.

Of course, because of the latter political-geographic reality just outside the Malacca Straits’ western entrance, this would likely therefore require similar coordination, doctrinally and technically, with a rising India. However, such cooperation would not represent a “sphere” for India, which has its own pretensions to a morally exceptional great-power role,³⁰ including increasing geostrategic frictions with Beijing.³¹ In this regard, cooperation with Australia, which has excellent relations with Beijing, has less “irons in the fire” in this sensitive maritime area, and avoids a nationalistic version of great-power status,³² might be smart from both a symbolic and technological perspective. Such “information operations and missions,” whether in training and equipping, doctrine, technological procurement and common capabilities, and even eventually common exercises, could increase the multilateral power of highly similar maritime nations outside the rarified,

highly issue-prescribed boundaries of ASEAN forums. That is, such efforts would hopefully go beyond the Southeast Asian straitjacket of either strict bilateralism or diffuse, lowest-common-denominator, military-constrained multilateral cooperation. As such, it would be of incredible value both to sustainment of the commons and in leveraging the geostrategic power of buffered maritime nations.

Conclusion

In sum, countries such as Sri Lanka, Indonesia, Malaysia, Singapore, and so forth should reach out to each other across geopolitical sub-regions in Asia, particularly if they share geopolitical distance from the larger societies and combined-forces militaries (including short-range air forces) of any one great-power pole. By *reaching out*, I mean purposeful synergizing of technological acquisitions and procurements toward the goal of a common ISR operating picture that involves not only maritime-domain awareness but rather true multi-domain awareness based upon aerospace assets. Such buffered maritime powers should slowly, progressively synergize doctrine, tactics, procedures, and operational exercises for combating nontraditional threats via a common information network or infosphere. The goal would be to create *latent foundational conditions* through studious AED programs that would allow for beneficial coalitions of the willing and able in ISR and C2 operational missions in the air domain when disasters and interstate conflicts alike arise, via shared technical interoperability alongside shared tactics and procedures. The more that such nations can collaborate on hardware, software, and air-platform capabilities in covering areas regardless of great-power capacities, the more they can sustain the cooperative aspects of globalization while being flexible pivot powers in contributing to a multipolar balance of interests. **JIPA**

Notes

1. Carl von Clausewitz, *On War*, trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 579–80 and 603–4.
2. *Ibid.*, 94–99 and 228–29.
3. Bruce Gilley and Andrew O’Neil, “China’s Rise through the Prism of Middle Powers,” in *Middle Powers and the Rise of China*, ed. Bruce Gilley and Andrew O’Neil (Washington, DC: Georgetown University Press, 2014), 2–15.
4. J. N. Mak, “Malaysian Defense and Security Cooperation: Coming Out of the Closet,” 127–53, and Rizal Sukma, “Indonesia and Regional Security: The Quest for Cooperative Security,” 71–87, in *Asia-Pacific Security Cooperation: National Interests and Regional Order*, ed. Seng Tan and Amitav Acharya (New York: M.E. Sharpe, 2004). See particularly Mak, 128–29 and Sukma, 74–81.
5. Kelli Muddell, “Divided by Years of Conflict,” *International Center for Transitional Justice (ICTJ)*, 24 July 2017, <https://www.ictj.org/news/sri-lanka-justice-not-fulfilled>.
6. Xiaoming Zhang, “China’s 1979 War with Vietnam: A Reassessment,” *China Quarterly* 184, no. 1 (December 2005): 851–74.

7. Robert Citino, *Blitzkrieg to Desert Storm: The Evolution of Operational Warfare* (Lawrence: University Press of Kansas, 2004), 188–212; and Sumit Ganguly and Michael R. Kraig, “The 2000–2001 Indo-Pakistani Crisis; Exposing the Limits of Coercive Diplomacy,” *Security Studies* 14, no. 2 (2005): 290–324.

8. This basic logic is laid out in Julian Corbett, *Principles of Maritime Strategy*, (1911; repr., Mineola, NY: Dover Publications, 2004), 49–55; and Clausewitz, *op cit.*, 90 and 99. (Author’s note: Clausewitz is assuming in these pages two landed neighbors); going beyond pure logic: historically, the tragedy of the geographic position of the “Low Countries” of Belgium and Holland (Netherlands), and France and Germany acting both through the Low Countries and directly against each other, is shown in the failure for peacekeeping and arms control to account for de facto landed invasion threats from 1919–1939, and in the onset of World War II. See *inter alia* Melvyn Leffler, *The Elusive Quest: America’s Pursuit of European Stability and French Security, 1919–1933* (Chapel Hill: University of North Carolina Press, 1979); and Ernest R. May, *Strange Victory: Hitler’s Conquest of France* (New York: Hill and Wang, 2000).

9. Colin Gray, *Explorations in Strategy* (Santa Barbara, CA: Praeger, 1996), 73–77.

10. *Ibid.*, 67–72.

11. Philip A. Crowl, “Alfred Thayer Mahan: The Naval Historian,” in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1971, 1986); and Corbett, *Principles of Maritime Strategy*, 49–55.

12. Ashley Halsey III, “Is the Airbus 380 the Future of Air Travel or a Relic of the Past?,” *Washington Post*, 19 August 2018, https://www.washingtonpost.com/local/trafficandcommuting/is-the-airbus-380-the-future-of-air-travel-or-a-relic-of-the-past/2018/08/19/d98bae82-539f-11e8-9c91-7dab596e8252_story.html?utm_term=.89c923849692.

13. These attributes are taken from Colin Gray, *Explorations in Strategy*, 67–72; and J. C. Slessor, *Air Power and Armies* (1936; repr., Tuscaloosa: University of Alabama Press, 2009), 1–10.

14. Lt Col Peter Garretson, interview by the author, Air Command and Staff College, Maxwell AFB, Montgomery, Alabama, 6 March 2018.

15. *Ibid.*

16. William J. Ripple, et al, and 15,364 Signatories, “World Scientists’ Warning to Humanity: A Second Notice,” *BioScience* 67, no. 12 (December 2017), 1026–28, <https://academic.oup.com/bioscience/article/67/12/1026/4605229>.

17. Garretson interview.

18. *Ibid.*

19. Peter Garretson and Mort Rolleston, “A Vision for Global Aviation Enterprise Development,” unpublished article under journal review, 7.

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22. See for instance (as one sampling), Kendall Russell, “2018 Could Be a Revolutionary Year for Small-sats,” 10 January 2018, and Caleb Henry, “Bridgesat Plans Optical Network for Smallsats, UAVs,” 2 October 2015, *Via Satellite* (*website*), <https://www.satellitetoday.com/business/2014/06/12/lockheed-martin-targets-smallsats-with-athena-rockets-aims-for-12-launches-a-year/>; US Department of Commerce, “DOC Strategic Plan Prioritizes Space Commerce,” 13 February 2018, <http://www.space.commerce.gov/doc-strategic-plan-prioritizes-space-commerce/>; David Cowan and Tess Hatch, “Space is Open for Business,” *TechCrunch.com*, 24 July 2018, <https://techcrunch.com/2018/07/24/space-is-open-for-business/>; and Greg Autry, “The Next Economic Revolution just (re)Launched: Congratulate SpaceX, Thank NASA,” *Forbes*, 1 April 2017, <https://www.forbes.com/sites/gregautry/2017/04/01/the-next-economic-revolution-just-relaunched-congratulate-spacex-thank-nasa/#702c77958c7e>.

23. See, for instance, one commercial-academic venture to create better inter-linkage and onward propagation of data acquired by LEO sensors in Caleb Henry, “Bridgesat Plans Optical Network.”

24. Indirectly, this is the underlying concern and subject of an unclassified web report on a series of sensitive US “space situational awareness” assets being deployed to near-GEO orbits to observe in real time—including repositioning to look “up close”—satellites of competitors that seem to have their own maneuvering or “kinetic” capabilities against existing US C4ISR assets. For instance, the USAF has had to increase budgets and capacities of the 1st Space Operations Squadron (1 SOPS), 50th Space Wing, Schriever AFB, Colorado, to monitor in real time the GEO belt for increased “space situational awareness.” It has had to do this from low-earth orbit (pointed outwards towards GEO) and via near-GEO satellites that now uniquely can maneuver and reposition to “visit” and loiter around suspicious, possibly threatening competitor’s satellites, which themselves may possibly be targeting US crucial GEO C4ISR military satellites for disabling in a crisis, affecting US communications of voice and imagery data from the Indo-Pacific region to the continental US command authorities. See “GSSAP Satellite Overview,” *Spaceflight 101.com*, 12 September 2018, <http://spaceflight101.com/spacecraft/gssap/>.

25. Gray, *Explorations in Strategy*, 73–77.

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28. US Navy Chief of Information, Washington, DC, “17th SEACAT Exercise Kicks off with 9 Nations,” 28 August 2018, https://www.navy.mil/submit/display.asp?story_id=106864.

29. Erik Wreski and Erik Lavoie, “A Concept of Operations for an Unclassified Common Operational Picture in Support of Maritime Domain Awareness” (thesis, Naval Post-Graduate School, March 2017), 5, <https://apps.dtic.mil/dtic/tr/fulltext/u2/1046180.pdf>.

30. Rodney Jones, *India’s Strategic Culture* (Washington, DC: Science Applications International Corporation, 31 October 2006), <https://fas.org/irp/agency/dod/dtra/india.pdf>.

31. Sutirtho Patranobis, “Beijing Accuses India of Betrayal, Increased Chinese Activity in Indian Ocean,” *Hindustan Times*, 4 July 2017, <https://fas.org/irp/agency/dod/dtra/india.pdf>.

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