Shades of Gray:
Technology, Strategic Competition, and Stability in Maritime Asia

By Amy Chang, Ben FitzGerald, and Van Jackson

Center for a
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About this Series

Maritime tensions in the East and South China Seas have raised significant questions about the long-term peace and stability that has enabled Asia's economic rise over the last several decades. While these disputes are longstanding, recent years have seen attempts to unilaterally change the status quo through tailored coercion that falls short of war. These activities do not appear to be abating despite growing international concern. While policy efforts to alleviate tensions must include engagement and binding measures, a comprehensive approach must include countering coercive moves by imposing costs on bad behavior. This series aims to explore various types and facets of strategies to deter, deny and impose costs on provocative behavior in maritime Asia. Hopefully these papers will, jointly and severally, generate new thinking on how to both maintain security and build order across the Indo-Pacific region.

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Technology development and acquisition for the sake of operational military capabilities remain paramount priorities in Asian nations' strategies against their adversaries. Less well recognized is technology's potential – particularly that of new capabilities – to increase the risks of unintentional crisis escalation, regional instability and inadvertent conflict.

I. INTRODUCTION

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In the context of strategic competition, military capabilities and technologies that are not well understood pose unique risks to stability in Asia. Many aspects of technology's role in Asian security have been widely recognized: It is a key component of the diffusion of power in the region,[1] an asymmetric advantage for smaller powers,[2] and the primary source of U.S. military superiority.[3] Technology, both legacy and emerging, has also been a critical enabler of military modernization in Asia, accelerating over recent years due to low trust and strategic competition.[4] Technology development and acquisition for the sake of operational military capabilities remain paramount priorities in Asian nations' strategies against their adversaries. Less well recognized is technology's potential — particularly that of new capabilities — to increase the risks of unintentional crisis escalation, regional instability, and inadvertent conflict.

This report examines how risks of instability from regional geopolitical competition can be exacerbated by nations seeking to take advantage of emerging technologies and military capabilities around which clear precedents or shared expectations have yet to be established. The exploitation of gray zones in Asia, defined as a state of security competition between peace and war, is increasingly documented and understood in the maritime domain.[5] In addition to, and at times in combination with, these gray zone challenges, the proliferation of military technology presents opportunities to exploit ambiguity about how a technology's employment should be interpreted when used for coercive purposes in the context of regional competition.

We contend that Asian militaries' acquisition of new capabilities should be understood as an extension of strategic competition: As states build advanced capabilities, untrusting neighbors are compelled to keep pace in order to avoid vulnerabilities and maintain a favorable military balance.[6] While military technology serves many purposes,

its instrumental use in coercion campaigns is unique among tools of influence. In maritime Asia, this is true of both emerging capabilities such as cyber, unmanned systems, and robotics, as well as extant military capabilities that are new to the region, including aircraft carriers, submarine-launched intercontinental ballistic missiles, land attack cruise missiles, ultra-quiet diesel submarines, and landing platform docks.

The introduction of new technologies of any kind into geopolitical competition risks disrupting long-held patterns of interaction among states with divergent security interests, because new technologies can, in some instances, be used to create or exploit gray areas, probing a defending state's resolve without obviously violating clear proscriptions. In the absence of stable, mutual expectations about the conditions for and consequences of employing certain types of technologies (for example, nuclear weapons), uncertainty about both capability and resolve may prevail. Amid this fog, two risks emerge. The first is that states may be more willing to take riskier military actions with new technologies than they might in the absence of new capabilities, potentially resulting in a regional powder keg. The second related risk is one of inadvertent escalation from miscalculation about an opponent's capability (including training and interoperability) or resolve (including mistaking defensive and offensive actions).

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Attempting to prevent or minimize the spread of emerging technology and military capabilities in Asia is both impractical and unproductive. Instead, to manage new risks, remain competitive and preserve stability, regional actors must implement policies and capabilities that "remove the fog" of maritime and technological gray zones. This means sharing certain capabilities – especially for intelligence, surveillance, and reconnaissance – with allies and partners, establishing expectations for how and when new technologies should be used and imposing costs on violators, leveraging technology to improve the region's ability to benchmark aggressive behavior, and strengthening credibility through consistency and improved transparency.

II. GRAY HULLS AND GRAY ZONES: MARITIME ASIA'S STRATEGIC ENVIRONMENT

The long-term competitive dimension of Asia's security environment drives the pursuit of new technologies and capabilities by militaries across the region. Strategic competition – the cultivation of military capabilities, strategic concepts and security relationships to mitigate or trump the advantages of others over time – exists in Asia because of persistent uncertainty about what the future Asian security order will look like, combined with the related uncertainty about the capabilities and intentions of other states.[7] Much of this uncertainty is rooted in historical disputes, making it about more than ambiguity relating to the rise of China or to the staying power of the United States. In Southeast Asia, many latent rivalries exist but have been tempered by U.S. security assurances and regional institutions. On the Korean Peninsula, even during periods of constructive diplomatic engagement, South Korea and its neighbors can do little more than speculate about North Korea's weapons development, regime stability, and long-term political and military intentions.[8] Historical tensions among

Japan, Korea, Taiwan, and China have exacerbated conflict propensity over disputed territories, air defense identification zones, and exclusive economic zones (EEZs) in the East China Sea.[9]

Under conditions of low trust and high uncertainty, states become concerned with the gains of other military powers relative to their own capabilities.[10] In Asia, states worry about China's increasing military investments, but also about the rising defense expenditures of their neighbors. This worry could be mitigated by imposing order through reliable rules-based institutions or through a benign yet dominant power in the region, but Asian states are unclear about the most crucial elements of a future order: China's future status in the international order and its national ambitions, a constructive role for middle powers, the realistic limitations of Asian regional institutions, and the staying power of the United States.[11]

There is a natural tendency for states to hedge against this backdrop of uncertainty and mistrust, which could manifest in the development and adoption of military capabilities that can overcome an adversary's capabilities or nullify them.[12] This may lead to a traditional action-reaction model arms race or to asymmetric military modernization, in which states seek to best the capabilities of competitors not through linear one-upmanship in a specific capability but through orthogonal processes and reactions.[13] Many of the advanced capabilities being fielded today in Asia only make sense if states are engaged in one of these two types of force modernization, and in practice, as discussed below, the two types often blend. The problem for states caught in either dynamic is discerning whether competitors who take these approaches are just hedging or have aggressive or expansionist intentions.

Military modernization efforts across Asia resemble both traditional arms racing and asymmetric modernization dynamics. For example, following the United States' lead, China and India have recently both fielded aircraft carriers - in China's case, for the first time.[14] South Korea is considering developing its own aircraft carrier as well, reportedly in response to Japan's construction of a large aircraft-carrying destroyer ship, which was in turn motivated by concerns about China's growing power projection capabilities.[15] Although admittedly in the early stages, these moves fit the expected pattern of a traditional arms race — increasing numbers and increasing quality of a specific military capability in response to others' possession of the same. Similar action-reaction dynamics can be observed in the spread of missile technology and advanced fighter aircraft.[16]

The asymmetric approach to military modernization can be seen in South Korea's reliance on technological superiority to maintain a favorable military balance against North Korea's much larger but technologically inferior military, and in North Korea's pursuit of nuclear weapons in part as a counter to U.S. and South Korean technological superiority. Each move is a reaction to the other, but the reaction involves the acquisition of a non-linear counter to offset the defined threat.

The blend of traditional arms racing and asymmetric modernization dynamics is best exemplified by China's pursuit of "anti-access/area-denial" (A2/AD) capabilities in an attempt to nullify U.S. advantages in power projection. For example, China has invested significant resources in developing the capability to conduct information operations in a conflict scenario. Through information operations and network attacks on intelligence, surveillance, and reconnaissance (ISR) systems, critical infrastructure, or military combat capabilities, China could potentially disrupt the situational awareness and command and control functions of its adversaries.[17] China's research on ballistic missile technology has contributed to the development of the Dongfeng-21D (DF-21D), an anti-ship ballistic missile that may be equipped

with guidance technology to be able to strike moving targets at sea; it is widely interpreted as a missile targeting U.S. aircraft carriers.[18] China has also successfully conducted several tests of anti-satellite (ASAT) weapons, which, in a conflict scenario, could compromise U.S. reliance on satellites for networked communications and global positioning.[19]

> *China is also notable for its skill and willingness to exploit technologies, whether using cyber-enabled espionage to cull large amounts of sensitive information or employing surveillance drones in disputed territories.*

The integration of capabilities such as these constitutes means by which China's People's Liberation Army (PLA) could employ an A2/AD strategy against the United States and its allies and friends in the region. Some of these capabilities involve the development of new technology, such as cyberattacks, as asymmetric counters to U.S. and ally capabilities; others, such as improving the range of its anti-ship ballistic missiles, fit a more traditional pattern of military modernization by simply pursuing more or better versions of an existing technology. Both types of military modernization and development serve a defense strategy that responds to its competitors' advantages.

China is also notable for its skill and willingness to exploit technologies, whether using cyber-enabled espionage to cull large amounts of sensitive information or employing surveillance

drones in disputed territories.[20] It is not the only nation undertaking such behavior, but the scale and sophistication of China's exploitation and the understandable responses from its neighbors are a key driver of risks that go far beyond the regular challenges of military-technical competition.

III. RISKS OF TECHNOLOGY ACQUISITION AND EMPLOYMENT IN MARITIME ASIA

Newly available military capabilities have become distinct tools of coercion in part because they are poorly understood: The material effects of employing those capabilities are unclear, and/or the expectations for likely responses are also unclear.[21] Emerging technologies by definition lack direct precedent, and in the Asian context the introduction of existing military capabilities offers the opportunity to re-establish and possibly revise long-held precedents from other geographies. The use of these capabilities for coercive purposes serves as a probe of a defender's resolve in a way that shifts the burden of retaliation and escalation to its adversary. Because a state's reputation for resolve tends to be context-dependent,[22] new capabilities represent contexts where reputations for resolve and credibility have not yet been established.

Coercive signaling represents the use of limited force or the threat of force with a demand of some kind attached, whether to compel an adversary to take a desired action or deter the adversary from taking an undesired action.[23] Between rivals, cumulative coercive signaling becomes a kind of lingua franca because of shared understandings that develop over time about "red lines": warnings against an adversary crossing certain behavioral thresholds.

During the Cold War, the United States and the Soviet Union developed a shared understanding not only about regional spheres of influence, but

also about the consequences of nuclear weapons use by either side.[24] Today, following a similar logic, the deployment and use of U.S. aircraft carriers have become a signal of U.S. resolve not only because of the high cost of fielding them, but also because of what they are capable of and how they have been employed in the past.[25] When U.S. aircraft carriers deploy to the Yellow Sea, for example, China and North Korea chafe at the implied threat, but it reinforces shared expectations that can help stabilize the rivalry.[26] Even in the fog of crises between rivals, consistent behavior and signaling make it possible to establish stable expectations that mitigate escalatory actions by either side, especially if the capabilities used for signaling are well-understood.[27]

By contrast, the use of reconnaissance unmanned aerial vehicles (UAVs) on the Korean Peninsula and over Japanese territorial waters by North Korea and China, respectively, has introduced uncertainty in the South Korean and Japanese governments about how best to respond, adding an additional wrinkle into preexisting geopolitical competition and histories of coercion.[28] Because drone use in these contexts and between these competitors lacks precedent, the burden of deciding to retaliate fell to the Republic of Korea (ROK) and government of Japan, both of which lacked experience dealing with this specific kind of intrusion. The result was not only paralysis in response to the immediate incident, but also a determination not to be caught unawares in the event of a similar provocation in the future.

North Korea and China exploited a vacuum of protocol and behavioral norms. North Korea was able to probe the resolve and defensive detection capabilities of the U.S.-ROK alliance without directly violating any specific alliance "red lines."[29] China similarly managed to assert its territorial claims without the use of violence. Both supported their political-military objectives without putting their forces directly at risk. Most importantly, they both also forced South Korea and Japan to choose

whether and how to retaliate or to simply accept UAV intrusions in order to avoid escalation. In both instances, the burden of escalation shifted to the defenders.

Absent established norms of use or measurable effects, such as soldier deaths or the observable destruction of property, judging the proportionality of a new capability used for coercion becomes a difficult task. It is difficult to distinguish between proportionate and escalatory responses when the capability's use is unprecedented. So, to the extent that coercion works by leaving "something to chance,"[30] the poorly understood significance and proportionality of new capabilities can pose a unique type of challenge to a defender, as illustrated by the above cases.

The opportunity to establish new, self-serving norms presents a significant temptation for powerful actors to undertake coercive action that presents some risk in the short term but with the potential for significant long-term benefits. While a logical option, these actions lend themselves to two types of dangers: greater willingness to risk conflict and the risk of miscalculation.

Conflict Propensity

The coercive use of new capabilities makes sense in the context of strategic competition, but it also may disrupt the somewhat predictable and regularized patterns of interaction that currently constitute regional stability. One way that this risk to regional stability manifests is in the creation of a powder keg — a net increased conflict propensity across the region.

When an emerging technology or military capability enters a state's strategic calculus, it either enables an alternative approach (e.g., lessening burdens on manpower, cost, time) to achieve the same effect as an existing technology, or it achieves an alternative effect compared with existing capabilities (e.g., higher kill rates, disablement without

destruction). Consequently, these technologies and capabilities offer policymakers possibilities that will affect their calculations relating to risk and the use of force. Public reporting suggests, for example, that U.S. drone strikes in Pakistan have been quite extensive,[31] but these sovereignty-violating actions were possible because the UAV technology allowed precision strikes without putting U.S. pilots at risk. Implying that airstrikes would have been impractical using manned aircraft, then-CIA Director Leon Panetta candidly described drones as "the only game in town."[32] This case does not suggest that new technologies produce radical shifts in a single state's willingness to take military risks. It does, however, illustrate how a new technology opens new possibilities to policymakers and how that in turn shapes the incentives for policymakers to pursue courses of action that may not have been feasible otherwise.

This logic also appears in China's fast-growing and increasingly capable Coast Guard and Maritime Surveillance fleets. These capabilities and organizations employed are not new, but the context in which they have been introduced — gray zone competition in the South China Sea — was unprecedented, creating a circumstance where a defender's decision to retaliate could potentially escalate the situation, which would not only allow China to claim itself as the defender, but serves as an unconventional form of deterrent against the original defender retaliating at all. While it may be debatable how a defender responds to this form of gray zone coercion, there should be little doubt that China has been taking these steps — introducing capabilities and means that lack precedent relative to the geopolitical contexts in which white hulls are employed for coercive purposes — quite deliberately.

In October 2014, Chinese military news websites announced the construction of two China Coast Guard (CCG) ships with displacements estimated to be 10,000 tons (currently, the largest CCG

vessels have a displacement around 4,000 tons) and equipped with large water cannons.[33] Similarly, in September, China Marine Surveillance (CMS) claimed that advanced features, including a nausea-inducing sonic device, being installed on its new maritime law enforcement cutter CMS 7008 would "certainly have a deterrent effect."[34] The increased size and improved technical capabilities of China's nonmilitary fleet, in combination with an ambiguous legal precedent for maritime activity, allow China to exploit law enforcement forces "to assert Chinese administrative prerogatives over [disputed] claimed waters."[35]

While not all emerging technologies and military capabilities pose the same amount of risk to stability in maritime Asia, the United States should consider whether its policymakers and policymakers across Asia are now more willing to opt for coercive activity and the use of force under certain conditions with the availability of emerging technology than without it.

The consequences of these individual risk decisions accrue at the regional level as well. Even if each state's risk calculus or willingness to employ force changes only modestly because of the availability of new capabilities, the region still becomes a powder keg. The region as a whole risks becoming much more unstable if each actor in the system is more willing to employ force out of a perception of either lower risk or a new advantage; each state's willingness to take risks must be multiplied by the number of actors in the system in order to assess the aggregate conflict propensity of the region. This means that regional volatility is potentially much greater than the sum of individual states' risk propensity. In other words, emerging technologies and newly acquired military capabilities can make states engage in riskier behavior, even if only marginally, and that collective risk makes regional conflict more likely.

CHINA, CYBERSPACE, AND POTENTIAL FACTORS OF INSTABILITY

China's employment of its cybercapabilities illustrates the dynamics of conflict propensity and inadvertent escalation well. Chinese activity in cyberspace does not fit neatly in traditional Western conceptions of cyberattacks: That is, China's computer network operations actively support objectives beyond strict military defense and offense. They also serve other domestic interests, particularly the preservation of the Chinese Communist Party's governing power.[36] While a computer network operation committed by Chinese actors in cyberspace may primarily serve nonmilitary goals, it risks being misinterpreted or miscalculated as an escalatory military move.

For example, China's conduct of network disruptions and intrusions such as distributed denial-of-service (DDoS) attacks against states like Japan, intended to signal displeasure with policy developments such as the Japanese government's purchase of several of the Senkaku/Diaoyu Islands, has the potential to be interpreted as a nation-state attack on another nation-state's military assets, networks or systems.[37]

While China's use of the PLA to conduct cyberactivity does not necessarily fulfill explicit military operational objectives, its actions could have strategic and operational consequences for other Asian nations. Since cyberattacks rarely lead to the destruction of life or property and the most devastating cyber scenarios usually require massive resources, cyber can often be viewed as an adjunct to traditional forms of power.[38]

Yet a well-timed DDoS attack or the degradation of communications or reconnaissance systems through the insertion of malware on another country's naval systems can bear strategic consequences, from military escalation into regional conflict to the infliction of political and economic damage on the target country. As with other forms of new technology in Asia, actions in cyberspace can exploit gray areas of technical superiority, while shifting the burden of deciding whether and how to retaliate from the challenger to the defender.

Miscalculation and Inadvertent Escalation

The second type of risk to regional stability that stems from using newly acquired military capabilities to coerce in the context of strategic competition is inadvertent escalation resulting from miscalculation. The above discussion proposed that competition in the gray zone may lead some states to use new capabilities because of a perceived coercive advantage. But the same uncertainties — about either the effects of or appropriate response to a new technology's coercive use — could easily lead to miscalculation.

At least three types of miscalculation could produce inadvertent escalation. A defender may underestimate the resolve of a challenger who relies on new technologies to coerce. Reliance on drones, for example, may signal an aversion to human casualties or reluctance to allow circumstances to escalate, even though the motivation for drone use may be more aggressive.

Second, a challenger may likewise underestimate the resolve of a defender, shifting the burden of response to the defender in hopes of compelling restraint but instead forcing the defender to retaliate. In such instances, unanticipated negative feedback undermines the logic for employing a new military capability in the first place and may unintentionally induce or escalate conflict. If North Korea again deploys unarmed UAVs to penetrate South Korean airspace, the latter may retaliate not only by shooting down the UAV, but by striking at North Korean command and control nodes, as South Korea's "proactive deterrence"

doctrine developed several years ago suggests it would.[39]

Lastly, potential miscalculation can result from a challenger's shifting calculation of its own resolve based on defender reactions; that is, classical conflict escalation spirals spurred by the introduction of a new or unprecedented military capability. A challenger may employ drones or conduct an ASAT attack as a way to signal resolve without fully committing to a path to war, yet may find its hands tied when a defender chooses to shoot down the drone or retaliate against the ASAT launch site. In this scenario, what starts out as tailored coercion to probe the resolve of a competitor quickly transforms into limited war.

IV. REDUCING THE TECHNOLOGY FOG IN MARITIME ASIA: RECOMMENDATIONS TO ADDRESS GRAY ZONES AND RISKS

Asia's evolving security environment means policymakers interested in preserving stability need to understand and cope with not just the risks of traditional military competition, but also new risks as they emerge. Despite the temptation to gain advantage through acquisition and employment of emerging technologies and military capabilities, it is in all nations' interests to have a common understanding of how they may affect stability in maritime Asia. This will remain the case even though some states will inevitably continue to take advantage of technologies and gray zones.

Removing the fog of technologies and gray zones where possible is crucial to managing stability because both involve a lack of clarity that aggressive states exploit and hide behind. This creates complex decision making challenges for status quo states seeking to manage or prevent crises amid ongoing friction. The United States should, in concert with qualified and willing allies and partners,

leverage technological capabilities in a consistent manner, promote common real-time awareness of activities in contested territories, relax technology export controls, and enhance partner ability to deter and defend against aggression.

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We believe the following prescriptions — ranging from the political and economic to the military and technological — promote regional stability amid the spread of both emerging technology and military capabilities. These recommendations matter just as much for states that are investing heavily in cutting-edge technologies as for states with more limited resources. All benefit from more transparency and shared expectations relating to the employment and consequences of new capabilities in maritime Asia.

1. ESTABLISH NORMS AND REGIMES FOR TECHNOLOGY AND MILITARY CAPABILITIES IN ASIA.

Asian nations should pursue the establishment of a "legacy- and emerging-technology regime," focusing in particular on the maritime domain, which promotes consistent behavior, precedent recognition and discussions of emerging behavioral and technological trends in multilateral fora. Ideally, such a regime would promote disclosures of performance parameters and declarations of intended use for new capabilities. Rather than placing bets

on the viability of any single multilateral venue to host this kind of discussion, it may be better to consistently raise the profile of technology norms on the agenda of the region's many multilateral institutions.

Diplomatic relationships at both senior and lower levels could foster dialogue on legacy military capabilities as they proliferate, and economic collaborations in support of research and development could help incentivize such cooperation. Multilateral venues would then serve more as a matchmaker, facilitating various forms of cooperation where aligned interests exist, and agenda setter, catalyzing discourse on this important topic. This would help set and cement norms of behavior in the region.

2. DEVELOP A COMMON OPERATING PICTURE (COP) NETWORK IN THE SOUTH AND EAST CHINA SEAS.

The construction of a COP network is a powerful means of minimizing the fog around new or unprecedented capabilities and gray zones. A COP network can provide real-time, persistent domain awareness of contested territories among willing states, helping to distinguish aggressor and defender in high-friction areas, which in turn clarifies the intentions of competing claimants. A more common view of what is happening where and when may facilitate a convergence of threat perceptions among neighbors over time, making it easier for security-seeking states to band together against aggression. The process of building a COP network also compels technical and operational cooperation by requiring states to work out interoperability and data sharing arrangements; these are tractable forms of cooperation under conditions of strategic competition.

A COP network represents the kind of military capability that improves national defense and collective security without posing an inherent threat to security-seeking states – only states seeking to overturn the status quo through force fear operational transparency in disputed territories.

> *The construction of a COP network is a powerful means of minimizing the fog around new or unprecedented capabilities and gray zones.*

3. RELAX CONSTRAINTS ON FOREIGN MILITARY RELATIONSHIPS.

To facilitate coalition-building and interoperability across countries in Asia, the United States should relax constraints on foreign military sales (FMS) and foreign military financing (FMF). Additionally, the United States should promote co-development and cooperative development for trusted allies and partners in the region. As many Asian governments place a premium on indigenous development of defense technologies and can create competitive hurdles for U.S. and other defense industry partners to support the goal of indigenous development, partnering with Asian defense industries early — and securing export licenses for technology developed — should lead to much greater defense cooperation.

The spread of new capabilities poses distinct risks to regional stability, and yet, perhaps counterintuitively, our principal recommendation is to *not* lean on export control regimes as a way to block acquisitions of new capabilities. Not only will simply restricting exports not address the underlying strategic drivers of military modernization, but such an approach also rests on the shaky assumption that the United States is the only source for desired capabilities and severely hampers U.S. power to shape the military technological environment in Asia.

These days, there are few technologies and capabilities which only one state possesses a monopoly. Moreover, the spread of key emerging technologies – UAVs, various forms of cyber offense and defense, stealth – has already happened and is often commercially driven, and reversing it could thus adversely impact national economies.

Rather than trying to disrupt a powerful trend, our recommendations concentrate efforts on the behavioral aspect of new technologies and capabilities to manage risks and maintain stability. By participating actively in the flow of military and other technology to Asia, the United States has a chance to influence norms about the ways in which they are adopted and employed.

4. NEXT-BEST ALTERNATIVE: BUILD A2/AD CAPACITY OF LOCAL PARTNERS.

The first three recommendations will inevitably take time to develop and implement. If in the interim nations continue to exercise coercive behavior in maritime Asia, the United States and partner countries should consider an alternative of developing A2/AD capacity *given that such measures do not pose escalation risks in the region.* The promotion of local A2/AD capacity for willing partners can be structured to incentivize information sharing and collaboration among local partners and would improve deterrence and defense in case of aggression. To the extent possible, the United States should therefore distinguish between power projection capabilities, the proliferation of which it should hope to constrain, and local A2/AD capabilities, including ISR capabilities, sea mines, minesweepers, cyber, integrated air and missile defenses, and midrange anti-ship cruise missiles.

V. THE WAY AHEAD

Several challenges to implementing these prescriptions remain. Culture, history and strategic competition in Asia constrain how the United

States and its allies and partners manage security dilemma dynamics, establish and enforce norms and proliferate new capabilities.

First, managing security dilemma dynamics while improving deterrence and defense is not easy.[40] When low trust and high uncertainty combine with occasional periods of high friction between neighbors, any military investments and actions are more likely to be viewed warily, further spurring cycles of hedging or counterbalancing.

Second, Asia's existing security architecture, in part related to unresolved historical issues, makes predictable cooperation and normative convergence an enduring challenge. Absent the rules-based institutional model, like the North Atlantic Treaty Organization, or a supranational entity like the European Union, Asia's institutionalized forms of cooperation are necessarily coalition- and consensus-based. Asia's lack of an enforcement capacity for norms and nearly absolute reliance on a patchwork of bilateral and trilateral arrangements for security exacerbate the already difficult challenges of coordinating and aligning interests.

Finally, there is a risk that our prescriptions only make the coercive use of technological capabilities – and thus regional instability – more likely. According to this line of thinking, " … if there are unusually useable weapons in the arsenal, there will be unusual pressures to use them."[41] If the goal of our prescriptions is to maintain stability, allowing or promoting the proliferation of military capabilities could be counterproductive.

These challenges are significant but surmountable, and our recommendations were made to account for each. To address security dilemma concerns, we emphasize transferring and developing localized A2/AD capabilities because they are most useful for defending against power projection, not for offensive actions. Although some capabilities, such

as cruise missiles, are admittedly difficult to classify as inherently offensive or defensive, we believe an emphasis on overall defensive orientations in military modernization can help dampen security dilemmas, especially when coupled with our other transparency-oriented recommendations.

The United States must play a leading role in facilitating a maturation of precedents, but minimizing the fog around emerging technology and military capabilities is in the interest of every nation.

While cooperation is a major challenge in low-trust environments, the specific forms of cooperation we recommend are compatible with existing institutions and relations. The idea of an emerging-technologies regime can be pursued and coordinated within the context of the East Asia Summit, Association of Southeast Asian Nations (ASEAN) Regional Forum, or ASEAN Defense Ministers Meetings. Even absent the imprimatur of these regional mechanisms, the venues themselves can facilitate discussion about concerns relating to normative and legacy capabilities at the bilateral and trilateral level among willing participants. As well, COP networks can in principle function with varying levels of trust and technological sophistication among participants because much of the necessary technological infrastructure is commercially available.

Military technology and capabilities often spread in response to strategic competition. In Asia, not only have they begun to spread, but they have also been introduced into operations in existing areas of high friction. By identifying the distinct risks

associated with the coercive use of military technologies, the United States can begin addressing those dangers in a responsible way. The risks of higher conflict propensity, miscalculation and even inadvertent escalation depend on the fog of uncertainty and lack of precedent surrounding new or contextually unprecedented capabilities. Our recommendations aim at a simple goal: Reduce the fog. The United States must play a leading role in facilitating such a maturation of precedents, but minimizing the fog around emerging technology and military capabilities is in the interest of every nation.

ENDNOTES

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4. The premise of this paper assumes that a condition of strategic competition — concerns about relative capabilities and intentions of others — obtains in Asia. This condition exists most starkly in relation to China, but also among rising middle powers. On the former, see Patrick Cronin, "The Challenge of Responding to Maritime Coercion" (Center for a New American Security, 2014). On the latter, see Van Jackson, "Power, trust, and network complexity: three logics of hedging in Asian security," *International Relations of the Asia-Pacific,* 14 no. 3 (2014), 331-56.

5. Patrick Cronin et al., "Tailored Coercion: Competition and Risk in Maritime Asia" (Center for a New American Security, March 2014).

6. While we acknowledge that many motivations inform individual states' pursuit of specific military capabilities (bureaucratic politics, prestige, strategic culture), only strategic competition accounts for the cross-regional pattern of arms racing and military modernization in which Asian states are currently engaged. For a deeper discussion, see Van Jackson, "The Rise and Persistence of Strategic Hedging across Asia: A System-Level Analysis," in *Strategic Asia 2014-15: U.S. Alliances and Partnerships at the Center of Global Power*, eds. Ashley Tellis, Abraham Denmark and Greg Chaffin (Seattle: National Bureau of Asian Research, 2014), 316-42.

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