

China's Maritime Ambitions and Geographical Constraints

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China's rapid economic development and accompanying military modernization have drawn increasing scrutiny from rival government policy makers and business strategists alike. The expressed concerns vary from the shifting balance caused by China's enormous defense investments to the tactical competence of its navy to potential doomsday scenarios in the western Pacific. My approach is unique in that it explains the logic of China's naval build-up and its strategic implications through a *geopolitical defensive realist* framework.

What is the strategic significance of China's naval development and how is the United States likely to respond? I argue that the United States will exploit the perceived threat of China's navy to build and strengthen a coalition of powerful maritime democracies—including South Korea, Japan, Australia and India—to balance China's rise. Already, the U.S. is encouraging the four allies to deploy operational submarine and surface warship fleets through monetary aid, technology transfer and joint military training exercises. The United States is simultaneously demanding multilateral mediation on East Asian maritime disputes and regional issues to prevent China from bilaterally engaging and potentially coercing its neighbors.

This project sets out to contextualize China's naval modernization by elucidating the nation's strategic reasoning in building a formidable navy, identifying key programs and their challenges, examining asymmetric opportunities for the Chinese fleet, analyzing the "Taiwan question" and status of the disputed territories along the East Asian littoral, and then explaining the rise of an American-sponsored coalition of maritime democracies. I conclude by offering several constructive recommendations for American maritime meta-strategy.

My analysis will be made through the lens of a *geopolitical defensive realist*. Geopolitics acknowledges the overwhelming influence of geography on the relations between nations—sometimes constraining action or mandating strategy as a result of physical characteristics or

topography. Colin Gray argues that geography “is inescapable” by providing “the physical playing field for those who design and execute strategy [but also] drives, certainly shapes, the technological choices that dominate tactics, logistics, institutions, and military cultures” (Gray 165). I define defensive realism as the security-obsession afflicting states as a result of the anarchic international system and assume that sovereign states act rationally to assure their own survival. I look to a defensive, rather than offensive, realist framework for five reasons. First, China’s geography creates massive buffers to effective invasion, thwarting would-be attackers. Offensive realists acknowledge the challenges accompanying projecting force over large bodies of water.¹ Second, given that the United States and China both possess assured second-strike nuclear capability, the offense-defense balance is skewed by Mutually Assured Destruction, which favors the defender. Third, a “combination of political, physical, and technological facts” advantages the attacked. Barry Posen argues that “the defender usually enjoys perceptions of higher political stakes, more manpower in-theater, better knowledge of local circumstances and U.S. tactics, and cheap but effective weaponry for close-in operations” (Posen 22). Fourth, the ferocious competition in the South China and Yellow seas will compel China to adopt benign intentions, or risk the survival of its regime. Importantly, as offensive realists concede, the ability to signal intentions greatly minimizes the security dilemma and allows states to find peaceful solutions. Fifth, the rapidly advancing asymmetric power of shore-based missiles in challenging billion-dollar surface vessels further skews the “offensive-defensive balance at sea, favoring those who wield missiles as a defensive instrument to blunt hostile efforts to project sea power ashore” (Red Star 101). These factors dramatically shift the scales in favor of the

¹ John Mearsheimer terms it the “stopping power of water” (*Seminar on Realism* lecture: May 2010).

defender, disqualifying attack as a rational policy instrument and necessitating a defensive realist framework.

Rather than an exhaustive catalog of naval armaments or a tactical fleet manual or a how-to guide on naval engagements, this project is a guide to a few of the most important developments, challenges and opportunities for China's fleet and an analysis of regional flash-points, U.S. defense policies, and the emerging coalition of maritime democracies.

To understand the strategic significance of China's naval build-up, we begin with the logic compelling China's turn to the sea. Until the latter half of the 20th century, China was an inward looking land-power because it was able to domestically supply its resources and external threats came from the western frontiers. The country is geographically constrained: "China's land borders — counterclockwise from the north — are comprised of the emptiness of Siberia, the emptiness of Central Asia, the mountains of the Hindu Kush, the mountains of the Himalayas, and the jungles (and mountains) of Southeast Asia" (Chih). Historically, China has been agriculturally self-sufficient and only required occasional inputs from the Silk Road. Despite its relative isolation, its huge land mass historically posed significant challenges with mounted invasions and insurrection on the frontier comprising the greatest threats to China's dynasties. Over the last two millennia, Chinese imperial courts developed bureaucratic models to establish central authority across the land mass and facilitate the implementation of court directives. Historically, this geographical position dictated strategy from the emperor's court: "China has had three core geopolitical imperatives for much of its history: maintaining internal unity in the Han Chinese regions, maintaining control of the buffer regions, and protecting the coast from foreign encroachment" (Maritime Focus). To further increase authority and consolidate power in the western frontier, the court ordered the construction of direct access

roads, facilitating commerce, communication and internal unity. China's 16,000+ kilometers of land borders underscore the immensity of this task. By comparison, the northern borders of the Roman Empire at the height of Augustus – from Spain in the west to Jerusalem in the east—measured about 8,000 kilometers (Howarth 24).

China's strategic objectives have remained remarkably constant for the last two millennia, and the evolution of its current grand strategy is recent. The Chinese Communist Party's (CCP) unification of China in 1949 consolidated control of the western frontier and its coastal region and created internal unity. Still, terrestrial-based threats were the greatest to the regime's survival: "the Korean War in 1950, the split with the USSR in 1961, the war with India in 1962, the confrontation with the USSR from 1961 to 1985, and the wars in Indochina, forced Beijing to focus its attention and military resources on the defense of its continental frontiers." China's geography is similar to Russia, France and Germany in that each are continental powers "whose geography has obliged [them] to divide military resources between [land and maritime] forces, thereby precluding its development as a great sea power" (Howarth 24). No military developments happen in a vacuum, of course. In the international sphere one state's acquired security frequently becomes another's insecurity, "each side fears that if it shows good will and a desire to cooperate, the other will renege on its commitments, leaving it in a more vulnerable position" (Bush 294). After the PRC's split with the USSR, China was isolated in the international sphere and felt vulnerable. China's maritime and terrestrial demands forced painful tradeoffs between the land and sea services, especially for a state with a small tax base like "pre-opening" China. The British and American states justify greater relative expenditure on their respective naval forces because a larger share of national income comes from the sea and neither country faces credible land-based threats. Despite the geographic challenges the People's

Republic of China (PRC) faced in consolidating its massive territory, its Politburo maintained lofty objectives for its navy, the People's Liberation Army Navy (PLAN), in its first five-year plan: "ending coastal piracy, ensuring maritime safety, preparing for the takeover of Taiwan, and defense against invasion" (Lewis and Lutai 220). Regardless, Mao Zedong and many key CCP leaders were "famously indifferent to maritime pursuits," focusing instead on quashing terrestrial threats while propagating communist ideology throughout society (Holmes and Yoshihara 82). After China's economy "opened" and began its rapid industrialization, strategic priorities were revisited: "From the 1980's onward, all the elements of maritime dependence grew strongly: maritime traffic, the merchant marine, naval construction and industry, fisheries and the importance of off-shore resource zones" (Howarth 24). As the PRC transitions from an agricultural to industrial economy it must guarantee access to external resources² far from its eastern shore which requires secured shipping lanes. The Chinese leadership is cognizant of the "growing dependence on foreign supplies of oil³, natural gas, and other commodities transported by sea. China has fixed its attention on the Indian Ocean, where most of the nation's natural resource imports originate, and on the South China Sea, China's maritime gateway to South Asia" (Red Star 150). As China prepares and implements a defense posture, its undefended sea-lanes weigh heavily on naval strategists. "With exports that reach nearly every corner of the globe and an already heavy reliance on Africa for energy resources, China has the global vulnerabilities of an empire but not the naval ability to protect them. This is the core geopolitical weakness Beijing hopes a [blue water navy] might solve" (Maritime Focus). To prepare the path to the sea, China has patched once hostile relations with its neighbors, settling "border disputes

² Namely crude oil, copper, bauxite and iron ore (Stratfor)

³ China is diversifying its overseas Petroleum sources by including imports from Russia, central Asia, Latin America, Africa, and the Middle East (Cole 47).

with Russia, the Central Asian republics, Vietnam, North Korea, and Mongolia, neutralizing much of its continental periphery. In short, Beijing can now contemplate becoming a sea power without undue worry about forfeiting its interests ashore” (Red Star 19).

The seaward turn is not without critics who argue that a continental approach, focusing resources and attention on central Asia, is more prudent for China because of significant economic and strategic potential. Professor Ye Zicheng of Beijing University is the most notable “continentalist” and argues that, “all other forms of geospatial power, including air, sea, space and cyberspace, should serve China’s continental prowess” (Red Star 38). Zhang Minqian and Cheng Yawen are other leading intellectuals favoring a continental orientation as Beijing’s grand strategy. The advice isn’t falling on deaf ears. China’s pipeline network is rapidly expanding to the nation’s west, linking industrial centers with natural gas (Cole 47). Maritime strategists are also divided on these issues. Many academics fear the current PLAN build-up invites excessive competition with the United States and that “China can retain access to resources through equal and mutually beneficial trade” (Fisher 173). Despite enhanced economic ties with Central Asian Republics, maritime strategists bent on sea power seem to be guiding China’s grand strategy.

In December 1985 PLAN adopted a new maritime strategy to hold a “strategically defensive line” located between “China’s coastline and the blue-water environment.”⁴ The revised naval doctrine supported paramount national objectives: “upholding national unity, protecting territorial integrity, ensuring access to natural resources, deterring imperial aggression from the sea, and maintaining peace in the Asia-Pacific region” (Holmes & Yoshihara 31).

Although the 1985 PLAN strategy gradually refined naval doctrine and practices, an operational

⁴ “The term ‘blue-water navy’ is a colloquialism used to describe a maritime force capable of operating across the deep waters of open oceans” (British Maritime Doctrine, BR 1806, Third Edition, dated 2004).

and doctrinal overhaul was necessary to achieve its lofty objectives. The Chinese navy is organized into five “major arms systems”: naval surface vessel units, naval submarine units, Naval Aviation units, naval coastal defense units, and the Marine Corps.” The PLAN is responsible for several missions⁵: “maritime diplomacy, domain maintenance, maritime presence, sea control/sea denial, deterrence, tripwire and power projection” (Cole 69).

The 1985 maritime strategy with the new PRC doctrinal demands required a multi-billion dollar hardware upgrade and the diversion of dozens of senior strategists and army brass. In 1999 a bold expansion of the PLAN’s range and role was finally announced. To launch and maintain an expeditionary navy China would construct naval vessels⁶, build logistical systems and supply lines to keep convoys deployed, train personnel and develop senior officers for fleet leadership (Blue Water Navy). Additionally, the PRC sought to secure exclusive maritime influence in East China Sea and South China Sea, sign port agreements and acquire Spratly, Paracel and Senkaku Islands to “create a string of logistical hubs that would enable coastal vessels to operate farther from the mainland” (Maritime Focus). These steps accompany a PLAN doctrinal shift to support an expeditionary navy capable of extended deployment and, supplementing a current fleet that is limited to short-range coastal patrols.

PLAN Developments

⁵ For advanced discussion of PLAN’s division of labor, see Bernard D. Cole The Great Wall at Sea, pages 69-76.

⁶ Along with the purchase of 1980’s grade Soviet submarine and flight-deck models and ballistic technologies.

PLAN has made significant progress on many of these objectives. China's surface warfare capabilities have matured rapidly due to large scale investments in the fleet. Holmes and Yoshihara find that, "China has commissioned four modern warship classes since 1999, including vessels equipped with advanced radars and computers reportedly comparable to the U.S. Navy's Aegis combat-systems suite, the latest in American air-defense wizardry" (Red Star 65). China continues its ambitious indigenous naval buildup while adding Russian-built models including four guided-missile destroyers (Cole 87). China adds significant firepower to its surface vessels with antiship and air-defense missiles (Red Star 74).

The air arm of PLAN boasts about 800 aircraft, and thirty-four helicopters with twenty-seven regiments divided between three regional commands. "Naval Aviation missions nominally include fleet air defense, at-sea reconnaissance and patrol, ASW [anti-submarine warfare], electronic countermeasures, transport, mine-laying, rescue, and vertical assault" (Cole 109). For decades, PLAN's Naval Aviation squads were under-funded because of competition with the PLA Air Force (PLAAF) and suffered from a lack of prestige within the armed forces. These fortunes are reversing as the navy's aviation arm develops competence in key areas, boosting its versatility and sortie potential. The PLAN has bolstered its aviation hardware by purchasing twenty-four Su-30MK2 navalized jets from Russia. (Cole 87). The multi-role fighters will play a key role in securing air superiority beyond China's coastal waters.

To supplement its air and surface capabilities, the PLAN has embarked on an ambitious submarine development program, rapidly creating the world's largest tactical submarine fleet at 62 vessels (Office of Naval Intelligence) by introducing five new classes of modern conventional and nuclear submarines (Red Star 2). This enormous investment has occurred because of the strategic value the Standing Committee see in PLAN undersea development. The 2004, 2006,

2008 and 2010 PRC defense white papers all emphasize a greater role for PLAN submarines and efforts to improve the undersea fleet while enhancing sea-denial capabilities and China's nuclear deterrent. The primary focus of procurement have been "modern diesel submarines—difficult to detect, track, and target in shallow offshore waters" because they provide PLAN with the means to patrol and thus influence the unfolding negotiations surrounding maritime territorial disputes. Importantly, an operational submarine fleet would give additional credibility to China's claim to exclusive influence in the Yellow, East and South China seas. Conventional submarines are also a phenomenal building block because they are relatively inexpensive and versatile members of the fleet with the ability to patrol independently or in support of larger scale operations (Red Star 74). PLAN's submarine fleet is very effective at collecting intelligence, expanding PLAN's regional reach while conducting coastal patrols. Some of these patrols involve tailing missions where PLAN submarines follow U.S. and JMSDF forces, likely noting route and operation patterns. Bill Gertz reported in the Washington Times that a PLAN *Song*-class submarine "approached within five miles of the USS *Kitty Hawk* in October 2006, undetected until it surfaced" (Fisher 164). This incident surprised the American defense community by demonstrating PLAN's ability to stalk U.S. vessels. PLAN also bought twelve conventionally powered submarines from Russia to bolster its undersea capabilities (Cole 87).

Foreign acquisitions do not detract from the rapid development of Chinese naval craftsmanship⁷. PLAN engineers have created quality conventional and nuclear submarines and are beginning to develop competence in air independent propulsion (AIP) submarines. AIP allows a submarine to spend nearly two weeks underwater without surfacing. The ability to stay

⁷ Just two decades ago there were enormous challenges with submarine construction: "the size, thickness, and complex shapes of [submarine] hull plates, the requirement to attach stiffening ribs and launch tubes, and the need to reduce the high stresses within the metal exceeded the competence of all but the most advanced welders. [...] Over time, 95 percent of fatigue failures in Chinese submarines resulted from defective welds" (Lewis and Litai 104).

deep below the ocean's waves for extended periods also makes avoidance of detection by enemies more feasible and will thus significantly extend PLAN's submarine deployment range. The AIP system will also be the crucial building block to allow unmanned undersea vehicle development, a state of the art technology (Weidong et al).

Laborious research and development have also earned China an impressive missile fleet. "China has developed the capability of designing and manufacturing cruise missiles with close to state-of-the-art features, including supersonic speed, complex maneuvers, and submerged-submarine-launch capability." Cruise missiles have become China's most formidable weapons system and provide an excellent foundation for China to boost its capability across forces. As full expertise is developed, cruise missiles will play a variety of roles within China's armed forces. The PLAN's surface, submarine and naval aviation squads will all benefit from increased firepower along with the nation's army and 2nd artillery corps (Kaplan 281).

Simultaneously, PLAN is developing plans for an aircraft carrier fleet to be the crown jewel of its naval force. There are multiple dimensions to Beijing's logic: "[An aircraft carrier fleet] is a mark of status as a great power, a way to alter the current dynamics of air power in the region, a tool to project force beyond the East and South China seas and a means of expanding China's ability to protect ever-expanding import and export routes" (Deceptive Logic)⁸. Beijing sees an aircraft carrier as a means to strengthen claims to the "islands and coral atolls of the South China Sea, an area potentially rich in oil and other resources. An aircraft carrier would make a potent political and diplomatic statement, potentially creating a major change in the strategic balance in East Asia" (Global Security). From China's perspective, the Vietnamese and

⁸ To develop a greater understanding of carrier construction, the PRC has purchased four foreign-made air craft carriers: The *HMAS Melbourne* from Australia, and three former Soviet carriers: *Varyag*, *Kiev*, and *Minsk* (Cole 90).

Philippine fishing boats that have been hassling PLAN vessels will desist when Beijing is able to deploy an aircraft carrier that silences their nation's claims to the islands.

PLAN Challenges

Despite the impressive strides PLAN has made, several factors still trouble Chinese strategists: immature doctrine, inefficient operational practices, poor force integration, fleet overstretch, foreign dependence and logistical shortcomings all combine with China's imposing geographic constraints to plague combat-readiness. In this section I will examine each of these challenges within the context of China's naval build-up.

Immature naval doctrine erodes Chinese naval strength. "Military capability is a product not simply of having weapons, but of having a doctrine for how to use them, well-educated and well-trained personnel, [and] realistic exercises" (O'Rourke 134). China has embarked on a prudent incremental approach. PLAN has built and deployed numerous new submarine and surface vessel ship-classes but only produced them in limited quantities. After noting each class's strengths and weaknesses, China uses the acquired knowledge to develop the next, more advanced ship class. Because of the small vessel quantities developed at each stage, China saves money to re-invest in research and development even while reducing the perceived threat to neighbors. Simultaneously, PLAN leadership learns the best practices of operating the vessels in question and develops a strategy and philosophy of command, particularly an operational doctrine *for how to use* the weapons. Despite China's prudent approach, an effective doctrine cannot be quickly reverse-engineered. Because of the rigid technical proficiency requirements, historical evidence suggests that fleet proficiency can take over a generation to establish. The

imperial Japanese, British and American navies each took decades to reach high-operating efficiency while the imperial German and Soviet navies never did.

A lack of tactical competence also hampers China's naval modernization. Despite the PLAN's impressive hardware upgrades, a lack of advanced training limits their value because "the sophistication of new equipment generally *exceeds* current joint command-and-control capabilities" in addition to the training of operators. Professionalization has evaded the PLAN which still experiences "a shortage of technically knowledgeable, innovative, initiative-taking personnel who can operate high-tech systems, a deficiency exacerbated by China's lack of a professional corps of noncommissioned officers" (O'Rourke 135). Naval War College professors Holmes and Yoshihara argue that PLAN's inexperience may be its Achilles heel: "the Chinese navy has a long way to go in "software" areas such as training, education, seamanship and the myriad of other skills that comprise battle readiness" (Red Star 216). Examining China's submarine fleet training practices is insightful because PRC leadership has invested heavily in it to create a functional model for the other PLAN components. Sound doctrine, training, execution focus, and tactical competence are essential prerequisites to fully utilize the PLAN's state of the art submarine features: "virtually all future members of the nuclear navy have previously served on conventional-powered submarines and most of the candidates for commanding officer had already commanded a submarine. [...] The educational level of the nuclear submarine crew members exceeds that of all other PLA combat units" (Lewis and Litai 122). In addition to more rigorous training and higher educational standards, PLAN seeks to bolster the operational experience of its submariners by sending more Chinese subs out on patrols-- "twelve patrols in 2008, up from seven in 2007, two in 2006 and none in 2005" (Bush 55). Despite these advances, according to the Pentagon's 2009 report on the PRC's military

capabilities, significant challenges remain: “the PLA has only a limited capacity to communicate with submarines at sea and the PLA Navy has no experience managing a SSBN fleet that performs strategic roles” (Office of the Secretary of Defense). PLAN has not operated under sustained hostilities for over three decades and thus its crews cannot be expected to “handle operations when under fire, sustaining hits and suffering system degradation or loss.” Even more likely contingencies like high-seas and nighttime operations are rarely drilled (O’Rourke 139). PLAN forces performed very poorly when inclement weather was introduced (O’Rourke 137). Each of these short-comings could prove devastating if exposed in combat. Acknowledging existing weaknesses, the PLAN has instituted training programs to build “cross-service and cross-warfare capabilities” while bolstering communications⁹ (Cole 195). These training efforts have been combined with a recruiting push to identify the best talent to bolster competence within the fleet. Bernard Cole reports that recruiting large numbers is less the challenge than, “the education and intellectual capability required of its personnel” (Cole 118). The problem of recruiting highly capable seamen is most acute in the submarine force, “which requires highly intelligent, psychologically fit, dedicated enlisted personnel” (Cole 143). China’s bustling private sector attracts most of the top prospective candidates. China’s increasingly large and capable submarine force requires talented manpower to operate.

Modern warfare mandates close collaboration between different branches of a nation’s armed forces. PLAN also has under-developed integration capabilities with the PLA and PLAAF. PLAN’s aviation forces cannot cover “the entire Chinese coast or the fleet, so interceptor duties have been distributed by region between naval aviation units and the PLA Air

⁹ Chinese wargamers have recently adopted two new words, *zhijiaotongchuan*, “command of communications,” and *jiaotongzhanchang*, “transportation battlefield.” The additions reflect shifts in Beijing’s strategic thinking (Shiliang and Youzhi 56).

Force. This increases the number of assets available for the task, but questions remain about joint patrolling, separate chains of command, and air force over-water proficiency” (O’Rourke 137). In fact, PLAN has deficiencies within its internal communications systems, greatly complicating the task of introducing rival service and regional bureaucracies (O’Rourke 135). Even China’s newest ships lack the advanced communications technology necessary for integrated command and control and successful “net-centric operations” in advanced maritime warfare (Cole 103). To compound the problem, the PLAN is organized into three geographic fleets—assigned to the Yellow, East China and South China seas, respectively—and each has significant autonomy in designing training and protocol. Structural and geographic factors complicate coordination: “each fleet is commanded by a different admiral, faces different strategic and operational environments, and deploys different ships and aircraft” (Cole 134). As one can imagine, this creates troublesome inefficiencies in the system that could lead to deadly oversights in the event of hostilities. These structural setbacks have spurred the PLAN to strive for tactical competence in every unit through rigorous “fleet-level operations.” These include sea-lane interdiction, submarine navigation, Marine Corps landing drills, and weapons drills, among others (Cole 132). Structurally, units are the building blocks of PLAN and each must develop key skill-sets in order for the fleet to function as a combat-ready force.

Another long-standing challenge is the dependence on foreign weapons system supplies. Though China has made huge strides to develop a respectable indigenous defense sector, it remains substandard. Its new ship designs betray signs of its foreign dependence, relying on “foreign designs in almost all areas, from propulsion plants to the mast-top sensors and embarked aircraft” (Cole 102). Even China’s newest surface vessels “face supply and maintenance problems attributable to the foreign origin of many of their weapons and sensor

systems and propulsion plants” (Cole 195). China’s military engineers are currently unable to bridge the gap, leaving the fleet short of full combat-readiness, creating several additional vulnerabilities. “Reliance on foreign arms purchases both retards the growth of its own defense industry and to a degree mortgages the military to the originating country for spare parts and maintenance assistance” (Cole 197). This dependence has striking implications for PLAN’s ability to repair damaged systems. China’s recurring arms imports from “multiple foreign arms suppliers makes it hard to build efficient supply chains and maintenance regimes” which can leave vessels stuck at dock for months or years at a time (O’Rourke 135). More troubling is the infusion of entirely new systems that operators must learn. For example, many of the features on the foreign-purchased Sovremenny-class destroyers were entirely new to operators and crew: “China is dependent on Russian advisers for training, operations and maintenance” but will not have that luxury during combat, resulting in startling operational gaps (O’Rourke 139).

PRC leadership has hoped to leap-frog many of these challenges and join the great power ranks by constructing an aircraft carrier. But even ignoring the massive start-up costs, there are several exacting requirements for operating a carrier that the Chinese currently lack: meticulous operational planning, logistics supply and trained personnel are absolute prerequisites. Each requires “decades of extensive first-hand experience at sea. The establishment of a trained cadre of naval aviators¹⁰, efficient flight-deck operations and naval doctrine cannot be reverse engineered, and further investment will be necessary for China to even begin to adequately explore these core competencies” (Deceptive Logic). Additional components are required to keep an air wing operational, “The carrier also requires replenishment-at-sea ships to keep it (and

¹⁰ The PLAN has taken the first steps of this difficult process by establishing carrier operations training and simulations for pilots and senior naval officers (Cole 92).

its escorts) supplied with fuel, ordnance, and other supplies. [...] The special ships needed to defend a carrier are just beginning to appear in the PLAN” (Cole 156). There are also several accompanying technologies that the PLAN totally lacks: “automatic carrier landing systems, carrier aircraft arresting systems, deck motion [and] carrier landing [issues], special features of carrier aircraft, and carrier deck coatings” (Fisher 188). China hopes to reverse engineer this knowledge through foreign acquisition. China has reportedly purchased “four sets of Russian carrier aircraft arresting-gear” with plans to study one set, use one to outfit the *Varyag*, and save the last two for future Chinese carriers (Fisher 188). Most PLAN fighter jet models lack the requisite thrust capability to take off from a carrier’s relatively short flight deck. Many will have to receive engine upgrades “for more rapid takeoffs” (Fisher 191). With China making final preparations to launch the *Varyag*, it will likely be a tool to train pilots to land on a moving target while instructing senior PLAN leadership on proper aircraft carrier doctrine and practices (Fisher 194). Due to the fundamental challenges in constructing and deploying a carrier fleet, there are enormous opportunity costs to its pursuit, especially for a relatively inexperienced and under-developed navy like PLAN. China’s aspirations to surpass its technologically superior neighbors are sabotaged by its diversion of resources away from more vital operational objectives.

One obvious opportunity cost of pursuing aircraft carriers is the development of a reliable logistics system. It is important to remember that naval vessels have operational constraints and must be fueled and resupplied regularly. Especially during hostilities, secure logistical systems are crucial to continued naval deployment. Brigadier General Jiang Shiliang, Director of the General Logistics Department of the People’s Liberation Army, argues for the importance of “command of communications.” He contends that,

“the struggle over strategic pathways facilitating the flow of material and information is a basic condition in warfare. [...] Control over strategic locations such as cities, overseas bases, and islands are crucial to command. [...] A strategic rear support system, including bases, seaports, airfields, and other maintenance facilities, is critical to sustained command” (Holmes and Yoshihara 74).

PLAN has been tied to its coast for most of its history because of the inability to establish effective logistical practices. The feeble logistics system is acknowledged by top PRC brass. In June 2009 PLAN’s Chief of Staff remarked¹¹ that “many bottleneck issues that restrict the enhancement of our capabilities have yet to be solved.” These prolonged issues create a “substantial gap between our work and the requirement of fighting decisive battles to win decisive victories.” For example, PLAN’s naval aviation arm “did not conduct its first air-refueling mission until 2000” (Cole 109). Because of logistical limitations, the grand vision of China’s navy remains beyond reach.

Richard Bush notes that existing constraints are harder to rectify because logistical problems “reduce the time that vessels remain at sea.” Limited deployment time means it is more challenging to work through training and maintenance programs, hampering qualitative development (Bush 55). Even on well-planned training exercises, logistical constraints are evident. During the Peace Mission 2007 joint PLA exercises with Russian troops, the Chinese brought 100,000 rounds of ammunition, compared to 700,000 rounds used by the Russian forces.” A real mission would require far more ammunition as well as other supplies in addition to resupply lines to replenish battle-worn units (Fisher 175).

An efficient logistical system is mandated by China’s geography, trade routes and great power ambitions. China’s long coastline and claimed maritime zones necessitates the ability to equip and replenish patrol vessels “to show the flag.” China has increasingly long supply-lines

¹¹ Quoted in Cole p. 210.

and efficient logistical systems are essential to traverse and protect them. China has pursued agreements with South Asian nations that will help in this task, but the PLAN must still develop and implement best practices to conquer the “tyranny of distance.” Finally, China fancies itself a great power but, simply put, without competent logistics organization to supply its fleet it will be unable to defend its interests abroad.

Despite challenging logistical issues, the PLAN is preparing for blue-water readiness by taking significant steps to clarify roles and responsibilities within the armed forces. Naval bases have “been reorganized to improve provisioning, repair and maintenance, medical care, and technical systems support of naval units and activities both afloat and ashore” (Cole 68). The PLAN has also addressed its deficiencies in maintenance practices by launching a new system in 2008 to streamline repairs (Cole 96). PLAN is revitalizing underway replenishment and supply systems by adding “support vessel flotillas [...], a significant step in PLAN modernization” (Cole 72). Though this is a solid start, it is modest in comparison to the U.S. Seventh Fleet’s logistics vessels: “The Navy deploys several other auxiliaries, including twelve submarine support ships and a small repair ship, as well as two dozen ocean-going tugboats” in addition to port facilities at Okinawa and throughout the Pacific theater (Cole 108).

Aspiring Hegemons and U.S. Grand Strategy

Some international relations theorists¹² assert that interdependence among economic powers ensures long-term collaboration and apply the logic to the future of Sino-American and Chinese regional relations. This argument is empirically denied. Britain’s Navigation Acts of 1651 badly damaged the domestic economy but crushed their largest trading partner and growing

¹² See Ikenberry’s Rise of China and the Future of the West & Van Evera’s Farewell to Geopolitics

maritime rival, the Netherlands, to guarantee long-term control of the high seas.¹³ With Japan's meteoric economic rise in the 1970s and 1980s the United States began courting South Korea and China as regional balancers. Only Japan's economic stagnation and China's rapid rise reversed this pattern (Holmes & Yoshihara 4). Similarly, China's naval aspirations pose strategic problems for the United States and demand proactive policy, "China's hunt for scarce resources has raised concerns that great-power rivalries centered on energy will ensue" (Holmes & Yoshihara 5). American-led coalition building to counter China's rise will be even more powerful than East Asian military balancing.

American grand strategy dictates that the U.S. Navy controls the world's oceans while preventing the rise of regional hegemony. For nearly a century the U.S. has been willing to intervene to block aspiring hegemony from achieving regional domination when other nations are unable to check their growth. The U.S. fought imperial Japan to deny their bid for control of the western Pacific now, "China's great ambition to reestablish its historic role as the pre-eminent power in East Asia can therefore only be realized by challenging the United States of East Asian seas" (Howarth 21). PLAN's efforts to gain preeminence in South China Sea and Indian Ocean (especially along the East African and South Asian coasts) will be seen as a clear challenge to U.S. control. Fundamentally, sea-bound trade is the backbone of the American export economy and fuels long-term growth. The United States' favorable geography—with unobstructed access to the world's two largest bodies of water—allows the nation to keep powerful adversaries thousands of miles away if the U.S. Navy is able to control the sea lanes (Maritime Focus). Specifically, control of East Asian waters are fundamental to acquiring regional intelligence.

¹³ Adam Smith wrote of the Navigation Act legislation, "The wisest of all commercial regulation of England" because it did more damage to the Dutch economy than to the English economy, and in the mid-seventeenth century Holland was "the only naval power which could endanger the security of England" (Mearsheimer 48).

“America’s alliances with nations in the island chain along the Asian mainland provide the surveillance capabilities essential to protecting U.S. naval forces in the Pacific” (John Tkacik 2). The Department of Defense reaffirms the argument, “Our ability to operate in and from the global commons—space, international waters, airspace, and cyber space—is important. It enables the U.S. to project power anywhere in the world from secure bases of operation” (National Defense Strategy 13). Primacy over the high seas also allows the United States to make favorable economic and security agreements in exchange for naval protection (Stratfor). Fundamentally, the U.S.-Japanese alliance is reliant on an American security assurance to Japan that the U.S. Navy can keep Sea Lines of Communication and trade routes open. Most importantly, the United State’s benevolent command of the commons creates the foundation for global growth, earning support from regional powers, thwarting potential coalitions opposing U.S. power. MIT Professor Barry Posen argues,

“U.S. military power underwrites world trade, travel, global telecommunications and commercial remote sensing, which all depend on peace and order in the commons. Those nations most involved in these activities, those who profit most from globalization, seem to understand they benefit from the U.S. military position—which may help explain why the *world’s consequential powers* have grudgingly supported U.S. hegemony” [emphasis added] (Posen 45).

The continued ability to keep the world’s sea lanes open is of crucial importance for long-term American security. Disturbances to the global commons could prompt rival powers to question American stewardship and begin constructing an alternate order, to the detriment of U.S. global leadership. These factors necessitate the United States’ continued command of the world’s oceans.

Clearly, the United States will not merely concede its control of the seas adjacent to the Western Pacific. But how is the U.S. likely to respond to a new maritime power trying to upset the status quo? If history is any indicator, the U.S. will use “alliance encirclement” to neutralize

the threat to national interests. America has already begun partnering with Japan, South Korea, India and Australia to balance China while simultaneously enlisting Taiwan to block PLAN's hegemony by contesting China's "spheres of exclusive maritime influence" (Maritime Focus). China is constrained by its geography and by increasingly powerful rivals. A prominent Chinese author argues, "China is subject to the island chain blockade of the United States, Japan, the Ryuku Islands, Taiwan, the Philippines and Australia" (*Sing Tao jih Pao*). The United States is acting with renewed resolve to create a balancing coalition while bolstering each ally,

"gradually turning the Asia-Pacific region into its main fortress to carry out its geostrategy that is designed to keep watch of and put pressure on China from the east, south, and west. For example, it has greatly strengthened its military alliance with Japan and its strategic cooperation with India, and tried to knock together a "Mini Nato" in the Asia-Pacific region with an obvious aim to deal with China" (Yuan Zongze 3)

Alliances with Japan and South Korea are the cornerstone of U.S. security strategy in East Asia. Allies help distribute the costs of containment and add perceived international legitimacy to American actions, deflecting accusations of unilateral aggression. U.S. assistance better distributes the costs of containing China to those most affected. The United States has global commitments so it is imperative for regional allies to have competent fleets to muster "in-theater" superiority over China should hostilities commence. Crucially, coalition leadership also gives the United States a reliable foothold into East Asia, "assured access to bases hosted by U.S. allies and friends will take on even greater salience should challenges to American command of the commons arise. [...] Alliance relations in Asia will remain the centerpiece of U.S. strategy in the region" (Holmes and Yoshihara 81).¹⁴

Asymmetric Opportunities

¹⁴ Maintaining basing rights at Okinawa is a chief priority for good reason—it is estimated to take 21 days to ferry troops and supplies across the vast Pacific, an unacceptable delay for the guarantor of the global commons (Grau and Kipp).

Now that I have examined both PLAN's developments and challenges, and the U.S. logic behind forward deployments in East Asia, I will analyze China's naval opportunities. As Clausewitz reminds, war is a continuation of politics by other means. What policies is China pursuing that are most likely to require force to achieve? There is general consensus that China would deploy PLAN to both reunify Taiwan and to earn de facto recognition of its maritime territorial claims. Because the PLAN cannot yet conventionally engage the American fleet without significant risks to its hardware, I will analyze the asymmetric methods of engagement PLAN would use to conquer Taiwan and consolidate disputed territories. I contend that in the event of hostilities, PLAN is almost certain to implement a sea denial strategy against the U.S. Navy, to create a large tactical buffer to conduct operations while maintaining open rear-lines. Specifically, I will examine the role of PLAN submarines and cruise missiles, information warfare and special forces deployment.

Sea denial operations are defined by China's leadership as "actions taken to deny U.S. forces from deploying to a position in theater from which they can conduct effective operations against Chinese forces.¹⁵" PLAN's first objective at the onset of hostilities will be to slow the approach of American forces. PLAN is likely to send submarine patrols to the East China and Philippine seas while deploying sea-launch capable ballistic missiles to counter the U.S. Navy's Seventh Fleet's surface vessels, scoring "mission kills" by damaging ships and delaying their in-theater arrival. China's newly developed ballistic missile firepower will demonstrate the "high-tech end of asymmetry through the art of dissuasion and access-denial" (Kaplan 281). Missiles are relatively inexpensive to produce and significantly enhance the PRC's leverage over proximate targets—inducing caution in American naval officers patrolling within range.

¹⁵ Quoted in (Red Star 6).

Furthermore, the cruise missile launch sources have become more diverse: many PLAN aircraft are “capable of launching cruise missiles against surface ships” (Cole 111). The rapid speed, maneuverability and multiple launch options all combine to make the missiles a nightmare for American strategists. U.S. aircraft carriers (and vessels in their convoy, to a lesser extent) are especially susceptible to these systems because their large hulls make it hard to conceal their approach and provide a massive target for torpedoes and missiles.¹⁶ Missiles and submarines are likely to be the primary combatants in PLAN’s sea-denial strategy and have received massive state investments as a result (Cole 149). Importantly, all active duty PLAN submarines have mine-laying capability and the navy may have up to 100,000 mines in its inventory (Cole 105). Utilizing minefields is also a plausible way for PLAN to achieve sea denial, as minesweeping is notoriously laborious.

The Seventh Fleet’s most significant deficiency is its submarine forces. The four to six U.S. subs would approach Chinese seas defended by up to forty PLAN submarines. If China is able to determine when engagements commence the PLAN will likely prepare “submarine traps” at maritime chokepoints and in shallow sub-surface areas. Chinese naval operators will leverage their quantitative advantage by operating in coastal environments where, “defense is a relatively stronger form of combat than in the open ocean. Operations in familiar coastal, inshore, and restricted waters enable coastal navies to exploit to the maximum opportunities for deception, cover and protection. Their forces are more intimately acquainted with local conditions and are trained and equipped to operate optimally in them” (Howarth 89). Several superior U.S. technologies will be cancelled out in shallow, coastal waters. Submarine tracking techniques are much less effective in waters of varying salinity levels and temperatures. Noise-pollution from

¹⁶ During past friendly exercises, “Australian, Canadian, Chilean, and Dutch conventionally powered submarines have ‘sunk’ U.S. aircraft carriers” (Fisher 223).

aquatic life and maritime traffic, the uneven ocean floor littered with ship debris and silt combine to make antisubmarine warfare a precarious business in coastal waters (Howarth 108). These confines also create a real threat from Chinese submarine ambushes because the PLAN's diesel-electric subs can turn off all on-board machinery and rest on the ocean floor, undetectable by sonar and doppler, simply waiting for unsuspecting U.S. vessels to pass (Howarth 94). As PLAN's air independent propulsion models enter the service in greater numbers it is likely this sea denial strategy will also be used at chokepoints along the first island chain¹⁷ (Howarth 103) to extend the tactical buffer. It should be noted that the U.S. Navy is well aware of these weaknesses and has created a new Fleet Anti-Submarine Warfare Command that will focus on overcoming these issues. To improve tactical efficiency in the fleet, the navy has developed a training module to better detect conventional submarines in shallow coastal waters (Howarth 112). One directive of the new ASW Command is for deploying naval units to perform three day shallow water submarine detection simulations at Pearl Harbor (Howarth 112).

To accomplish sea denial, China could also exploit its steady cyberspace developments to negate the U.S. "information supremacy." The PRC's 2008 Defense White Paper has a "consistent emphasis on preparing to operate under conditions of information warfare, including a 'complicated electromagnetic environment.'" Many strategists speculate that the U.S. Navy's integrated computer network would be a likely target in the event of hostilities with the PLAN. Naval War College professors Holmes and Yoshihara argue that, "if China can even partially cancel out U.S. technologies that manage the fog of war, it could severely curtail U.S. forces' freedom of maneuver along Asian coastlines, [possibly inducing] U.S. forces to operate farther

¹⁷ Liu Huaqing, the visionary PLAN Admiral, defined the first-island chain "by a line through the Kurile Islands, Japan, and the Ryuku Islands, Taiwan, the Philippines, Borneo and Natuna Besar" while the second-island chain is a "north-south line from the Kuriles through Japan, the Bonins, the Marianas, and the Carolines" (Cole 174).

from Chinese shores, helping China achieve its goal of sea denial in the Chinese seas” (Red Star 93). Surely, PLAN has intently observed U.S. actions in the early stages of its last campaigns and is designing strategies to counter the American bid for in-theater information supremacy (Cole 117). The “ships, aircraft” and shore components of U.S. Navy are “linked by computers and will operate in a coherent network-centric environment, passing information back and forth and functioning as an integrated entity” (Cole 88). The ability to “manage the fog of war” through superior technological integration allows the U.S. a tremendous advantage over adversaries. But these links can also be vulnerabilities to be exploited. “Electronic attacks can also be expected against key U.S. civilian electronic infrastructure with the aim of crippling new media, communication, transportation, and financial sectors. The United States has no experience in defending against a massive and dedicated attack against its military and civilian electronic infrastructure” (Fisher 163). An especially vulnerable component of America’s armed forces is the electronic “tethers” between unmanned vehicles and operators. On a few occasions cyber attacks originating from China have targeted these tethers. Defense planners must take appropriate steps to secure the vital electronic link or risk technical failure, or hijacking (Fisher 245).

To mount a successful sea denial strategy, the PLAN would likely deploy submarine traps, missile strikes and cyber attack in addition to deploying special forces. The impact of PLA Special Forces is impossible to accurately predict but a few of their roles can be forecast with some confidence: “assassination of key civilians, military figures, and personnel such as pilots to general sabotage and preparatory attacks for airborne and amphibious assaults [on Taiwan]” (Fisher 161). One objective of the PLA’s special forces would be to sever links in the American command and control structure by attacking Pacific Command headquarters at Pearl Harbor or

by striking key nodes in Washington DC to isolate “key deployed elements of U.S. forces in the Pacific” (Fisher 163).

Regional Flashpoints

Now that I have analyzed PLAN’s developments, accompanying challenges and plausible strategy, I will contextualize these issues within two regional flashpoints: the East Asian disputed territories and the “Taiwan question.” As I will demonstrate, both test cases provide compelling evidence for my theory of *geopolitical defensive realism*.

Though Beijing peacefully resolved its borderland issues through compromise and diplomatic tact, it has maintained an unwavering approach to maritime territorial disputes. China’s long coastline and broad continental shelf have provided it grounds to file several claims: “Beijing is party to six of East Asia’s more than two dozen maritime territorial disputes: the Diaoyu / Senkaku Islands with Japan; Taiwan; the Paracel Islands with Vietnam; the Spratly Islands in the South China Sea with Taiwan, Vietnam, the Philippines, Brunei and Malaysia; water areas of the South China Sea with the foregoing nations and Indonesia and the maritime boundary with Vietnam. All of these disputes include significant economic issues” (Cole 19). China has preferred bilateral talks with concerned parties instead of international mediation through forums like ASEAN¹⁸ or the United Nations. China has also utilized unilateral legal declarations of its sovereignty over each of the maritime territories previously mentioned, including a sweeping sovereignty claim in 1992 and formalizing claims to disputed territories by elevating [Spratly and Paracel islands’] government status to municipalities” in 2007 (Fisher 127).

¹⁸ Association of Southeast Asian Nations

It is understandable that China maintains firm positions on territorial claims, the nation estimates “the production value of its maritime industries in 1978 as approximately US\$878 million; the 2008 estimate was \$439 billion, an increase from less than 1 to 9.8 percent of China’s GDP” (Cole 44). Strategic considerations, economic factors and popular opinion all support China’s bold bid to control the South China Sea. The government-run newspaper, *The People’s Daily* labeled the South China Sea a “core interest” nearly 600 times in the years 2009 and 2010. However, the term has rarely been used in official statements by China’s leaders, because they hope to avoid reigniting regional tension (Swain 4). China’s neighbors are not only worried about losing out on seabed resources, but also about China’s maritime expansion and the resulting insecurities. This perception has been fueled by China’s track record in the South China Sea. The PRC has militarized key nodes in the South China Sea by occupying and building military outposts on Fiery Cross Reef, Johnson and Gaven reefs in the Spratly islands, and building military facilities and an airbase in the Paracels (Cole 28). Forward-looking Chinese strategists predicted the importance of controlling “outposts” in the South China Sea and acted decisively when the opportunity for acquisition presented itself. China has built seven small bases in the Spratlys with plans to enable helicopter, seaplane and missile forces (Fisher 127). In fact, when the Chinese seized Mischief Reef from the Philippines, they installed sensors, communications equipment, anti-aircraft batteries, helicopter landing pads and a large dock for PLAN vessels (Cole 33). China’s neighbors worry about China’s intentions and growing capabilities. Vietnam’s Ambassador to the United States, Le Cong Phung, remarked in 2009 that “The Paracels historically belong to Vietnam, ... but China has the power.”¹⁹

Disputes between the PRC and South Korea and Japan concerning East China and Yellow seas

¹⁹ Quoted in (Cole 40)

fisheries and seabed resources also persist. Agreements have been reached between parties on the division of biological resources but fishing rights remain unresolved (Cole 41). Despite underlying tension to the north and east, the real powder-keg remains the South China Sea.

The U.S. Department of State has maintained a moderate stance on territorial disputes. “The U.S. position has been to urge peaceful resolution of the area’s territorial disputes, insisting only that freedom of navigation not be restricted” (Cole 40). The sole exception of U.S. neutrality has been its “unambiguous support” for Japan’s claim to the Senkakus²⁰. The U.S. continues to walk a fine line between supporting Tokyo and alienating Beijing. The United States’ general position of armed neutrality in territorial disputes has earned goodwill in the region. Conversely, Beijing’s coercive opportunism has hampered its “charm offensive” and given the United States the strategic initiative to begin strengthening the coalition of powerful maritime democracies to check China’s revisionist tendencies. “Japan is relatively content with the status quo in maritime East Asia, as is the United States. It is China that seeks to alter that status quo in order to establish a strategic buffer between it and perceived potential threats to its security” (Bush 123).

In many respects, the territorial disputes afflicting East Asia are mild in comparison with the risk of escalation from a Taiwan contingency. Why? Because each of the actors in the latter scenario have much more at stake. I contend that no matter the outcome of war on the Formosa Strait, a regime will fall, whether the mainland’s CCP or the democratic system on Taiwan. Once hostilities commence there is truly no turning back. Mainland China sees Taiwan as an enormous strategic and ideological asset that would secure its control over greater China for the

²⁰ Recognition came after Japan agreed to deploy peace-keeping units to Iraq and to beef up patrols after several Seventh Fleet vessels sailed to the Persian Gulf (Samuels 181).

coming generation. The significance of a Taiwan contingency is magnified by the huge value outside maritime powers place on a free and independent Taiwan. The United States and Japan both fear dire strategic consequences from the fall of Taiwan and are likely to risk full-scale war to defend the island.

The PRC's legitimacy is undermined by the continued prosperity and independence of a democratic Taiwan. Taipei offers compelling evidence to Chinese citizens that a democratic model can yield sustained economic prosperity across social classes and still protect the political freedoms that the mainland lacks. But Beijing also has security motives for its ambition to reunify: the prestigious *Science of Military Strategy* sees Taiwan as an invaluable strategic asset, "if the Taiwan problem is resolved, the door to the Pacific Ocean will be opened for Mainland China, thus breaking the first island chain" (Red Star 53). Unifying Taiwan with the People's Republic of China is thus highly desirable on a strategic and ideological level.

Until the late 1990's the aim to reunify was derided by western critics as "the million man swim" because China did not have the naval forces to challenge the American Seventh Fleet and Taiwan's air and naval forces. As discussed, the balance in East Asia is rapidly changing, and with dire consequences for Taiwan. A recent RAND report finds that: "as China's ability to deliver accurate fire across the strait grows, it is becoming increasingly difficult and soon may be impossible for the United States and Taiwan to protect the island's military and civilian infrastructures from serious damage" Ballistic missiles have become a go-to weapon for the PRC because they "can inflict outsized damage on large, expensive platforms such as aircraft carriers" (Red Star 102). As the "missile balance" tilts decisively in China's direction it will be much more difficult for the U.S. to maintain air superiority in the event of hostilities. Despite the shifting balance in its favor, PLAN must execute an enormously complex joint-operation

including “sustained waves of follow-on air and naval attacks with precision weapons to demolish Taiwan’s air, naval and ground forces” (Fisher 124).

It is instructive to consider PLAN’s amphibious forces and the obstacles they are likely to face in mounting an invasion of Taiwan. The Formosa Strait, the body of water that separates Mainland China from Taiwan, is notoriously rough water. The strait frequently experiences “high winds and seas, often above those forecast, and is susceptible to typhoons during much of the year.” But these formidable challenges pale in comparison to Taiwan’s difficult topographical composition. There are few amenable landing points on Taiwan, and most are guarded by deep “tidal ranges” and “complex currents.” The western side of the island is covered by broad mud flats that are difficult to quickly traverse and could trap tanks and landing craft in the deep silt. Taiwan’s eastern half is protected by steep cliffs, an impossible topographical obstacle for an amphibious landing. The island’s mountainous landscape helps repel hostile landings and also make missile strikes less reliable (Cole 167). These factors give American forces precious time to respond in the event of a crisis and give PRC leadership pause. China has acknowledged these challenges and is innovating to overcome them. PLAN Marines have “large rolls of ground matting” which enable “wheeled vehicles essential for early logistic support for amphibious forces” (Fisher 157). Regardless of the favorable geographic attributes, Taiwanese defense ministers warn that “20,000 to 30,000 military personnel could be killed or wounded in an initial PLA missile attack” against the island (Taiwan Central News Agency). In 2007 the Pentagon reported that up to 700 PRC fighter jets could be deployed to fight Taiwan, while Taipei’s “modern fighter inventory is not expected to increase above 330” (Fisher 137).

Contested amphibious operations remain an untested arrow in PLAN’s quill. The challenges of coordinating an amphibious landing with naval escort and missile and air strikes is

greatly compounded by the expected heavy and incrementally increasing resistance from American forces. Though strategists argue Chinese missiles will deprive Taiwan and American air supremacy, an amphibious landing on Taiwan is still an enormously complex endeavor with massive operational risks. Conventional wisdom argues that, irrespective of terrain, an attacker's forces should outnumber the defender's forces five-to-one. To meet this ratio the PLAN must land 1.25 million troops within the opening stages of the conflict. An amphibious assault on this scale would require "approximately 600 landing craft nearly two weeks to transport twenty infantry divisions to Taiwan" (Howarth 48). A two week timetable is wholly unrealistic for a successful strike especially considering U.S. support from Diego Garcia, Okinawa, Guam, the Aleutians and Pearl Harbor. Even if the island is overrun by PLA forces they must still "pacify a Taiwanese society that has truly developed an independent and democratic spirit" (Fisher 125). This crucially extends the U.S. timeframe and helps deter PRC action.

PLAN strategists are aware that an attempted invasion will lead to a distant U.S. naval blockade of Chinese imports, exports and naval vessels. Further, PRC leadership must be cognizant that a failed invasion attempt of Taiwan could lead to popular revolt on the mainland or even mutiny among PLA ranks, potentially dissolving the regime's security grip. Because of challenges resulting from China's geographic vulnerabilities and the inherent risks to the CCP's survival in attempting such an operation, I contend that the Standing Committee and Politburo will take a conservative approach, biding their time until the odds of toppling Taipei are overwhelmingly advantageous for the mainland (Fisher 217).

PRC leadership is keenly aware of their nation's dependence on the Malacca Strait²¹ for vital natural resources and their continued inability to protect the sea lanes against a U.S. closure.

²¹ "More than three times as many ships pass through the Malacca Strait as pass through the Suez Canal, and more than five times as many as pass through the Panama Canal." One-sixth of world trade passes through Malacca (Cole 26).

PLAN strategists expect the U.S. to block Chinese shipping through the Malacca, Sunda and Lombok straits in the event of hostilities. “The Malacca Dilemma” further constrains Chinese action because even a few days without open maritime routes could pose disastrous economic and social consequences for China. The U.S. has prudently invested in its relationship with Singapore to build a common vision regarding Taiwan contingencies and to sculpt Singaporean consent on the closure of the straits to Chinese maritime traffic. Singaporean acquiescence would mitigate international outcry by creating the perception of multilateralism.

Simultaneously, the U.S. is likely to deploy its forces from Diego Garcia while enlisting Australian naval forces to help close off maritime passageways through the Indonesian archipelago to block China’s other common maritime routes. China has realized its vulnerability with the southern straits and has been building PLAN’s combat radius to address these geographic weaknesses. China has established naval aviation capacities in the Spratly Islands to enable PLAN air power to reach Malacca, though probably with small sortie rates (Cole 187)²². Regardless of Chinese aspirations, PLAN will require significant development to challenge U.S. naval preponderance. The U.S. Navy controls sixteen vital maritime chokepoints across the globe, making secure logistics systems an improbable feat for a rival navy engaged in hostilities with the United States or its allies (Holmes and Yoshihara 75). China has also begun hedging its bets by investing in overland commercial routes such as the Karakoram Highway, connecting China with Pakistani ports, including Gwadar, the harbor China is financing (Kaplan 290). These overland investments only slightly reduce China’s dependence on open shipping lanes while Chinese air power within range of Malacca remains insignificant (Cole 187).

²² Bernard Cole argues that naval aviation capacities based in Burmese territory, would “provide a starting point for a Chinese role in controlling the Malacca and associated straits” (Cole 151)

Many strategists including Howarth, whom I cite, argue that a blockade, rather than outright invasion, is the likely Taiwan contingency. They point to China's area-denial capabilities, political will for reunification and Taiwan's "strong dependence on trade and maritime supplies" (Howarth 51). I contend that a Chinese naval blockade of Taiwan is sure to fail, badly damage the mainland's economy while exposing the CPC to even greater political perils. Because of China's fundamental dependence on shipping through the southern straits and its total inability to defend them from closure, a blockade on Taiwan also dramatically limits imports to China. A blockade also negates China's largest advantages- its proximity to Taiwan and superior in-theater forces. The United States would have ample warning time to deploy countering forces while reassuring Taiwan and maritime allies that America would defend open sea lanes. The U.S. has several large cargo jets forward deployed at Guam, Okinawa, Diego Garcia and Pearl Harbor that could provide emergency supplies to strengthen Taiwan's resolve through a "Taipei Airlift." International backlash against China would likely be harsh and unrelenting, negating the PRC's "charm offensive" and the fragile soft power reserves it has generated. A failed blockade is also likely to cause popular discontent, revolt or mutiny on the mainland while stirring nationalism on Taiwan and among China's neighbors and rivals. Clearly, there are large risks to the blockade strategy as well. Though I concede a naval blockade will be an accompanying strategy to an invasion of Taiwan, I dispute that it would be used as an independent strategy because of structural and geographic features.

Although the geographic vulnerabilities of the "Malacca Dilemma" surely constrain Chinese provocation, the U.S. has pursued a "dual deterrence" strategy to keep peace in the Taiwan Strait. The Bush Administration "warned Beijing not to use force against Taiwan, even as [the administration] offered reassurance that they did not support Taiwan independence. They

warned Taipei not to take political actions that might provoke China to use force, even as they conveyed reassurance that they would not sell out its interests for the sake of the China relationship” (Bush 262). Managing these relationships is certainly a diplomatic balancing act especially when one considers the implications if Taiwan were to fall: “a victorious China would likely mobilize its economic and diplomatic leverage to split Japan, South Korea, and Australia from their military alliances with Washington” (Fisher 218).

It is dubious if the shock-waves from Taipei’s fall would alter the East Asian strategic landscape from balancing against to bandwagoning with China. But the PLAN would unquestionably have a larger maritime buffer, greater access to the Pacific and a more flexible fleet able to concentrate forces without constant fear of tactical reprisal. Jiang Yu argues that, if recovered, Taiwan would serve as an excellent island base and “distinctly improve the security environment for China’s littoral defense, [and] would completely resolve the geographic limits set on Chinese naval power’s eastern entry into the Pacific Ocean” (Red Star 54).

Though few analysts believe Taipei’s fall would erase China’s “geographic limits,” it is unquestionable that reunification would cause myriad problems for Japan and likely endanger U.S. preeminence in western Pacific. It is likely that PLAN vessels, consistently exercising in the East China Sea, would push American and Japanese forces out of the surrounding waters (Bush 65). China’s exclusive economic zone would stretch eastward and PLAN would have immense leverage over adjacent sea lanes (Bush 84). Richard Samuels notes that China already has the capability to challenge Japanese sea-lanes but “unification would certainly enhance [China’s] position at Japan’s expense” (Samuels 142). If Taiwan fell to the mainland, Japan would lose significant leverage over the disputed Senkaku islands and may no longer be able to plausibly defend its sovereignty claim. Additionally, Beijing is likely to declare the sea around

Taiwan an exclusive economic zone, “in a bid to transform these waters into de facto sovereign waters” (Red Star 67). Holmes and Yoshihara add that “Taiwan is the one geographic asset that can grant Chinese forces direct access to the Pacific. “[Taiwan’s] offensive value is unmatched [...] a nation in possession of Taiwan has the freedom to cut the sea communications connecting Northeast with Southeast Asia” (Red Star 21). The recovery of Taiwan challenges the sea lanes that carry the natural resources that supply the barren archipelago while endangering its bid to control the oil deposits below the Senkaku Islands. Japan fears a double bind: act to defend Taiwan and be showered by Chinese cruise missiles or allow Taiwan to fall and lose strategic control of vital sea lanes of communication (Bush 283).

To prevent the coalition from fracturing over Taipei’s fall, the U.S. should resume arms sales to Taiwan of top “weapon systems to allow its armed forces to present a level of strength that deters Chinese attack.” The U.S. policy of “double deterrence” has decreased cross-strait disturbances and is a prudent approach but additional “recognition of Taiwan’s democratic accomplishments and of its democratic leadership” can further strengthen relations and resolve within the democratic coalition as it resists coercion from authoritarian China (Fisher 241).

The next section explores the nature of the emerging democratic maritime coalition, their geographies and accompanying threat environment, their fleet upgrades, and how these maritime democracies might collaborate to contain China.

The Emerging Coalition

Japan, mandated by its barren landscape, has been a maritime power for centuries. Yamagata Aritomo, Japan’s chief military strategist following the Meiji Restoration, “drew a ‘line of sovereignty around the archipelago and a ‘line of interest’ around the region. Japan has

historically thought of the surrounding seas as a forward defense to repel hostile actors” (Samuels 3). To protect its maritime interests, Japan has adopted a bandwagoning strategy over the last four centuries by systematically allying with the world’s greatest power in each era: the Netherlands, Great Britain, Germany and the United States (Samuels 8). Great powers are attracted to Japan because of its geostratgic position: “Japan is also an indispensable base for the defense of South Korea and a very effective intermediate point in the sea and air lanes between the United States and areas surrounding the South China Sea and the Indian Ocean. [...] Japan is ideally suited as a base for the deployment of U.S. forces” (Kosobud 44). Japan’s penchant for partnering with the strongest poles in the international system does not explain its relationship with China. Tokyo and Beijing have “never coexisted comfortably when both were strong.” Despite increasing economic ties, “political and military suspicions” persist, poisoning attempts at rapprochement (Samuels 137). This rivalry is attributable to the nation’s proximity and historical propensity to compete over influence on the Korean Peninsula.

Japan watches the PRC’s rapid military build-up with concern, especially as China has attempted to leverage its new power at the negotiation table over the disputed Senkaku Islands (Samuels 138). The threat environment facing Japan is multi-dimensional. Japan’s military modernization has been spurred by the rise of China, the rogue North Korean regime, fear of abandonment by the U.S. and Tokyo’s economic stagnation (Samuels 4). Japanese strategists have skillfully utilized North Korea’s provocations to secure defense expenditures: “Unlike China, where the business community acts as a brake on a Japanese hard line, businesses are largely indifferent to relations with North Korea (Samuels 150). The U.S.—Japanese alliance has developed over the last sixty years but the new chapter came in October 2005 when an agreement was struck to enhance “bilateral coordination... at every level from tactical units to

strategic consultations.” In practice this has meant a shared “network of satellites, missile interceptors, and radars” as well as the creation of “the alliance’s first joint command center” (Samuels 178). This monumental realignment led to the integration of U.S. and Japanese forces for the first time while establishing the platform for further advancements. “The United States is working to ensure the technological modernity of the JMSDF, which already includes Aegis-equipped ships, modern submarines, air-capable surface ships, and a modern maritime air arm trained and equipped to operate out to one thousand nautical miles from the home islands.” This tactical range is significant because it allows Japan’s forces to reach the Bering Sea to the north and the Luzon Strait between the Philippines and Taiwan to the south. Importantly, Japan’s maritime force is one of the best trained and equipped in the world, allowing the U.S. to confidently delegate important tasks like submarine tracking and missile interception in the northern seas to the JMSDF (Cole 159). One indication that Japan is up to shouldering more of the collective defense burden has been its reallocation of “assets and operations from north (Hokkaido) to south (offshore islands like Okinawa)” while also transferring its top shelf F-15 squadrons to Okinawa. This demonstrates Japan is shifting forces to defend against Chinese encroachments in the Yellow and East China seas rather than countering a now defunct Russian threat in the Kuriles (Bush 48). Likely prompted by China’s rapid submarine modernization and fleet construction, most JMSDF surface vessels are equipped for antisubmarine warfare (Bush 46). Fortunately, incentives in the U.S.—Japanese alliance are well-aligned with respect to containing China, “Japan’s vast maritime territory and Tokyo’s dogged determination to physically defend it with credible naval power stand in the way of Chinese naval ambitions within and beyond the first island chain.” Japan is tasked with defending more than 17,000 miles

of shoreline and “Japanese defense planners have always thought in terms of defending forward at sea” (Holmes and Yoshihara 64).²³

To protect its thriving maritime economy, Australia plans to acquire Aegis equipped destroyers and twelve diesel-electric submarines worth \$17 billion. This investment will significantly improve Australia’s ability to patrol the eastern Indian Ocean and lower reaches of the South China Sea (Red Star 3). “Australia deploys a small but extremely professional and capable force of surface combatants, submarines, and aircraft. It is one of the few Asian navies with the capability to support itself at sea over long distances” (Cole 160). Australia has a strong foundation to build from thanks to its competent senior leadership, mature doctrine and proper logistical support. Australia will be able to significantly boost its impact in the eastern Indian Ocean and west Pacific by adding submarines and surface vessels. The Obama Administration and Department of Defense are likely stressing this fact to Australian Prime Minister Julia Gillard with the aim of larger arms expenditure from Canberra. Specifically, American strategists see an Australian BMD system as hugely valuable to the coalition because it would enable early detection of submarine missile launches in the south Pacific while demonstrating greater buy-in from Canberra. Australia is likely using its new Aegis-equipped fleet to develop tactical competence before launching a full BMD program with the technical assistance of U.S. engineers (Red Star 115). Continued security partnership talks with Japan came to fruition in March 2007 when they finalized a “defense cooperation pact” (Samuels 170). With an eye toward China, Australia has built firm ties with the United States and Japan, hedging against the PLAN’s “disruptive capabilities.”

²³ Russia has 23,000 miles of Shoreline “primarily facing the empty arctic,” USA has 12,000, China 11,000 and India has just 4,600 miles (Holmes and Yoshihara 64).

India's geography also constrains its strategic choices. The nation is "hemmed in on land by a combination of the Himalayan Mountains and failing states from Pakistan and Nepal to Bangladesh and Burma, India can best project power at sea" (Kaplan 125). India has laid the foundation for this projection by purchasing a "retired Russian aircraft carrier and cut steel on two Indian-built flattops--creating the core of a blue water fleet" (Red Star 3). "Chinese maritime soft power needs Indian acquiescence if it is to pay dividends in the Indian Ocean basin, Yet vocal members of New Delhi's strategic community do not view the Chinese naval entry into its backyard with equanimity (Red Star 173). Former chief of naval staff, Admiral Arun Prakash, argues²⁴ that India must redouble its vessel development while "crafting viable partnerships across the region" to balance rising China. India has also designed and is building an aircraft carrier, *Vikrant*, scheduled to launch in 2017. India is planning to commission a Russian-designed carrier to enhance its sea-based air options. In 2009, India deployed its first domestically produced nuclear-powered submarine (Cole 163). India has devoted 20 percent of its defense budget for the navy, with half those funds earmarked for new ship construction (Ladwig). India is also planning to "equip seven of its frigates with the Aegis integrated system." Though estimates vary depending on the selected criteria, the Indian naval build-up could make it the world's third or fourth largest navy (Kaplan 126).

In addition to these large capital investments in the fleet, India has taken significant steps to streamline its fleet's operations. India has performed port visits to the Persian Gulf and Mediterranean Sea to build upon efficient naval doctrine and logistical supply (Cole 163). These actions demonstrate India's commitment to secure firm control over areas far beyond coastal waters. India aims to create a strategic maritime buffer throughout the Indian Ocean and is

²⁴ Quoted in (Red Star 175)

equipping its fleet to counter westward Chinese advances. In fact, India has implemented a flexible strategy to prepare for its own possible eastern move. India's navy has agreed to conduct joint naval exercises with Vietnam (Cole 181). Much like China's attempt to build distant ports and supply-stations, India is "establishing naval staging posts, listening stations, and arms relationships in and with the island nations of Madagascar, Mauritius, and the Seychelles" to extend its reach and power projection abilities (Kaplan 128).

Many Indian strategists hope to avoid alienating China for fear of losing billions of dollars in lost trade revenues and reigniting their Himalayan rivalry (Kaplan 185). Despite their possibly benign intentions, China and India are on a collision course and the subcontinent will likely be pulled to ally outright with the U.S. to protect its maritime interests. China's significantly enhanced military aid to Sri Lanka²⁵ and Pakistan has caused tensions between India and the PRC. The security transfer has given Pakistan access to "Chinese technologies necessary to enable Islamabad to manufacture Chinese-designed nuclear weapons, missiles, frigates, fighter aircraft, tanks, antitank missiles and small [surface-to-air missiles]" (Fisher 210). India views the technology transfer as flagrant security threat as Pakistan's government is both openly hostile and struggles to maintain command and control over its armed forces and defense assets. Simultaneously, intense competition over influence and natural resource contracts in Burma²⁶ are an additional flash point in India-PRC relations. India fears that China is constructing its "string of pearls" to encircle the subcontinent by creating client states on India's western and eastern fronts (Kaplan 217). China and India are intensely competing for influence

²⁵ "China has supplied Sri Lanka with fighter aircraft, armored personnel carriers, anti-aircraft guns, air surveillance radar, missiles, and rocket-propelled grenades. China's aid to Sri Lanka jumped from a few million dollars in 2005 to \$1 billion in 2008" (Fisher 210).

²⁶ Burma has massive natural gas, oil, uranium, coal, zinc, copper, timber and hydropower (Kaplan 217).

in south Asia and have overlapping strategic spheres, including the west approaches Malacca Strait, and increasingly, supply lines through the Indian Ocean. Though India remained unaligned during the Cold War, the nation perceives a larger threat from China than it did from the Soviets due to competing interests.

South Korea is again surrounded by a powerful China and Japan. To maintain its relative power in the region, “Seoul will take delivery of frigates, diesel submarines, and amphibious assault ships, not to mention state-of-the-art Aegis guided missile-destroyers” (Red Star 3) South Korea has utilized its Aegis interceptor platform to modify Nike air defense missiles into surface-to-surface missiles (Red Star 114). The Republic of Korea Navy (ROKN) boasts nearly forty surface vessels equipped with sophisticated Exocet or Harpoon surface-to-surface missiles. The ROKN has built seven Aegis-equipped destroyers which complement the growing firepower of the fleet. Seoul also has a patrol force of twelve conventionally powered submarines with significant special forces and a mine warfare capability (Cole 160). These rapid military advancements are under-girded by South Korea’s sophisticated research and development practices. But as history painfully confirms, South Korea is only shielded from Chinese power by the Yalu River. Unlike Japan, Australia, India and Taiwan, the People’s Liberation Army can invade Korea without coordinating an amphibious troop landing. As the Korean War aptly demonstrates, Chinese mechanized forces can quickly overrun fortified infantry positions. Chinese cruise missiles and significant air power can easily target Seoul and the potential for a dire blockade of the Korean Peninsula all must add to strategic anxiety²⁷. South Korea’s proximity to the PRC also explains its caution regarding the strengthening of relations between the democratic maritime powers. South Korea has the difficult task of maintaining its alliance

²⁷ Clearly, North Korea's massive land forces, fledgling missile program and unpredictable leadership all factor into Seoul's strategic logic as well, but this discussion is beyond the scope of this project.

with the United States without alienating China. Even though Taiwan's fall would significantly increase China's power over the peninsula, Seoul publicly refused to allow U.S. forces stationed on the peninsula to defend Taiwan (Fisher 227). South Korea is willing to buck-pass on the Taiwan contingency because it believes U.S. and Taiwanese forces will deter China and that it can maintain friendly relations with the mainland through neutrality on the issue. Instead of intentionally angering the mainland, South Korea would prefer to quietly modernize the ROKN and prepare to defend its interests in the Yellow Sea.

Despite minor differences, each maritime democracy is upgrading its naval hardware and operational practices to hedge its bets with respect to China. Japan, Australia, India and South Korea each value open shipping lanes and are developing the basic capabilities to ensure its commerce continues unimpeded. The maritime democracies have begun strengthening economic and security ties and building closer diplomatic and military relationships. Beginning in 2000, India's navy took part in "exercises with South Korea, Vietnam and Japan" perhaps prompted by the PLAN's announced expansion and doctrinal shift (Cole 163). More recently, India has also joined the U.S., Australia and Japan for the ongoing "Cope Thunder" air force exercises (Fisher 240). The U.S. has helped foster closer collaboration between Japan and India, the eastern and western anchors of the developing coalition. The JMSDF and Indian Navy have exchanged port calls, performed joint exercises, and requested greater PLA transparency in coordinated statements from their defense ministers (Samuels 170). China has boldly performed military exercises and PLAN patrols in disputed waters. In response to Chinese incursions, Japan's Self Defense Forces partnered with U.S. Marines to perform "well publicized joint exercises" to "practice retaking islands" (Samuels 169). The coordinated training improves combat-readiness and, though publicly denied, demonstrates U.S. resolve to stand by Japan in

the event China invades the Senkakus. Importantly, to bolster ongoing defense partnerships, the U.S. Navy is conducting live-fire exercises with both Japan and South Korea to provide the navies an opportunity to test new technologies and work together under crises conditions (Japanese BMD Balance). Though some naval exercises are scheduled months in advance, others occur within days of North Korean or Chinese provocation, a method to strengthen the alliance. With ongoing monetary aid, technology-sharing and live-fire exercises, Japan and South Korea continue to develop the core competencies necessary for more sophisticated naval deployments (Stratfor).

Though most collaboration between coalition members is productive, joint operational deployments signal stronger resolve to China. Since 2005, the U.S. and Japan have shared a command and control station and the U.S. has capitalized on Japan's long pedigree of competent antisubmarine deployment. Japan and the U.S. successfully collaborated to track and "bottle up" Soviet submarines during the Cold War. As PLAN submarine patrols increase, Japan can be expected to perform more tracking responsibilities in the Sea of Japan, Yellow and East China seas (Red Star 144). As Australia's submarine fleet grows it will likely seek distant deployments in the eastern reaches of the Indian Ocean and north of the Indonesian archipelago. Modeled off the successful Greenland-Iceland-UK barrier that kept Soviet submarines out of the Atlantic, The U.S., Japan and Australia should combine anti-submarine warfare capabilities including Aegis-equipped surface envoys, maritime patrol aircraft and extensive surveillance and underwater listening stations to contain PLAN submarines within the first island chain (Howarth 38). This model would utilize the East Asian littoral's constricting geography to control PLAN's range of motion and eventual sphere of influence. The coalition of maritime democracies would also

develop superior war-readiness capabilities while conditioning political leadership and popular support for continued collaboration.

There is also an important opportunity for joint research and development. In addition to refining doppler and sonar technologies, the U.S. has several ongoing submarine tracking projects that could revolutionize anti-submarine warfare while building the coalition's strength by enlisting top Indian, Korean, Japanese and Australian scientists. U.S. researchers have been investigating blue-green laser use for shallow water detection down to 150 meters. The U.S. is also researching a "Kelvin wake" detector that can distinguish the fluid-dynamic trail of a submarine against the waves of the sea. Similarly, the "Bernoulli hump" detects slight changes in "surface height of the sea caused by submerged objects." The U.S. also seeks to use aquatic life as an intelligence source by using "bioluminescence, caused by the reaction of plankton to the disturbance of passing submarines" as a method for detection (Howarth 94). Any one of these technologies would be a huge breakthrough because the U.S. is currently reliant on acoustic techniques that are unreliable in shallow waters and also put the vessel performing reconnaissance within firing range of hostile forces. By contrast, each of these technologies could allow space-based satellites or maritime patrol aircraft to relay images to a supercomputer to detect the presence of a submarine (Howarth 95).

Much of the development in these fields remains classified due to obvious security implications but I recommend highly-controlled collaboration with coalition members. For this research and development, allied scientist's credentials and security risks should be intensely vetted and only the most capable scientists without links to China should be allowed join to the project. To hedge against leaks and espionage, the projects should continue under American leadership and the highest security measures should continue to be deployed. Japanese scientists

have already demonstrated huge value on radar and interceptor technologies used in the BMD shield deployed by both navies in the Sea of Japan and East China Sea. Similarly, there could be large technological advancements through collaboration while stringent risk management mitigates the down side. Importantly, a joint research and development project on a crucially important project can lead to closer relations and alliance strength while potentially yielding a technological innovation that could dramatically alter submarine tracking practices.

Geography's Constraining Influence on PRC Maritime Ambitions

The PLAN's fleet-level operational development and efficient integration are essential first steps to compensate for China's difficult maritime geography. I contend that five geographic and structural factors collude to thwart China's attempt to control the waters inside the first island chain. First, The PRC must divert forces to defend its long coastline against proximate rivals; second, China has vital interests at distant maritime chokepoints that are susceptible to closure by adversaries; third, effective patrols and power projection in the East Asian seas require long lines of communication that are untenable when contested; fourth, a loose coalition of powerful maritime democracies is forming to contest China's bid for preeminence in the western Pacific; fifth, the political risks of sustained hostilities with the maritime democracies would endanger the Communist Party's regime survival, compelling détente, creating stability in the western Pacific.

First, the PLAN is constrained by securing its long coastline against powerful neighbors. The Yellow Sea Fleet must defend against potential encroachments by Japan and South Korea while the East China Sea Fleet focuses its attentions on Taiwan. The South China Sea Fleet has a more flexible doctrine but is expected to protect the approaches from the Malacca Strait while

enforcing maritime territorial claims (Cole 134). Though China has an operational coast guard, it is managed by the Ministry of Public Safety, and is of doubtful military value when facing coordinated submarine, surface and air attack. China's naval force allocation divides the PLAN into three distant theaters, undermining the ability to concentrate forces and effectively consolidate sea control.

Second, as established, China suffers from the "Malacca Dilemma," and is unable to defend open maritime passageways at the commercially vital Malacca, Sunda and Lombok straits. Problems persist if China attempts a forward-defense by deploying forces to important maritime chokepoints: "Chinese forces would have difficulty projecting power into the Strait of Malacca, especially if it were conducting simultaneous blockade or invasion operations elsewhere" (O'Rourke 136). Put simply, the forces required to open a contested passageway would require significant PLAN deployment, dramatically over-extending forces and creating tactically-disastrous coverage gaps and allowing for a costly counterstrike.

Third, the sheer size of East Asia's seas requires long supply lines for distant patrols. A cursory understanding of East Asian geography also demonstrates the vulnerability of China's military communication lines. A navy operating in the East China Sea could engage and sever the PLAN fleet from supporting the Yellow or South China Sea fleets. In essence, China faces a variation of the "multi-front" problem that has haunted Germany since its unification. Moving surface vessels 1,000 nautical miles to the edge of the first island chain only creates massive resupply lines for U.S. forces to exploit. Troublingly, China's naval division disperses air cover from PLAAF and PLAN aviation forces, "leaving surface ships vulnerable to attack from hostile air and naval forces" because planes may only sortie in one location and are unable to sustain over-water operations for prolonged periods (O'Rourke 136).

Fourth, as established, PLAN preponderance in the first island chain poses dire strategic consequences for the maritime democracies and each is upgrading their naval assets to defend national interests. The ROKN and JMSDF have top-quality submarine and surface missile fleets to contest waters in the Yellow and East China seas. Australia has a highly professionalized navy and is beginning to develop new hardware and technologies that will make it a major regional player (Mahnken and Shearer). Chinese port agreements and security partnerships in south Asia have jarred India and spurred Delhi to field an aircraft carrier fleet to extend its airpower throughout the Indian Ocean and Malacca. China's strategic problems are significantly magnified if each PLAN fleet confronts undersea, surface and airborne adversaries. And the issues are hardly manageable if adversarial navies are acting in concert with one another to concentrate forces against the PLAN's divided fleet. Each of these nations have demonstrated resolve to defend their interests through large scale arms build-ups.

Fifth, confrontational PRC naval policies would likely lead to the regime's downfall because of the perilous geographic and structural constraints facing China. As established in the analysis above, China is dealt a difficult hand when five adversarial powers are within striking distance. China's astronomical national growth rates are unsustainable and double-digit defense expenditure increases will become infeasible, hampering future PLAN developments. China will not be able to outspend and out-develop five economic heavyweights resolved to keep the western pacific navigable. Under such circumstances, nationalism and foreign scapegoats will only give the Communist Party borrowed time. Saving face early, on the regime's terms, lessens the risk of domestic backlash. Conversely, a high-profile public concession or a Chinese military defeat could lead to mass demonstrations and overthrow. The prudent strategy for China would be to adopt a balanced approach by further developing its infrastructure along its western frontier

to reap the benefits of the mineral, natural gas and oil trades. China has already begun this process and larger investments in the economic infrastructure would be a welcome development for the international community by signaling benign intentions while simultaneously reducing China's dependence on sea transport. Unlike at the East Asian littoral, a balanced turn to the west would allow China to project itself into a domain without fierce (and suspecting) competition, as Professor Ye Zicheng suggests. This is not to say that China should not maintain a navy. Every nation has the right to defend itself from incursion and China is no different. But a modest pace of naval development would ease tensions and possibly break the back of the democratic coalition. It is instructive for PRC strategists to remember that much of America's power comes from its responsible stewardship of the oceans. An unprovoked naval blockade to punish China would jeopardize American maritime leadership, and is thus a highly unlikely contingency.

China's military modernization is now seen as a threat to five powerful maritime democracies. As this balancing coalition of democracies develops and strengthens in resolve and leverages the maritime environment to contain China's rise, the PRC will be compelled to reduce the fervor of its territorial claims while discarding bold maritime practices. China is in a powerful neighborhood and its attempt to fashion a large buffer for itself threatens its rivals who fear that appeasing a revisionist China will prove suicidal. Ironically, by pursuing additional security China becomes far less secure. Ultimately, China must surrender its bid for preponderance within the first island chain because of overwhelming geographic and structural constraints.

A geopolitical defensive realist framework operates on a descriptive level because it explains the "physical playing field for those who design and execute strategy" by identifying the

causal mechanisms that constrain China's maritime ambitions and the factors bringing the democratic coalition together. My idea is more nuanced than generic balancing theories and it more accurately captures the contributing logic of "technological choices that dominate tactics, logistics, institutions, and military cultures" (Gray 165). The framework functions on a prescriptive level by informing proper risk management strategies and by predicting weak links in the force structure while informing necessary modifications to leverage geographic contingencies.

The PRC's astronomic economic growth and military modernization have fascinated scholars across disciplines. Yet, the important connections between East Asian geography and the evolution of grand strategy remain incomplete. PLAN has developed enormously since its 1985 directive, overcoming many obstacles to become a powerful regional navy. PLAN has dependable submarine and missile forces and is likely able to deploy an effective sea denial strategy against the U.S. Navy's Seventh Fleet using asymmetric measures. But as the PRC equips PLAN for larger objectives, the pull of geography is undeniable. PLAN must divide into three fleets to safeguard a large coastline, while being tasked with securing distant maritime passageways without reliable air cover or protected communication lines. Unfortunately, China's aim to create a large maritime buffer to secure itself actually threatens maritime democracies that can collaborate to contain China's growing power. Each of the five democracies is upgrading its hardware to protect its interest while antisubmarine warfare operations and research could take away China's most powerful naval assets. I predict that fierce competition and the tyranny of distance will force China to surrender its bid for maritime preponderance within the first island chain. My analytical framework suggests that China will relinquish peacefully because of the overwhelming constraints geography places on the nation

and the defensive bias of its cruise missiles, coastal patrols and nuclear weapons preclude foreign invasion. Because I assume the regime will act to continue its rule, it is likely to avoid open hostilities because escalation would stop the flow of imports to China and potentially yield catastrophic defeat for the nation's naval forces, both potentially inciting popular unrest and the potential for overthrow. But as Naval War College professors Holmes and Yoshihara warn: "Foresight is a fine thing to strive for, but sobriety is the best attitude to take toward international relations in Asia, arguably the most dynamic region of all" (Red Star 224).

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