



4-2013

# The People's Liberation Army Navy: The Motivations Behind Beijing's Naval Modernization

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## Recommended Citation

Nguyen, Binh, "The People's Liberation Army Navy: The Motivations Behind Beijing's Naval Modernization" 01 April 2013. *CUREJ: College Undergraduate Research Electronic Journal*, University of Pennsylvania, <http://repository.upenn.edu/curej/160>.

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# The People's Liberation Army Navy: The Motivations Behind Beijing's Naval Modernization

## **Abstract**

Throughout its history, China has always been a land power with strong continental traditions. As a result, the navy was rarely the subject of attention for the People's Liberation Army (PLA). Starting in the mid-1990s, however, Beijing started to devote considerable resources to improve the People's Liberation Army Navy (PLAN). This modernization has been enthusiastically pursued until today and China's improved maritime capabilities have been catching the attention of the United States and China's neighbors in East Asia. Countries are wary of Beijing's intentions in acquiring new fleets, questioning the implications this buildup may have for the security landscape in the region. This thesis aims to contribute to the growing body of literature on Chinese naval modernization by exploring the motivations behind China's aggressive seaward turn. In addition, this study will assess Beijing's accomplishments thus far with the program and compare its nautical capabilities with those of the three selected countries with naval presence in East Asia—the Philippines, Japan, and the United States. Based on these considerations, this paper will then discuss the ramifications of Chinese naval modernization for security prospects of the region.

## **Keywords**

China, People's Liberation Army Navy (PLAN), East Asian Security, Social Sciences, Political Science, Avery Goldstein, Goldstein, Avery

## **Disciplines**

Political Science

**THE PEOPLE'S LIBERATION ARMY NAVY: THE MOTIVATIONS BEHIND  
BEIJING'S NAVAL MODERNIZATION**

by  
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A thesis submitted in partial fulfillment  
of the requirement for the  
Degree of Bachelor of Arts  
in Political Science with Distinction

University of Pennsylvania  
Philadelphia, PA

April 2013

## Acknowledgements

This thesis would not have been possible without the support of many phenomenal people whom I am incredibly lucky to know. First and foremost, I would like to express my deepest gratitude to my thesis advisor, Dr. Avery Goldstein for taking the time out of his busy schedule to advise my thesis. I am constantly amazed by his intellect and the sense of humor that he uses to convey his ideas. This thesis would not be where it is without his astute feedback. I also want to acknowledge Dr. Robert Ross for introducing me to the subfield of East Asian Security. His enthusiasm for the topic is what motivates me to pursue this research in the first place. I am grateful for the mentorship of Dr. Eileen Doherty-Sil for continuously reminding me of the need to keep my thesis relevant, generalizable, and interesting. I want to thank my friends for their camaraderie through the late nights. Finally, I am grateful for my family, whose support and sacrifice have given me the opportunity to attend school in the United States.

## Abstract

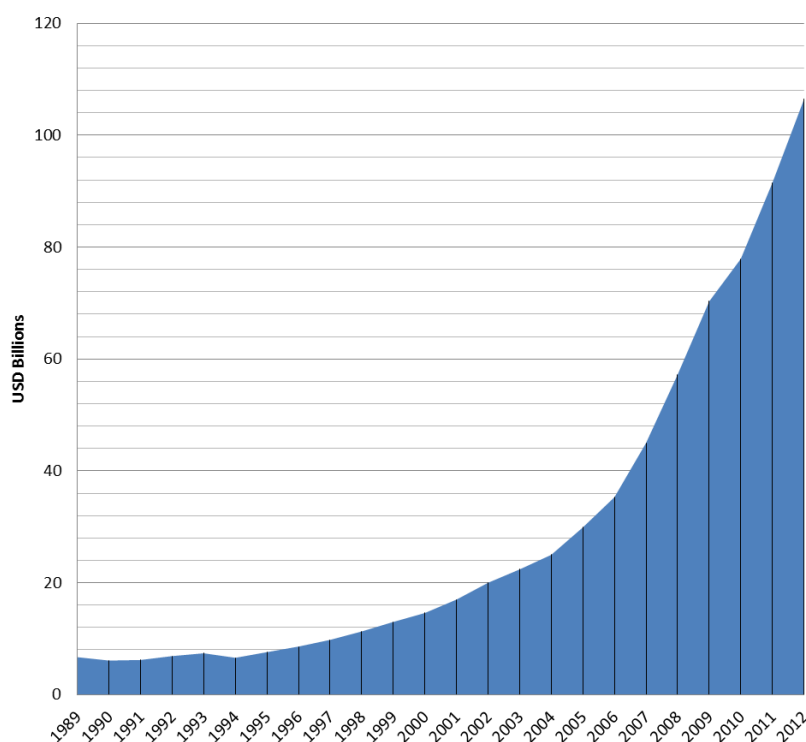
Throughout its history, China has always been a land power with strong continental traditions. As a result, the navy was rarely the subject of attention for the People's Liberation Army (PLA). Starting in the mid-1990s, however, Beijing started to devote considerable resources to improve the People's Liberation Army Navy (PLAN). This modernization has been enthusiastically pursued until today and China's improved maritime capabilities have been catching the attention of the United States and China's neighbors in East Asia. Countries are wary of Beijing's intentions in acquiring new fleets, questioning the implications this buildup may have for the security landscape in the region. This thesis aims to contribute to the growing body of literature on Chinese naval modernization by exploring the motivations behind China's aggressive seaward turn. In addition, this study will assess Beijing's accomplishments thus far with the program and compare its nautical capabilities with those of the three selected countries with naval presence in East Asia—the Philippines, Japan, and the United States. Based on these considerations, this paper will then discuss the ramifications of Chinese naval modernization for security prospects of the region.

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## Chapter One: Introduction

China has been a rising power both economically and militarily since the 1980s. In 1989, at the end of the Cold War, China's defense expenditure was \$5.86 billion.<sup>1</sup> According to the 2012 Military Expenditure Database of Stockholm International Peace Research Institute (SIRPI), China spent \$143 billion on its defense in 2011, which was 24 times more than what it had been in 1989. China's military budget now accounts for 2.2 percent of the country's gross domestic product (GDP) and 8.2 percent of the world's total military spending.<sup>2</sup>



**Figure 1. China's Published Military Budget**

Source: "China's Defense Budget," *Global Security*, last modified 2013

(<http://www.globalsecurity.org/military/world/china/budget-table.htm>).

<sup>1</sup> Masashi Nishihara, "Naval Competition and Confidence Building: A Japanese Perspective," in *Southeast Asia and the Rise of Chinese and Indian Naval Power: Between Rising Naval*

<sup>2</sup> "SIPRI Military Expenditure Database," *Stockholm International Peace Research Institute*, last modified 2013, <http://www.sipri.org/databases/milex>.

China has traditionally been a land power, whereas the U.S. has been a maritime power, and the divided spheres of influence have been keeping peace in the region. From the early 1970s to the end of the Cold War, elements of a strategic triangle composed of the United States, Russia, and China dominated the security landscape of East Asia. After the collapse of the Soviet Union, wherever there had been Soviet influence, China filled the power vacuum. On the Sino-Russian border, China's conventional military capabilities are stronger than Russia's, as Moscow's inability to preserve its military infrastructure has reduced the strength of the Russian army. Meanwhile, the United States has historically been unable to project its power onto mainland East Asia.<sup>3</sup> As a result, China had achieved dominance over mainland East Asia by 1991.

Due to China's status as a continental power, the navy was initially not a major focus of the People's Liberation Army (PLA). However, since the mid-1990s, China has been developing its navy aggressively. Understanding the implications of the People's Liberation Army Navy (PLAN) modernization is important. Over the past two decades, the rise of China has radically changed the strategic landscape in East Asia. This transformation has involved different aspects, such as the political, economic, social, and security relations among all countries in the area. Ten years ago, most strategic analysts would agree that the United States possessed an undisputed dominant strategic position in East Asia, acting as the most important economic, political, social, and security partner of the majority of states in the region. Today, the United States still plays an important role in East Asia, yet various signs have suggested that China has become a serious challenge to American supremacy in the regional order.<sup>4</sup>

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<sup>3</sup> Robert S. Ross, *Chinese Security Policy: Structure, Power, and Politics* (New York: Routledge, 2009), 47.

<sup>4</sup> Mingjiang Li and Dongmin Lee, introduction to *China and East Asian Strategic Dynamics: The Shaping of a New Regional Order*, ed. Mingjiang Li and Dongmin Lee (Lanham, MD: Lexington Books, 2011), vii.



The specific research question is as follows: what has motivated China to expand its navy since the mid-1990s? This period marks China's strong push for a blue-water navy. According to the British Maritime Doctrine BR1806, a blue-water navy is defined as a maritime force capable of operating across "the deep waters of open oceans".<sup>5</sup> This thesis will then expand on the overarching theme by examining two specific sub-questions. First, what has the Chinese naval modernization actually accomplished? Second, how does the Chinese navy actually stack up against nearby maritime capabilities in the region, namely the Philippines, Japan, and the United States? These two sub-questions are strongly linked to the main question because as this thesis will eventually argue, China's modernization is driven mostly by concerns about external threats. Therefore, answering these key questions is critical toward discerning the implications of the PLAN modernization.

The necessary evidence to answer these questions will be both quantitative and qualitative. Quantitative data includes recorded figures, such as changes in the number of the PLAN submarines/aircraft carriers, technical features of China's maritime capabilities, etc. Quantitative data allows objective comparisons on key metrics, which helps understanding the relative strength of China's navy. Meanwhile, qualitative data includes observable facts, such as changes in China's behavior in maritime areas since its modernization process, its shifts in foreign policies toward countries that have direct interests in the Asia Pacific, etc. Qualitative data will help determine whether there is a correlation/causal relationship between the motivations being examined and PLAN modernization.

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<sup>5</sup> "British Maritime Doctrine BR1806," *Defence Academy of the United Kingdom*, last modified 2004, <http://www.da.mod.uk/colleges/jscsc/courses/RND/bmd>.

## Chapter Two: History of the People's Liberation Army Navy (PLAN)

China's navy started to come into its own with the Chinese Communist Party's (CCP) win over the Kuomintang (KMT) in 1949, forming the People's Republic of China (PRC). This section will examine the history of the PLAN from 1949 to 1995, when the navy's modernization was not Beijing's first priority. A more detailed discussion of the PLAN's development since 1996 will be included in Chapter Five.

### The Early Years: 1949-1954

After the CCP's victory in 1949, the KMT Navy kept harassing coastal installations, landing agents, assaulting merchant craft and fishing vessels, and threatening invasion of the mainland on a large scale. Because the PLA at the time did not have the abilities to project power across even the narrow Taiwan Strait, the PRC aimed to protect its coastline and island territories against both the United States and the KMT regime in Taiwan.<sup>6</sup>

The East China People's Navy was formed on May 1, 1949. The new Navy's mission was to "safeguard China's independence, territorial integrity and sovereignty against imperialist aggression [,] ... to destroy the sea blockade of liberated China, to support the land and air forces of the People's Liberation Army in defense of Chinese soil and to wipe out all remnants of the reactionary forces."<sup>7</sup> The Soviet Union also provided aid to the new PLAN during Mao's 1949-50 visit to Moscow. Mao wanted to use half of the initial Soviet loan of \$300 million to buy naval equipment. The PLAN also ordered two cruisers from Great Britain and tried to acquire surplus foreign warships through Hong Kong. The outbreak of the Korean War nullified these attempts, however, as Mao diverted the Navy's ship-

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<sup>6</sup> Bernard D. Cole, *The Great Wall at Sea: China's Navy in the Twenty-First Century* (Annapolis, MD: Naval Institute Press, 2010), 7.

<sup>7</sup> General Zhang Aiping, quoted in Gene Z. Hanrahan, "Report on Red China's New Navy," U.S. Naval Institute *Proceedings* 79, no. 8 (1953), 84.

acquisition funds to buy aircraft for the fight in Korea. China obtained mostly small vessels to fight the coastal danger from Taiwan. The PLAN initially purchased four old Soviet submarines, two destroyers, and patrol boats. The new navy also possessed about ten corvettes; forty U.S. landing craft; and several river gunboats, minesweepers, and yard craft taken from the KMT. In addition, the Soviets helped the Chinese set up a large shore-based infrastructure, including ship yards, naval colleges, and coastal fortifications.<sup>8</sup>

The young Navy encountered many difficulties. First, the PLAN lack trained personnel and amphibious ships. Second, budgetary limitations and Western hesitation restricted purchase of equipment from foreign sources. The Soviets exacerbated this challenge, as they insisted on payment for their ships, even though most of them were outdated and of little value to the USSR. Third, the PLAN did not have air power and was just starting to organize a modern maintenance and logistical infrastructure. These problems were not unanticipated, and continued to plague the PLAN during its first half-century of existence.<sup>9</sup>

### **1955-1959**

The Korean War demonstrated the importance of naval forces, but Maoist ideology hindered further modernizations. The allies' amphibious landing at Inchon in September 1950 was a turning point of the war, and their command of the sea permitted free employment of aircraft carriers and battleships to bombard Chinese and North Korean troops. The significance of naval forces was further illustrated when a planned amphibious offense on the east coast port of Hungnam in October 1950 had to be aborted because North Korea mined the harbor. This resulted in a significant maritime loss for the UN forces. After

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<sup>8</sup> Bruce Swanson, *The Eight Voyage of the Dragon: A History of China's Quest for Seapower* (Annapolis, MD: U.S. Naval Institute Press, 1982), 196.

<sup>9</sup> Cole, *Great Wall At Sea*, 10.

witnessing the effects of modern weaponry in Korea, some PLA's leaders wanted to alter Mao's theory of "people's war" to be "people's war under modern conditions."<sup>10</sup> The most prominent advocate of this change was Peng Dehuai, who was in charge of Chinese forces in Korea. He reportedly said "people's war and such stuff are outdated [at sea because] in battle the Navy relied upon the tonnage of its vessels, the caliber of its guns and the slide rule."<sup>11</sup> However, Maoist ideology prevailed, emphasizing concentration on large ground formations, with the Navy continuing in a secondary role.

The PLAN remained effective as a coastal defense force within ten years of its establishment. On October 1950, the Navy's First Aviation School was created at Qingdao. The Navy's air force—the People's Liberation Army Navy Air Force (PLANAF), or Naval Aviation—was set up in 1952. The mission of the unit was to support anti-surface ship and antisubmarine defensive operations. Originally, the PLANAF owned 80 aircrafts, including MiG-15 jet fighters, Il-28 jet bombers, and propeller-driven Tu-2 strike aircraft. As a whole, the PLAN operating forces were arranged into three fleets. The North Sea Fleet was the fleet closest to the U.S. naval forces stationed in Japan, and consisted of the majority of the submarine force. The East Sea Fleet faced the American-supported KMT troops across the Taiwan Strait, and was the busiest and most crucial fleet. The South Sea Fleet still faced a hostile Southeast Asia Treaty Organization (SEATO) once the Vietnamese-French War concluded in 1954, but the maritime situation was relatively peaceful.<sup>12</sup>

### **1960-1976**

Major international crises in the 1960s further restricted China's advancement of the PLAN. The most significant event was the Sino-Soviet split, first indicated during Nikita

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<sup>10</sup> Ibid, 10.

<sup>11</sup> Swanson, *Eight Voyage of the Dragon*, 206-8.

<sup>12</sup> Cole, *Great Wall at Sea*, 12.

Khrushchev's October 1959 meeting with Mao in Beijing, and finally occurred in mid-1960s when the Soviet Union withdrew its advisors from China. Other important international events in the early 1960s were the war with India, the reemerging Vietnam conflict, turbulence in the new African states, and revolutionary waves throughout Southeast Asia. These prominent international occurrences did not require direct involvement from naval forces, and consequently did not justify the need for modernizing the PLAN. The PLAN experienced a general halt in development as military projects were neglected.<sup>13</sup> The only exception was Beijing's heavy investment in development of nuclear-armed missiles and nuclear-powered submarines to launch the missiles, despite the ideological conflict of the late 1950s and the 1960s. This investment was primarily driven by Mao's determination for China to acquire nuclear capabilities. Nevertheless, these were national instead of PLAN projects, and did not considerably increase the Navy's ability to acquire the necessary resources for modernization.<sup>14</sup>

Domestically, the Great Proletarian Cultural Revolution, lasting from 1966 to 1976, inhibited naval developments. A review of global naval growth reveals that PLAN modernization was delayed by 20 years due to the restrictions and personnel losses that resulted from this political instability.<sup>15</sup> Other than the evolution of nuclear power, the PLAN either overlooked or came late in joining common developments in most warfare areas, including guided missiles in anti-air (AAW), anti-surface (ASUW), and anti-submarine warfare (ASW); automation and computerization of command, control and communications (C3); the usage of shipborne helicopters; automation of gunnery and sensor systems; and even the appearance of automation and gas turbine technology in ship proposal. Even at the

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<sup>13</sup> Thomas J. Christensen, *Useful Adversaries: Grand Strategy, Domestic Mobilization, and Sino-American Conflict, 1947-1958* (Princeton: Princeton University Press, 1996), 202.

<sup>14</sup> Cole, *Great Wall at Sea*, 13.

<sup>15</sup> John W. Lewis and Litai Xue, *China's Strategic Sea Power: The Politics of Force Modernization in the Nuclear Age* (Stanford: Stanford University Press, 1994), 206ff.

end of the Cultural Revolution, modernization of the navy was still obstructed by the “Gang of Four.” Jiang Qing, Mao’s widow, criticized naval missile development. Another member of the clique, Zhang Chunqiao, asserted an anti-Navy position and supported the “continentalist view”.<sup>16</sup> Maoist orthodoxy remained the dominant strategic thinking. As a result, the PLAN remained an extension of the Army, and modernization was hindered as people’s war represented revolutionary soldiers inculcated with Mao’s ideas as superior compared to technology and weaponry.

### **After the Cultural Revolution: 1976 -1980s**

In the 1970s, the PLAN’s primary mission was protecting against potential Soviet attacks from the northeast. China regarded the Soviet naval revolution as an immediate threat, although the Soviet buildup was instigated by defensive concerns and directed mainly at the United States. The Soviet Pacific Fleet almost doubled in size during the 1970s and consisted of Moscow’s latest combatants, including nuclear-powered and nuclear-armed surface ships and submarines. Beijing’s concerns about Soviet maritime power were further reinforced when Moscow displayed its new global navy in the 1975 Okean exercises. As Moscow’s maritime forces continued their naval presence in the Indian Ocean and North Arabian Sea, Chinese interests threatened by the Soviet Navy in the late 1970s and 1980s included sea lines of communication (SLOCs) crucial to Beijing’s growing merchant marine.<sup>17</sup>

Despite the threat from the Soviet Navy, several factors remained obstacles to the development of a large, modern PLAN after the Cultural Revolution. Domestically, one element was the political repercussions of this political crisis, as Hua Guofeng and Deng Xiaoping competed for the leadership of China after Mao’s death. This struggle did not end until 1980, with Deng eventually winning. After arresting the Gang of Four in October 1976,

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<sup>16</sup> Ibid, 223.

<sup>17</sup> Cole, *Great Wall at Sea*, 14.

Hua had appeared to gravitate away from a rigidly continentalist stance, at least so far as to highlighting the PLAN's nuclear deterrent mission. Nevertheless, in 1980, Deng restated the Navy's task as a coastal defense force, and that view was preserved for the next five years. Deng insisted, "Our navy should conduct coastal operations. It is a defensive force. Everything in the construction of the navy must accord with this guiding principle."<sup>18</sup> Overall, the post-Mao power struggles confined the resources that could be allocated to naval modernization.

International events after the Cultural Revolution also limited the PLAN's growth. Most importantly, the alliance shifts among China, the Soviet Union, and the United States as a result of Sino-American rapprochement allowed Beijing to depend on the United States—the world's largest and most modern navy—to respond to the Soviet maritime threat. Because the U.S. Navy was in the region, China did not have the need to expand its own naval forces. Second, with the U.S.-Japan security treaty, Beijing's concerns about future Japanese aggression were alleviated because of Tokyo's strategic relationship with Washington.<sup>19</sup> Third, the Sino-Vietnamese War in early 1979 did not require substantial naval efforts. As a result, these international occurrences did not provide the necessary justifications for the PLAN to acquire more money after Beijing reviewed its military budget.

Major changes in China's international environment in the 1980s soon transformed Beijing's view of the PLAN, and maritime power was a more significant factor of national security strategy by the end of the decade. Beijing's second maritime priority, after the Soviet threat, was settling offshore territorial disputes. In 1974, successful measures against South Vietnamese naval forces had helped China secure possession of the contested Paracel Islands.

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<sup>18</sup> John W. Lewis, Di Hua, and Litai Xue, "Beijing's Defense Establishment: Solving the Arms-Export Enigma," *International Security* 15, no. 4 (1991), 101.

<sup>19</sup> Fred Hiatt, "Marine General: U.S. Troops Must Stay in Japan," *Washington Post*, March 27, 1990, A14, quoted Lieutenant General Henry Stackpole, USMC, commander of the 3<sup>rd</sup> Marine Expeditionary Force on Okinawa, expressing how the United States is "a cap in the [Japanese] bottle."

However, this fight revealed that other claimants to the islands and reefs of the South China Sea would not simply accept Beijing's territorial demands. In addition, the Soviet naval base at Cam Ranh Bay was growing as the 1980s began, alarming China of a Soviet threat that could come from the South China Sea.<sup>20</sup>

These factors contributed to the PLAN force structural changes. First, the Marine Corps, first created in 1953 but disbanded in 1957, was re-erected in December 1979 as an amphibious assault unit and commissioned to the South Sea Fleet. The PLAN's small amphibious forces were gathered in the south as the fleet's training regimen consisted of "island-seizing" drills. For example, in 1980, a large-scale fleet exercise in the South China Sea centered on the seizure and defense of islands in the Paracels.<sup>21</sup> Second, the Chinese navy focused for the first time on Chinese-constructed warships. Even though China still depended primarily on Soviet designs, the Luda-class guided-missile destroyers, Jianghu-class frigates, and Houjian fast-attack missile boats illustrated a significant growth in China's maritime capability. The submarine force contained the first Chinese-built nuclear-powered attack submarines as well as about sixty conventionally powered boats. A seaborne nuclear deterrence unit remained under development, following Mao's call for a navy that could "make it dreadful to the enemy."<sup>22</sup>

### 1980-1995

During the 1980s, the coastal concentration of China's blossoming economy and military facilities induced naval expansion and modernization. Three factors were mainly responsible for the growth of PLAN in this decade. First, at an expanded Central Military

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<sup>20</sup> Cole, *Great Wall at Sea*, 15.

<sup>21</sup> Tai Ming Cheung, *Growth of Chinese Naval Power: Priorities, Goals, Missions, and Regional Implications* (Singapore: Institute of Southeast Asian Studies, 1990), 28.

<sup>22</sup> David G. Muller Jr., *China's Emergence as a Maritime Power* (Boulder, CO: Westview Press, 1983), 171.



Commission (CMC) meeting in 1975, Deng assessed the military as “overstaffed, lazy, arrogant, ill-equipped, and ill-prepared to conduct modern warfare.”<sup>23</sup> This opinion was further reinforced by the PLA’s mediocre performance during the Sino-Vietnam conflict in 1979. Second, Beijing evaluated in 1985 that the Soviet Union no longer represented a major threat to China in terms of global nuclear war, and that in the future the PLA would have to anticipate “small wars on the periphery” of China.<sup>24</sup> This emphasis on a periphery that extends to maritime as opposed to a strict continental strategic view enhanced the PLAN’s ability to procure resources within the PLA. Third, the rise to prominence of General Liu Huaqing accelerated this modernization. He advocated a three-stage maritime strategy for China. This strategy provided the basis for PLAN officers’ future plans for a larger, more modern Navy. Most importantly, Liu reorganized the PLAN, reestablished the Marine Corps, enhanced bases and research and development facilities, and revamped the school system.<sup>25</sup>

As the focus of the modernization program in the mid-1980s was shifted to cultivating the quality of the PLA, the CMC prioritized the development of the second-generation warships as an important area of its effort for naval innovation. By the end of the Eighth Five-Year Plan (1991-95), the PLAN had built a fleet of 50 major surface combatants. Among the navy’s 18 guided missile destroyers, 17 were DDGs Luda (Type-051), with only one DDG Luhuhu (Type-052). A series of more cutting-edge destroyers (Type-052A, B, and C), which are based on Type-052, would be developed in the next 10 years. The PLAN’s most significant improvement, however, was in its frigate fleet. Besides the 26 Type-053 Jianghu-

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<sup>23</sup> Deng Xiaoping, “Speech at an Enlarged Meeting of the Military Commission of the Party Central Committee,” July 14, 1975, in Joint Publications Research Service: *China Reports*, no. 468, 31 October 1983, 14-22 (site now suspended).

<sup>24</sup> Alfred D. Wilhelm Jr., *China and Security in the Asian Pacific Region through 2010*, (Alexandria, VA: Center for Naval Analysis, 1996), 32ff.

<sup>25</sup> *Ibid*, 43.

class frigates, the PLAN introduced four FFGs Jiangwei (Type-055) and two FFGs Jiangwei-II (Type-057).<sup>26</sup>

Simultaneously, the PLAN attempted to upgrade its outdated submarine unit. By 1995, the old Romeo-class submarines were still the primary division in the PLAN submarine forces, with 29 units of SS Romeo in service. Nonetheless, the PLAN acquired additional 10 units of SS Ming (Type-035), one SS Kilo, five SSN Han (Type-091), and one SSBN Xia (Type-092) to the submarine fleet. Even though the total number of submarines decreased from 117 units in 1985 to 46 units in 1995, the combat capability of the PLAN submarine unit multiplied as the bigger and more capable Ming-class attack submarines started to displace the smaller and outdated Romeo-class counterparts.<sup>27</sup>

Retrospectively, the PLAN's expansion program in 1980-1995 centered primarily on boosting its ability to protect China's offshore areas in the North, East, and South China Seas. The Chinese naval forces consolidated and revamped its units by retiring a large number of older ships, replacing them with more advanced and Chinese-built destroyers, frigates, submarines, supply ships, landing ships, and other smaller vessels to its fleets. After acquiring the new Luda and Luhui-class destroyers, Jiangwei-class frigates, Ming-class diesel, and Han-class nuclear-powered submarines, the PLAN became increasingly confident in projecting power in the North, East, and South China Seas.<sup>28</sup>

Nevertheless, the PLA's naval modernization effort made little progress in the early 1990s. Regardless of the much-publicized modernization campaign Deng advocated, China's navy for the most part still operated as a coastal defense force. For instance, China revealed its first indigenously constructed modern destroyer, the *Luhui*, in 1995. This vessel was

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<sup>26</sup> Jing Huang, "The PLA Navy: Expanding Into Uncharted Waters," in *Southeast Asia and the Rise of Chinese and Indian Naval Power: Between Rising Naval Powers*, ed. Sam Bateman and Joshua Ho (New York: Routledge, 2010), 23.

<sup>27</sup> Ibid.

<sup>28</sup> Ibid.

mocked as a mere hodgepodge of Western technology that was already at least one generation behind warships from the developed countries. Observers contended that since the *Luhu* did not have modern self-defense systems, the vessel would simply be a target for an advanced naval power.<sup>29</sup> More generally, even after improving its AAW and ASW capabilities, the PLAN as a whole still lacked the capacity to defend China in the modern maritime warfare since it lacked area air and missile defense abilities. By the end of the 20<sup>th</sup> century, Chinese naval forces still could not undertake combat missions in blue water. As a result, its operation was restricted to offshore within the defensive area of the land based air and missile forces.

Holmes and Yoshihara argued that several reasons were responsible for the seeming lag in modernization in this period. First, constructing warships is inherently intensive in software, manpower, and capital. Improvements to hardware or personnel performance often are not noticeable for long periods of time. Second, the Maoist legacy of people's war remained more persistent than expected. Ideological correctness and the long-lasting interests of the predominant PLA ground-force factions delayed navy resources allocation. Third, post-Tiananmen sanctions banning Western arms sales slowed China's modernization plans. By most accounts, it was not until the 1996 Taiwan Strait crisis that Beijing started to commit significant attention and resources to a naval development that is geared toward a specific contingency.<sup>30</sup>

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<sup>29</sup> James R. Holmes and Toshi Yoshihara, *Chinese Naval Strategy in the 21<sup>st</sup> Century: The Turn to Mahan* (New York: Routledge, 2008), 88.

<sup>30</sup> Ibid.

### Chapter Three: Preliminary Literature Review

#### Mahanian Sea-Power Theory

In order to understand the motivations behind China's modernization, it is important to grasp the attractiveness of sea power. Holmes and Yoshihara contend that the writings and theories on sea power of Alfred Thayer Mahan provide a framework for explaining China's emerging maritime intentions.<sup>31</sup> Mahan understood sea power to be a geographical necessity and a decisive factor in history. Sea power was not directly analogous to naval power, as he characterized this concept in both economic and military terms. In his most famous work, *The Influence of Sea Power upon History, 1660-1783*, he described his number one concern to be domestic prosperity. Welfare at home required robust, domestic industrial production, colonies and market overseas, and merchant and military shipping. These were what he considered the "pillars" of sea power.<sup>32</sup> Mahan also indicated that the sea would always be superior to the land as a medium for transferring goods between markets. Furthermore, he regarded these advantages to be permanent. Therefore, economics supported the logic for a strong navy and overseas expansion.

Commercial and geographic expansion also brought important political and military implications. Mahan remarked that, "Sea power is but the handmaid of expansion; it is not itself expansion."<sup>33</sup> Overseas commerce carried the potential for conflict with fellow maritime powers that also sought the same advantages. As a result, there was a need for naval forces to protect the merchant fleet against foreign navies. He argued that, since "commerce thrives by peace and suffers by war, it follows that peace is the superior interest" of great

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<sup>31</sup> Holmes and Yoshihara, *Chinese Naval Strategy in the 21<sup>st</sup> Century*, 5.

<sup>32</sup> Alfred Thayer Mahan, *The Influence of Sea Power Upon History, 1660-1783* (Boston: Little, Brown and Company, 1890; reprint, New York: Dover Publications, 1987), 71.

<sup>33</sup> Alfred Thayer Mahan, *The Problem of Asia* (New York: Harper's New Monthly Magazine, 1900; reprint, Port Washington: Kennikat Press, 1970), 7.

maritime nations. Therefore, a navy was naturally the logical product of peaceful maritime trade.<sup>34</sup> Forward bases were essential to allow warships to operate “forward,” strategically located along the SLOCs. In Mahan’s thoughts, naval power, economic health, and geographic expansion fall under the umbrella of sea power.

### **The Attractiveness of Sea Power**

Norman Friedman states that the basis of seapower is an aggregate of three factors: mobility, staying power, and the tracklessness of the sea.<sup>35</sup> Mobility allows the navy of a distant country to travel throughout the world, as long as its ships possess the requisite endurance, or as long as the supplies can be restocked at sea. Mobility is the core of seapower, as it is simpler to transfer any heavy weight by sea than over land. Friedman states that this is why seaborne air bases can travel at 30 knots across the world; it also explains why submarines can transport a mass of intercontinental ballistic missiles (ICBMs).<sup>36</sup> British naval historian J. David Brown used to state that during World War II, convoy battles could defend distances tantamount to that from London to Warsaw, but required only about the manpower of a battalion, and may be a few dozen aircraft. In addition, mobility permits ships to focus firepower, as they can hold more firepower per ship. A few warships can produce a great deal of fighting power. On the other hand, land armies are large because many individuals and vehicles are necessary to sustain the same mass firepower.

Second, seapower has a unique staying ability. Any other form of military usually needs local support in the form of base rights. On the other hand, a navy can, at least in theory, function for a prolonged period offshore without any permission. In addition, not

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<sup>34</sup> Mahan, *Influence of Sea Power*, 26.

<sup>35</sup> Norman Friedman, “Shaping Naval Power: Implications of the Naval Build-Up in Asia,” in *Southeast Asia and the Rise of Chinese and Indian Naval Power: Between Rising Naval Powers*, ed. Sam Bateman and Joshua Ho (New York: Routledge, 2010), 131.

<sup>36</sup> 1 knot = 0.514 meters per second = 1.151 miles per hour.

needing base rights moderates the political implications of naval activities. Even though maintaining a naval force at a great distance is costly, there is no need to obtain permission for it. Furthermore, withdrawing a naval force does not cause the serious public implications affiliated with forsaking army or air force bases. Most importantly, the free use of the sea alters the map, resulting in all states with seacoasts much more contiguous to each other than most might think.<sup>37</sup>

Third, seapower is trackless. If countries encounter attacks from the sea, they must arrange for different possibilities. Tracklessness provides a navy with finite quantities of ships and personnel significant advantage. It also makes amphibious attacks rewarding, as long as the preparation time for such an assault is not too long, and the preparations are not too conspicuous. In the 1991 Gulf War, for instance, the presence of a strong U.S. amphibious unit forced the Iraqi troops to defend an extensive distance along the Gulf coast. This essentially tied down substantial ground forces just to guarantee there would be enough ratio of strength along weak spots on the coast. As a result, the U.S. amphibious unit was able to exercise an asymmetric influence on the Iraqi defense despite that it was never actually employed.<sup>38</sup>

### **The Influence of Mahanian Thoughts on PLAN's Modernization**

Liu Huaqing, widely considered the founding father of China's contemporary navy, was a crucial individual in China's turn to the sea. As the key engineer of this strategic adjustment, he laid the groundwork for a clear national vision and naval strategy that his successors would rely on in order to call for a new and modern navy. Particularly, Liu based his analytical framework on Mahan's works. In Liu's memoir, he specifically references *The Influence of Sea Power Upon History*, praising it as one of the most coherent assessments

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<sup>37</sup> Ibid, 132.

<sup>38</sup> Ibid, 133.

ever written of ideas pertaining to command of the sea and naval strategy. Most importantly, Liu agrees with Mahan that the prosperity of a nation is closely tied to command of the sea. This notion has arguably influenced Chinese naval strategy until modern times. Command of the sea must be exerted both in peacetime, expediting the international trade that creates wealth, and in wartime, to oversee sea communications with the theater of conflict.<sup>39</sup>

In December 1985, Liu formally announced China's new maritime strategy. He maintained that naval goals must be encompassed within China's national security strategy. The principal objectives were defending territorial sovereignty, legal maritime rights, and the natural resources of the Yellow Sea, East China Sea, and South China Sea. An adept navy was the natural solution to these goals. Liu also argued that as a strategic service, the PLAN had to independently cultivate doctrine and capabilities appropriate to its particular operational environment. Six central pillars constituted Liu's maritime strategy.<sup>40</sup>

- *Offshore Defense.* Liu ambiguously designates offshore operations or "area defense" as happening within the first island chain, which is formed by the Aleutians, the Kuriles, Japan's archipelago, the Ryukyus, Taiwan, the Philippines, and Borneo.<sup>41</sup>
- *Strategic Defense.* Liu advocates that Beijing should devise a nautical stance that carries a strategically defensive line. This is consistent with China's long-standing foreign policy of peaceful coexistence.
- *Operational Area.* In the short term, Liu conceives that Chinese naval activities would be restricted largely within the first island chain. As China's maritime capabilities develop, he plans to expand the reach of the PLAN toward the second island chain.

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<sup>39</sup> Liu Huaqing, *The Memoirs of Liu Huaqing [Liu Huaqing Huiyilu]* (Beijing: Liberation Army Publications, 2004), 432-3.

<sup>40</sup> Ibid, 427.

<sup>41</sup> "Annual Report to Congress: Military Power of the People's Republic of China," *Office of the Secretary of Defense*, last modified 2009, [http://www.defense.gov/pubs/pdfs/China\\_Military\\_Power\\_Report\\_2009.pdf](http://www.defense.gov/pubs/pdfs/China_Military_Power_Report_2009.pdf).

- *National Objectives.* Liu pronounces that his strategy attains China's primary policy priorities: maintaining national unity, defending territorial integrity, guarding access to natural resources, deterring imperial aggression from the sea, and preserving peace in the Asia-Pacific region.
- *Peacetime Missions.* Liu states that his peacetime priority will protect territorial integrity (including Taiwan as a top priority), reinforce diplomatic aims, continue credible deterrence, contend with regional contingencies, and aid other socialist countries coping with seaborne threats.
- *Wartime Missions.* Liu encourages the PLAN to act either independently or jointly with the other services, beating enemies at sea, safeguarding Chinese SLOCs, and executing nuclear retaliatory operations under unified command.



**Figure 2. The First and Second Island Chains**

*Source:* “Annual Report to Congress: Military Power of the People’s Republic of China,”

*Office of the Secretary of Defense, 2009*

([http://www.defense.gov/pubs/pdfs/China\\_Military\\_Power\\_Report\\_2009.pdf](http://www.defense.gov/pubs/pdfs/China_Military_Power_Report_2009.pdf)).



## Naval Nationalism?

Holmes and Yoshihara' work on the influence of Mahanian theory on the Chinese navy and Norman Friedman's description of the attractiveness of seapower seem to suggest that China's nautical turn was primarily driven by strategic interests. However, Robert S. Ross disagrees with this notion. He argues that "nationalism, rather than security, is driving China's naval ambition."<sup>42</sup> Ross thinks that naval nationalism is a manifestation of prestige strategies, whereby the Chinese government seeks international success to strengthen domestic popularity. He points to several high-profile programs that China leaders have accomplished over the past decade that serve as symbols of great power status: the Three Gorges Dam, the largest dam in the world (in spite of its environmental and demographic problems); the completion of the Beijing air terminal, the largest air terminal globally; the development of a jumbo jet to contest against Boeing's 747 aircraft and the European Aeronautic Defense and Space Company's A380 "double-decker" aircraft; and the domestic construction of Shanghai-to-Beijing high-speed train. Military nationalism is another program central to the CCP's domestic prestige. Chinese analysts interviewed by Ross believed that following the August 2008 Beijing Olympics and the 2008-09 economic crisis, the aircraft carrier would serve as China's next high-profile nationalist project.<sup>43</sup>

While an aircraft carrier certainly carries a symbol of prestige, Ross oversimplifies China's motivations in asserting that naval nationalism is completely driving China's naval development. He overlooks historical, strategic, territorial, and economic interests that are fundamental to China's seaward drive. The next section of this paper argues that these four broad reasons account for China's naval modernization.

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<sup>42</sup> Robert S. Ross, "China's Naval Nationalism Sources, Prospects, and the U.S. Response," *International Security* 34, no. 2 (2009), 46.

<sup>43</sup> *Ibid*, 64.

## Chapter Four: China's Motivations Behind the PLAN Modernization

### Historical Reasons

For most of its history, China has been a continental power, as it never encountered threats from the sea prior to the 1830s. However, from the 1830s to 1949, China was invaded by both Western and Japanese forces, and most of the invasion in this period came from the sea.<sup>44</sup> In 1842, Great Britain threatened to close Chinese internal commerce with its navy during the First Opium War, causing the Qing Dynasty to surrender in 1842. The following Treaty of Nanking opened the five treaty ports and ceded Hong Kong to Great Britain. In the 1880s, the French defeated China's fleet during the Sino-French War, ending Chinese influence in Indochina. In 1895, Japan decimated Chinese naval forces in the embarrassing First Sino-Japanese War, forcing China to cede Taiwan to Japan. This historical experience of the "Century of Humiliation" has been one of the driving factors behind China's overall national security doctrine over the last 60 years, and naval strategy is no exception.<sup>45</sup>

Even though the decline of China's land power capability can explain China's sequence of military losses in this period, some Chinese scholars attribute these embarrassments to China's lack of maritime power. One scholar reasons that China's defeat in the Sino-Japanese war and Japan's consequential occupation of China demonstrate that "ignoring the oceans is a historical error we committed, and now and even in the future we will pay a price for this error."<sup>46</sup> Likewise, scholars at Jinan University in Shandong Province

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<sup>44</sup> Michael McDevitt and Frederic Vellucci Jr., "The Evolution of the People's Liberation Army Navy: The Twin Missions of Area-Denial and Peacetime Operations," in *Sea Power and the Asia-Pacific: The Triumph of Neptune?*, ed. Geoffrey Till and Patrick C. Bratton (New York: Routledge, 2012), 77.

<sup>45</sup> Carl Otis Schuster, "China: Its Maritime Tradition and Navy Today," in *Sea Power and the Asia-Pacific: The Triumph of Neptune?*, ed. Geoffrey Till and Patrick C. Bratton (New York: Routledge, 2012), 70.

<sup>46</sup> Yang Yong, "Fahui Lu Hai Jianbei Youshi shi Daxing Hai Lu Fuhe Guojia de Biran Xuance" [Giving full play to having superiority on both land and sea is the inevitable choice

assert that the deterioration of the Chinese Navy resulted in China's defeat in the Opium War and contributed to the "series of treaties that humiliated the nation and forfeited its sovereignty."<sup>47</sup> These scholars state the lesson for China is straightforward: China must adhere to Mahan's advice and acquire sea control capabilities.<sup>48</sup>

### **Strategic Reasons**

In order to determine strategic reasons that motivate China to modernize its navy, it is crucial to first understand China's general security environment. According to Avery Goldstein, China's neighbors are "great, or potentially great, powers, as well as a few minor powers" that share a long history with China.<sup>49</sup> Even though none of these countries may be Beijing's enemies today, China needs to prepare for potential problems that might result from decline in relations with its neighbors. China directly borders Russia and Vietnam, with whom China had serious border conflicts, as China fought the Soviet Union in 1969 and Vietnam in 1979.<sup>50</sup> Even though China's conflicts with Russia and Vietnam were primarily continental, China still remembers the Soviet naval presence in Vietnam's Cam Ranh Bay during the Cold War. China's political dispute with Taiwan and the likelihood that it could lead to a military confrontation involving the United States makes the Taiwan Strait arguably the most crucial security challenge on China's naval boundary. Furthermore, China is wary of

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of a large land-sea country], *Heilongjiang Shehui Kexue* [Heilongjiang social science], no. 3 (2004), 28.

<sup>47</sup> Cao Yunhua and Li Changxin, "Meiguo Jueqi de Haiquan Yinsu Chutan" [A preliminary analysis of the naval factor in the rise of the United States], *Dangdai Yatai* [Contemporary Asia-Pacific], no. 5 (2006), 28.

<sup>48</sup> Ni Lexiong, "Haiquan yu Zhongguo de Fazhan" [Naval power and China's development], in *Zhanlue Yanjianglu* [Lectures on strategy], ed. Guo Shuyong (Beijing: Beijing Daxue Chubanshe, 2006), 113.

<sup>49</sup> Avery Goldstein, *Rising to the Challenge: China's Grand Strategy and International Security* (Stanford, CA: Stanford University Press, 2005), 29.

<sup>50</sup> Gregory Veeck et al, *China's Geography: Globalization and the Dynamics of Political, Economic, and Social Change* (Lanham, MD: Rowman & Littlefield Publishers, Inc., 2007), 80.

maritime countries such as Japan, South Korea, the Philippines, Australia, and Thailand, who have been strengthening bilateral military relations with the United States in recent years.<sup>51</sup> These strategic concerns are driving China's naval build-up. Specific concerns about Taiwan, Japan, the Korean Peninsula, and the United States will be discussed in this section.

### Taiwan



**Figure 3. The Taiwan Strait**

Source: "Taiwan Maps," *University of Texas at Austin*, last modified 2013

(<http://www.lib.utexas.edu/maps/taiwan.html>).

<sup>51</sup> Goldstein, *Rising to the Challenge*, 102.

Taiwan embodies the most explicit, most pressing obstacle to any Chinese ambitions in the Western Pacific. A brief glance at the map reveals that Taiwan's geographic position introduces a natural limitation on naval power projection from the mainland. The Chinese landmass expands outward into the Pacific in a wide arc stretching from the Shandong Peninsula in the north to Hainan Island in the south. However, the island chain that spans from the Japanese home islands to the Philippine archipelago contains Taiwan, which potentially threatens China's vital sea communications. As Taiwan locates directly opposite the centerpoint of the mainland's coastline, the island conceivably chokes China's entrance to surrounding waters. One Chinese analyst observes,

The island of Taiwan holds the most crucial "central position" on the Chinese coast, as well as the "central position" in the first island chain. It overlooks the Western Pacific shipping lane outside of the first island chain from the Bering Strait and the Aleutian Islands to Jiaxi, Longmu, and the Xunta Strait, guarding the Bashi, Balintang, and Taiwan Strait, and controlling the throat to the shipping lane from the Malacca Strait north through the South China Sea, which gives it a very advantageous geographic location of great strategic value.<sup>52</sup>

Taiwan's location threatens to hinder Chinese navies based to its north and south from joining forces. Furthermore, it is the most prominent barrier to collective military action outside the first island chain. To guarantee that China can operate without restriction within the Taiwan Strait and project power beyond the island-chain perimeter, Beijing must develop a naval force with the capacity to traverse the waters surrounding Taiwan at will.<sup>53</sup>

Beijing is also wary about the risk of Taiwan being used as a United States naval base. When President Harry Truman decided to send the Seventh Fleet to the Taiwan Strait after North Korea initiated its attack on South Korea, Taiwan became more geopolitically important. General Douglas MacArthur famously claimed that Formosa (Taiwan) was "an unsinkable aircraft carrier," able to project power along China's coastline as part of

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<sup>52</sup> Li Yaqiang, "What is Japan Doing Southward?" *Jianchuan Zhishi*, June 6, 1997, 7-8.

<sup>53</sup> Alan M. Wachman, *Why Taiwan? Geostrategic Rationales for China's Territorial Integrity* (Stanford, CA: Stanford University Press, 2007), 33.

America's containment strategy.<sup>54</sup> Chinese observers have quoted MacArthur's speech verbatim as proof of America's continuous attempts to contain China.<sup>55</sup> Another Chinese analyst reasoned, "Taiwan is a potential which the US could use in the western Pacific. The use of Taiwan could enable effective control of SLOCs between Northeast Asia and Southeast Asia and the Middle East."<sup>56</sup> This could limit Beijing's access to important resources and the access of the PLAN to the high seas.

Chinese strategists have expressed concerns about these enduring geopolitical hurdles and recommended China to assume a more geostrategic adjustment toward its maritime environment. Lieutenant General Mi Zhenyu argued that China's distinctive position as a power in Eurasia and the Western Pacific necessitated a geostrategy that encompassed both continental and oceanic features. He called for China's decisive turn to the sea, "China's political and economic focus lies on the coastal areas... For the present and a fairly long period to come, China's strategic focus will be in the direction of the sea." Regarding China's policy, Mi prescribed that "Having historically emphasized land and taken sea development lightly, China needs to foster a maritime consciousness among its citizens, develop a maritime economy, and develop its naval security forces."<sup>57</sup>

While Taiwan poses a geopolitical disadvantage to China as long as the island stays independent, Taiwan carries with it strategic opportunities for Beijing as well. Just as Korea is a land bridge that allows power to flow between eastern Eurasia and Japan, Taiwan is a stepping stone from which China can project naval influence outward into its eastern and

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<sup>54</sup> Courtney Whitney, *MacArthur: His Rendezvous with History* (New York: Knopf, 1956), 378-9.

<sup>55</sup> Wang Weixing, "Who Is the One That Wants to Push Taiwan into War?" *Jiefangjun Bao*, March 15, 2000. See also Bi Lei, "Sending an Additional Aircraft Carrier and Stationing Massive Forces: The U.S. Military's Adjustment of Its Strategic Disposition in the Asia-Pacific Region," *Renmin Wang*, August 23, 2004.

<sup>56</sup> Lin Zhibo, "New Academic Analysis: Will There Be an All-out US Intervention in a Taiwan Strait War?" *People's Daily Online*, July 20, 2004.

<sup>57</sup> Mi Zhenyu, "A Reflection on Geographic Strategy," *Zhongguo Junshi Kexue* (China Military Science) 1 (February 20, 1998), 6-14.

southern peripheries. If Taiwan reunified with the mainland, the island could act as a base from which Chinese vessels could access the open seas. Taiwan possesses an excellent position contiguous to the sea lanes, enjoys plentiful resources in terms of human and technological capital, and would be defensible in wartime. Under the mainland, Taiwan would establish a new defense perimeter, effectively propelling China's frontiers seaward.<sup>58</sup>

Because of the geopolitical significance of Taiwan, losing Taiwan could have dire repercussions for China.<sup>59</sup> Zhang Wenmu, a leading scholar and proponent of Chinese sea power, speculated that the loss of Taiwan would possibly lead to China's subsequent loss of the disputed Spratly and the Diaoyu/Senkaku islands to other countries. At the same time, he did not specify the actual mechanism that would result in such a pressing scenario. He insisted, "Losing these regions implies that China will lack the basic space for ensuring national political and economic security that will be essential to China's rise as a great power."<sup>60</sup> Losing Taiwan will not only negatively affect territorial sovereignty, but also domestic development. Zhang observed that the hub of Chinese economic activities has shifted toward the southeastern coast, which is adjacent to the Taiwan Strait. He argued, "If Taiwan and other islands are not within China's control, China will not be able to guarantee the border security of commercial centers such as Shanghai, Guangzhou, and Shenzhen."<sup>61</sup>

Taiwan itself was the trigger point of China's massive naval modernization in the 20<sup>th</sup> century. The precipitating event was the 1995-1996 Taiwan Strait Crisis. The Chinese leadership was worried about the possibility of a pro-independence government being elected in Taiwan. Beijing then fired short-range ballistic missiles into the ocean near Taiwan in order to deter Taiwan from pursuing independence. The United States indicated its intent to

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<sup>58</sup> Holmes and Yoshihara, *Chinese Naval Strategy in the 21<sup>st</sup> Century*, 58.

<sup>59</sup> Wachman, *Why Taiwan*, 36.

<sup>60</sup> Zhang Wenmu, "Sea Power and China's Strategic Choices," *China Security* (Summer 2006), 25.

<sup>61</sup> *Ibid.*

defend Taiwan against a Chinese use of force by sending two aircraft carrier battle groups to the waters surrounding Taiwan. The PLAN's inability to directly confront American aircraft carriers showed China's incapability to successfully employ force against Taiwan (other than firing missiles at the island) if the United States were to actually exercise its military capabilities.<sup>62</sup> American intervention also demonstrated to the PLAN the significance of sophisticated weapons.<sup>63</sup> Consequently, Beijing started to devote attention and resources toward expanding military capabilities almost exclusively for a future Taiwan contingency, particularly to deter Taipei from declaring independence and to deter Washington from intervening.<sup>64</sup>

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<sup>62</sup> Richard A. Bitzinger and Roger Cliff, "PLA Modernization: Motivations, Directions, and the Revolution in Military Affairs," in *China and East Asian Strategic Dynamics: The Shaping of a New Regional Order*, ed. Mingjiang Li and Dongmin Lee (Lanham, MD: Lexington Books, 2011), 24.

<sup>63</sup> Cole, *Great Wall at Sea*, 148.

<sup>64</sup> Holmes and Yoshihara, *Chinese Naval Strategy in the 21<sup>st</sup> Century*, 36.



## Japan



**Figure 4. Japan**

Source: "Japan Maps," *University of Texas at Austin*, last modified 2013

(<http://www.lib.utexas.edu/maps/japan.html>).

Some Chinese strategists consider the Japanese archipelago with as much concern as they do Taiwan. Chinese concerns about Japan's geography can be explained in two ways. First, Japan represents another naval impediment. The natural arrangement of the Japanese home islands, the Ryukyus, and the outlying Pacific islands and atolls serves as a serious challenge to any Chinese ambitions that relate to Taiwan and the north Pacific. The archipelago's length, along with its proximity to eastern Eurasia, essentially results in friction between Japan and any continental power seeking naval expansion. As the northern end of America's defense perimeter during the Cold War, Japan served as a bulwark against Soviet

expansion in the Far East, isolating Vladivostok, Moscow's only warm-water outlet to the Pacific, from ready access to the high seas.<sup>65</sup>

Second, Japan's intrinsic great-power capacity, its immense maritime defense area relative to its small landmass, and its gradual departure from pacifism would make Tokyo a fierce opponent should a regional nautical competition occur. Tokyo usually formulates its central national attributes in maritime terms, referencing the famous maxim that "Japan is a small island nation lacking resource endowments and is thus highly dependent upon seaborne commerce for its well being."<sup>66</sup> Japan must always stay aware of the surrounding waters. This consensus Japanese mindset about its geographic condition has strategic implications for Chinese analysts who desire control over sea zones close to Japan. Contrary to Taiwan, Japan is not an entity that China thinks it can simply command on its own terms. As a result, Beijing looks at Japan with wary eyes.

The enduring geographic impediments Japan faces and the consequent policy responses deserve thorough attention because they have defined and will continue to influence Sino-Japanese interactions. The four main home islands span 1,200 miles, approximately the entire north-south length of the U.S. eastern seaboard. This archipelago, which extends from the northern tip of the Hokkaido home island to the Ryukyu Islands to the south, conceives a long crescent enveloping the eastern flanks of China and Russia, Eurasia's greatest land powers. From this geographic context, Japan obstructs naval power projection from many major Chinese harbors north of Xiamen.<sup>67</sup> Japan's island chain confines the gateways of the Bohai Sea, which feeds into the port of Tianjin, and of the Yellow Sea, which holds Qingdao, home to the East Sea Fleet headquarters. To the south, the 750-mile-long Ryukyu chain locates across from Shanghai, the symbol of China's economic

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<sup>65</sup> Ibid, 62.

<sup>66</sup> Ibid.

<sup>67</sup> Peter J. Woolley, *Japan's Navy: Politics and Paradox 1971-2000* (Boulder, CO: Lynne Rienner, 2000), 8.

miracle, while the southernmost island of the chain, Yonaguni, is positioned less than 80 miles from the east coast of Taiwan.

The Ryukyu chain's geographic attribute is even more threatening to China in military terms. The shortest path for Chinese naval vessels moving from the East China Sea into the Pacific is through the Ryukyus. However, Japan – possibly even more than Taiwan – presents an obstacle to China's aspiration of a navy that can traverse freely beyond the first island chain. The East Sea Fleet and the North Sea Fleet based in Dalian are always under Japanese surveillance based in the south. This reality was best illustrated by the incident over China's submarine intrusion into the territorial waters of the Ryukyus. In November 2004, a *Han*-class nuclear-powered attack submarine, which has reportedly departed from Qingdao and circumnavigated Guam, infringed on Japanese territorial waters by sneaking in between the Miyako and Ishigaki islands. This occurrence incited Tokyo to announce a rare public demand for an apology from Beijing. Even though the Chinese submarine was able to reach Japanese waters, Taiwanese sources suggested that the Japanese Maritime Self-Defense Force (JMSDF) had been following the submarine since the instant it exited Chinese waters.<sup>68</sup> If Japan and China were to have a naval confrontation, Japan's ability to gather intelligence by monitoring its waters would give Tokyo the strategic advantage over China.

Lastly, Japan's vast maritime domain and Tokyo's insistence to militarily safeguard it with strong naval capabilities hinder Chinese naval objectives within and beyond the first island chain. Tokyo is burdened with 17,000 miles of coastline to protect. In comparison, India's shoreline is 4,600 miles long, China's is 11,000 miles, America's is 12,000 miles, and Russia's is 23,000 miles (mainly facing the Arctic, which is mostly safe from naval attacks). Due to the lack of strategic depth, as Honshu—the largest island of Japan—is merely 160 miles wide from west to east at its widest point, Japanese defense thinkers have always

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<sup>68</sup> Melody Chen, "Japan and US 'Dissuade' China," *Taipei Times*, March 23, 2005, 2.

prepared for forward defense at sea.<sup>69</sup> China's predicament is further exacerbated as Tokyo occupies thousands of offshore islands, with the most distant ones situated near the Tropic of Cancer. Since Japan's maritime defense area encloses an area as vast as NATO-Europe along with the entire Mediterranean, Japanese naval obligations stretch beyond the first island chain. The JMSDF clearly states that it must defend "backwards" to its Pacific rear areas, which fall under the second island chain according to Liu Huaqing's thoughts. As a result, China faces a naval buffer zone that is Japan.

This geopolitical assessment has three implications for Sino-Japanese strategic relationship. First, while continental powers have the choice of expanding seaward or withdrawing landward, Japan does not have such option. Hence, Tokyo's focus will be fixated on its surrounding waters, making China the most likely object of Japanese surveillance in the future. Second, Tokyo cannot avoid potential frictions with nearby neighbors that pursue their own maritime objectives. Because Japan is situated near enough to the Eurasian continent, it has to be attentive to any realignment or imbalance in regional sea power. Third, if Tokyo were forced to safeguard its naval interests by itself (i.e., without being able to rely on the support from the navy of its ally, the United States), Japan would have to construct a maritime force far bigger and more powerful than its current modestly sized, already world-class, ships.<sup>70</sup> All of these considerations stimulate Beijing to develop its naval forces in order to deal with potential maritime threats that could come from Japan.

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<sup>69</sup> Duk-ki Kim, *Naval Strategy in Northeast Asia: Geostrategic Goals, Policies and Prospects* (London: Frank Cass, 2003), 168-9.

<sup>70</sup> Holmes and Yoshihara, *Chinese Naval Strategy in the 21<sup>st</sup> Century*, 65.

*The Korean Peninsula*



**Figure 5. Korean Peninsula**

Source: "Korea Maps," *University of Texas at Austin*, last modified 2013

(<http://www.lib.utexas.edu/maps/korea.html>).

In order to understand China's strategic concerns about the Korean Peninsula, it is crucial to comprehend the peninsula's geopolitical characteristics. The Korean Peninsula, enclosed by great powers, has been an object of geopolitical aspirations throughout history. The peninsula attached to Eurasia, is plagued with geographic elements that tend to instigate

predatory behavior on the part of great powers.<sup>71</sup> It points out toward the Japanese archipelago like the proverbial “dagger aimed at the heart of Japan.” In addition, the peninsula is “a bridge” for Japan to project its power toward mainland Asia.<sup>72</sup> These enduring geographic attributes have long been the drivers of international relations and wars in Northeast Asia.

Korea’s geopolitical destiny of being invaded by foreign powers intimately ties to China’s security. China and Korea share a long land border, and the history of the peninsula is rife with armed conflict, which usually threatened Chinese interests. From Hideyoshi’s campaigns against the Koreans to Russian and Japanese invasions in the late 19<sup>th</sup> and 20<sup>th</sup> centuries, foreign control over or occupation of the peninsula always came at the expense of China. Likewise, critical battles at sea, including those that occurred during the Sino-Japanese and Russo-Japanese wars, resulted in China’s loss of control over Korea. Additionally, the Korean War was another event that showcased the geopolitical significance of the peninsula. Prior to the Chinese intervention, strategic discourse between Mao and Stalin highlighted the geographic essence of the threat China faced, as both leaders portrayed the Korean Peninsula as a “springboard”<sup>73</sup> or “bridgehead on the continent.”<sup>74</sup> Two scholars from the Institute of Northeast Asia Studies at Yanbian University emphasize Korea’s geopolitical significance to China:

The Korean Peninsula has a close relationship with China in terms of geopolitical and national security interests and plays a decisive role in China’s security strategy. The Korean Peninsula borders on Northeast China – a place of great strategic importance

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<sup>71</sup> Toshi Yoshihara and James R. Holmes, “China, a Unified Korea, and Geopolitics,” *Issues & Studies* 41, no. 2 (2005), 119-70.

<sup>72</sup> Robert H. Scales Jr. and Larry M. Wortzel, *The Future US Military Presence in Asia: Landpower and the Geostrategy of American Commitment* (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 1999), 7.

<sup>73</sup> Joseph Stalin to Mao Zedong, 4 October 1950, in *Cold War International History Project Bulletin* 14/15 (Winter 2003-Spring 2004), 375.

<sup>74</sup> Chen Jian, “In the Name of Revolution: China’s Road to the Korean War Revisited,” in *The Korean War in World History*, ed. William Stueck (Lexington, KY: University of Kentucky Press, 2004), 109-10.

for China – and faces North China and Central China across the sea. Therefore, in the past imperialist powers regarded the peninsula as a springboard and channel for invading China, and as a result the peninsula became a strategic area for foreign forces threatening China's security.<sup>75</sup>

Furthermore, they view North Korea as a strategic buffer that separates China from U.S. troops stationed in South Korea. Andrew Scobell argues that most Chinese defense thinkers are still attached to the traditional view of North Korea as a buffer, "Chinese leaders and analysts continue to refer to the relationship between China and North Korea as being one of 'lips' and 'teeth': if the Korean 'lips' are gone, then China's 'teeth' will get cold."<sup>76</sup> This buffer mentality is inherently a continental view, as the long and porous Sino-Korean border subjects China's industrial heartland and resource-rich northeastern provinces to vulnerabilities. However, according to Thomas Kane, China's traditional preoccupation with its "overland flank" on the Korean Peninsula have mostly diminished since the end of the Cold War.<sup>77</sup> In reality, China is more concerned about Korea's maritime aspect.

Korea possesses an advantageous naval location. Its coastline spans for about 1,000 miles, in close distance to all seaborne actions near northern China. A careful examination of the map reveals that any sea route leading into or out of the Bohai Sea, the center of maritime commerce for northeast China, will have to pass through Korea's coastal flank. From Beijing's perspective, the narrow seas between Korea and the Shandong Peninsula create a large choke point that is 150 miles across and links Bohai Sea to the Yellow Sea. The western coast, under North Korean administration, establishes an even tighter choke point that is about 80 miles across, confined by the Shandong and Liaoning peninsulas at the mouth of

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<sup>75</sup> Jiang Longfeng and Piao Yanhua, "Status Quo of and Prospects for Sino-North Korean Relations and China's Strategy for the Korean Peninsula Issue," *Dongbeiyu Yanjiu* [Northeast Asia Studies] (November 25, 2002), 21-8.

<sup>76</sup> Andrew Scobell, *China and North Korea: From Comrades-in-Arms to Allies at Arm's Length* (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, March 2004), 17-18.

<sup>77</sup> Thomas M. Kane, *Chinese Grand Strategy and Maritime Power* (London: Frank Cass, 2002), 109-12.

Bohai. To the south, Cheju Island, under South Korean jurisdiction, situates at the intersection of the Tsushima Strait, the Yellow Sea, and the East China Sea. Certainly, the Korean land bridge exposes China's SLOCs.<sup>78</sup>

The Korean Peninsula presents another complication for China in thinking about future naval operations. First, a unified Korea aligned with the West would aggravate Beijing's worries about Korea. The distance between Nampo in North Korea and Tianjin in China is roughly 425 miles. Hence, even modest power projection capabilities based along Korea's west coast would possess the capacity to destroy, interfere, or monitor traffic entering and exiting the Bohai Sea. If Washington achieved its stated ambition to retain force presence on a united peninsula, this possible threat to China maritime interests would become intensified. Second, geoeconomics is another concern. In northern China, Qingdao, Tianjin, and Dalian ports are three of the biggest, busiest, and fastest growing container hubs in the area. Qingdao holds the headquarters of the North Sea Fleet and a major naval base. Tianjin acts as the business gateway to Beijing. Dalian hosts a large-scale shipyard. Lushun, close to Dalian, is also a major naval base.<sup>79</sup> Again, all of these ports face the western flank of the Korean Peninsula and would be within theoretical striking range of even modest units based on the peninsula.

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<sup>78</sup> Holmes and Yoshihara, *Chinese Naval Strategy in the 21<sup>st</sup> Century*, 68.

<sup>79</sup> Charles M. Perry et al., *Alliance Diversification and the Future of the U.S.-Korean Security Relationship* (Dulles: Brassey's, 2004), 138-9.



*The United States*



**Figure 6. United States Military Presence in East Asia**

*Source:* John Glaser, “US Reconstructs Former Military Bases Across Asia-Pacific,” *AntiWar*, June 23, 2012 (<http://news.antiwar.com/2012/06/23/us-reconstructs-former-military-bases-across-asia-pacific/>).

The United States is undoubtedly China’s greatest maritime concern. Regarding geography, size and quality of economic and military assets and also its position of leadership in a compact network of alliances and institutions, the United States is the leading power of

the Asia-Pacific region and has remained so for at least 60 years.<sup>80</sup> The United States has maintained the largest fleet in the region since at least World War II. Currently, half of the U.S. Navy fleet of 285 ships is present in the Pacific, while the other half is in the Atlantic. 6 of the 11 aircraft carriers are already stationed in the Pacific. Under President Obama's pivot to Asia, the U.S. would shift cruisers, destroyers, submarines and other warships so that 60% of American navy will be based in the Western Pacific by 2020.<sup>81</sup> Beijing views the strengthening of an already powerful U.S. fleet in the Western Pacific as an American effort to challenge a rising China.

Furthermore, China worries about the United States' role as an "extra-regional balancer." America's dominant naval presence in the Western Pacific enables it to serve as a broker between powers to manage rivalries and alleviate tensions. Smaller countries have traditionally welcomed the United States into the region and relied on America for reassurance against bigger and possibly hostile neighbors and to "keep the peace" by moderating conflicts.<sup>82</sup> For instance, in the ASEAN Regional Forum foreign minister meeting in July 2010, former Secretary of State Hilary Clinton declared that a peaceful resolution of territorial disputes in the South China Sea is in the "national interest" of the United States.<sup>83</sup> However, an example that most demonstrates China's long-lasting displeasure with the United States' enduring role as an "extra-regional balancer" would be the 1996 Taiwan Strait Crisis, when the dispatch of two carrier groups off Taiwan brought the crisis to an immediate

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<sup>80</sup> Patrick C. Bratton, "The United States as a Pacific Power," in *Sea Power and the Asia-Pacific: The Triumph of Neptune?*, ed. Geoffrey Till and Patrick C. Bratton (New York: Routledge, 2012), 19.

<sup>81</sup> Julian E. Barnes, "U.S. Plans Naval Shift Toward Asia," *Wall Street Journal*, 2012, <http://online.wsj.com/article/SB10001424052702303552104577439943137674490.html>.

<sup>82</sup> Thomas Christensen, "China, The U.S.-Japan Alliance, and the Security Dilemma," in *International Relations Theory and the Asia-Pacific*, ed. John Ikenberry and Michael Mastanduno (New York: Columbia University Press, 2003), 26-7.

<sup>83</sup> Kevin R. Johnson, "Maritime Power and the Asia-Pacific: U.S. Naval Perspective," in *Sea Power and the Asia-Pacific: The Triumph of Neptune?*, ed. Geoffrey Till and Patrick C. Bratton (New York: Routledge, 2012), 48.

halt. As a result, Beijing is wary of the U.S. naval dominance that allows America to dictate scenarios in the Western Pacific at will.

Most importantly, China is concerned about the likelihood of being contained by the United States' navy and its allies in Asia. America's regional allies include Japan, Australia, South Korea, Thailand, and the Philippines. The United States possesses powerful military forces based in these countries, which put the Chinese territory within the striking distance of U.S. forces.<sup>84</sup> In recent years, America has been reinforcing its alliances. In 2011, President Obama signed an agreement with Australian Prime Minister Julia Gillard, allowing the U.S. to deploy 2,500 Marines in Darwin, a frontier port and military outpost across the Timor Sea from Indonesia.<sup>85</sup> In 2012, the U.S. reaffirmed its commitment to Japan in the Diaoyu/Senkaku dispute under the Treaty of Mutual Cooperation and Security.<sup>86</sup> In addition, the United States has been continuing to participate in numerous bilateral and multilateral exercises with regional states, including *Talisman Sabre* with Australia, *Balikatan* with the Philippines, *Keen Sword/Keen Edge* with Japan, *Cobra Gold* in Thailand, and *Rim of the Pacific* (RIMPAC) with multiple states.<sup>87</sup> Chinese strategists are highly sensitive to U.S. strengthening of its military alliances, worrying that the naval capabilities of the U.S. alliance network might be used to contain China from projecting its power seaward.

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<sup>84</sup> Phillip C. Saunders, "China's Role in Asia," in *International Relations of Asia*, ed. David Shambaugh and Michael Yahuda (Lanham, MD: Rowman & Littlefield Publishers, Inc.: 2008), 129.

<sup>85</sup> Jackie Calmes, "A U.S. Marine Base for Australia Irritates China," *New York Times*, November 16, 2011, <http://www.nytimes.com/2011/11/17/world/asia/obama-and-gillard-expand-us-australia-military-ties.html>.

<sup>86</sup> Mark E. Manyin, "Senkaku (Diaoyu/Diaoyutai) Islands Dispute: U.S. Treaty Obligations," *CRS Report for Congress*, January 22, 2013, <http://www.fas.org/sgp/crs/row/R42761.pdf>.

<sup>87</sup> Bruce Vaughn, "U.S. Strategic and Defense Relationships in the Asia-Pacific Region," *CRS Report for Congress*, January 22, 2007, <http://www.fas.org/sgp/crs/row/RL33821.pdf>.

## Territorial Reasons

A third reason for China's naval modernization is the ongoing maritime territorial disputes in East Asia. The two most prominent disputes occur in the South China Sea and East China Sea. Most of these disputes have involved exercises of force between claimants. China, in particular, has been engaged in naval standoffs. As a result, it is arguable that China's naval modernization is geared toward enhancing its hard power and coercive credibility in these disputes.

### *South China Sea*



**Figure 7. The South China Sea**

*Source:* Banyan, "The South China Sea: Troubled Waters," *Economist*, August 6, 2012

(<http://www.economist.com/blogs/analects/2012/08/south-china-sea>).

In the South China Sea, China's territorial claims clash with those of Vietnam, the Philippines, Malaysia, Brunei, and Indonesia. Beijing considers most of the South China Sea, including the Nansha (Spratly), Xisha (Paracel), and Dongsha (Pratas) Islands, and the surrounding waters, as Chinese territory. However, Vietnam claims all of the Nansha Islands and Xisha Islands; the Philippines claims most of the Nansha Islands and Huangyan Islands (Scarborough Shoal); Malaysia claims parts of the Nansha Islands; and Brunei claims an area of the South China Sea that encompasses Riflemanbank and Louisa Reef. Indonesia does not claim any of the islands that Beijing deems to be Chinese territory, but does claim a section of the South China Sea that falls under the Chinese nine-dotted lines.<sup>88</sup>

The territorial disputes in the South China Sea carry symbolic, strategic, and economic significance for China. Symbolically, the islands are taken for granted in China as rightful components of Chinese territory that have been taken away or claimed by foreign countries. Strategically, these islands sit astride major sea lanes through which raw materials and manufactured goods are transported to and from Europe and the Middle East. According to Kevin Johnson, the South China Sea is “the second most used sea lane in the world”, accounting for “50 percent of total annual merchant fleet tonnage traveling through the Strait of Malacca, the Sunda Strait and the Lombok Strait.”<sup>89</sup> If other countries controlled the islands, they could potentially control sea-borne commerce, including oil and gas imports, of which China increasingly demands. Lastly, the South China Sea reportedly contains large oil and gas deposits. China's claim to not just the islands of the South China Sea but essentially the entire sea itself would permit it to claim any deposits in the area.

China has had history of naval confrontations with other claimants in the South China Sea. Most recently, on April 8, 2012, a Philippine Navy surveillance plane detected eight Chinese fishing vessels docked at the waters of Scarborough Shoal. *BRP Gregorio del Pilar*,

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<sup>88</sup> Bitzinger and Cliff, “PLA Modernization”, 22.

<sup>89</sup> Johnson, “Maritime Power and the Asia-Pacific,” 48.

a Philippine Navy's vessel, was dispatched on the same day to survey the shoal, and confirmed the presence and activities of these fishing vessels. On April 10, 2012, *BRP Gregorio del Pilar* inspected the catch of the fishing vessels. The Filipino inspection team contended that they found illegally collected corals, giant clams and live sharks inside the first vessel that the team boarded. *BRP Gregorio del Pilar* stated that they tried to arrest the Chinese fishermen but were stopped by Chinese maritime surveillance ship, China Marine Surveillance 75 (*Zhongguo Haijian 75*) and China Marine Surveillance 84 (*Zhongguo Haijian 84*).<sup>90</sup> From China's perspective, it is crucial to possess a strong navy in order to defend China's territorial claims.

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<sup>90</sup> Jean Magdaraog Cordero, "Philippines, China Tensions Escalate in Scarborough Reef," *Asia Pacific Defense Forum*, May 4, 2012, [http://apdforum.com/en\\_GB/article/rmiap/articles/online/features/2012/05/04/scarborough-reef-tension](http://apdforum.com/en_GB/article/rmiap/articles/online/features/2012/05/04/scarborough-reef-tension).



**Figure 8. East China Sea**

Source: “China Raises the Stakes with Japan over Disputed Islands,” *War News Updates*, last modified 2012 (<http://warnewsupdates.blogspot.com/2012/10/china-raises-stakes-with-japan-over.html>).

In the East China Sea, China claims the Diaoyu Islands, which Japan refers to as the Senkaku Islands. Japan’s claim of land that is considered by China as rightfully part of Chinese territory triggers memories of China’s victimization by foreign countries, particularly Japan. As the legitimacy of the CCP relies in part on its claim to have restored China’s unity and sovereignty, the importance of the Diaoyu Islands is more than just material value. Furthermore, China and Japan disagree on the exact location of the order between their Exclusive Economic Zones (EEZs) in the East China Sea. The question is whether China’s EEZ should stretch to the end of the continental shelf or adhere to a line of equidistance between Chinese and Japanese territory. Even though the EEZ contention has

less symbolic significance than the dispute over the Diaoyu Islands, which actually involves territory, the disputed area also reportedly holds oil and gas deposits.<sup>91</sup>

Similar to the mentioned South China Sea, the East China Sea also witnesses naval confrontations between the claimants. In September 2012, tensions over the Diaoyu/Senkaku Islands erupted, after the Japanese government declared that it would purchase three of the five islands from their private owners. The Chinese government answered by dispatching oceanic administration and other nonmilitary vessels into Japanese-claimed waters on almost a daily basis. In February 2013, Japan Chief Cabinet Secretary Yoshihide Suga told reporters that ships from China's State Oceanic Administration had placed the buoys in Chinese-controlled waters near the Diaoyu/Senkaku islands. Japanese media stated that the buoys might be utilized to track Japanese submarines in waters around these uninhabited islands. The placement of Chinese buoys illustrated escalation in the standoff, which had begun with coast guard and other nonmilitary ships, but gradually shifted to incorporate more heavily armed navy ships. Again, from Beijing's perspective, a strong navy is crucial in order to prepare for future territorial dispute contingencies.<sup>92</sup>

### **Economic Reasons**

Fourth, China's formidable economic growth in the past three decades is another important driver behind Beijing's seaward turn. After China opened to the world and committed to economic reforms, the Chinese economy developed at an average annual rate of roughly 10 percent, calculated in gross domestic product (GDP) terms, between 1980 and

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<sup>91</sup> Bitzinger and Cliff, "PLA Modernization," 22.

<sup>92</sup> Martin Fackler, "Chinese Buoys Are Focus of Latest Dispute Over Contested Islands," *New York Times*, February 22, 2013, <http://www.nytimes.com/2013/02/23/world/asia/chinese-buoys-focus-of-latest-dispute-with-japan-over-islands.html>.



2010.<sup>93</sup> It is now the world's fastest-growing major economy and the world's second largest economy. With the decline in ideological appeal of communism, Chinese leaders have sought to maintain their legitimacy by improving the standard of living for as many citizens as possible. As a result, the CCP regards economic development as central to survival of the regime.

China's economic growth and the leadership's focus on preserving this momentum have resulted in two consequences pertaining to Chinese naval activities. First, maritime commerce has prospered along China's coastline. One effective indicator to assess the level of maritime trade is the volume of container cargo that Chinese ports handle.<sup>94</sup> China possesses advantages such as lower costs, newer and better port facilities, and improved transportation infrastructure. These strengths have increased its sheer volume of exports and imports and enabled China to compete or exceed the cargo handling capacities of traditional Asian commercial hubs such as South Korea, Japan, Hong Kong, and Singapore. The following statistics are further evidence of China's growing role in maritime commerce:

- As of 2011, six of the world's busiest container ports belonged to China. They were: Shanghai, Hong Kong, Shenzhen, Ningbo-Zhoushan, Guangzhou, and Qingdao.<sup>95</sup>
- In 2010, Shanghai port overtook Singapore port to become the world's busiest container port. Shanghai port handled 29.05 million 20-foot equivalent units (TEUs) in 2010 – 500,000 TEUs more than Singapore.<sup>96</sup>
- A November 2012 data set indicated that Shenzhen was set to overtake Hong Kong as the world's third-busiest container port by the end of 2012.<sup>97</sup>

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<sup>93</sup> "World Economic Outlook Database," *International Monetary Fund*, September 2011, <http://www.imf.org/external/pubs/ft/weo/2011/02/weodata/index.aspx>.

<sup>94</sup> Holmes and Yoshihara, *Chinese Naval Strategy in the 21<sup>st</sup> Century*, 3.

<sup>95</sup> "The JOC Top 50 World Container Ports," *Journal of Commerce*, August 27, 2012, <http://www.joc.com/sites/default/files/u48783/pdf/Top50-container-2012.pdf>.

<sup>96</sup> "Shanghai Overtakes Singapore as World's Busiest Port," *Straits Times*, January 9, 2011, [http://www.straitstimes.com/BreakingNews/Singapore/Story/STIStory\\_621944.html](http://www.straitstimes.com/BreakingNews/Singapore/Story/STIStory_621944.html).

Other measures of maritime commerce comprise of the output and quality of a nation's ship building industry and the size of the tanker fleet that carries energy resources and export and import goods. Foreign observers speculate that China is slated to become the world's largest shipbuilder, surpassing Japan and South Korea, by 2015.<sup>98</sup> China's biggest state-owned shipbuilder, COSCO Shipyard Group, has initiated a massive effort to increase capacity at all of its shipyards, including the facilities at Zhoushan, Nantong, Guangzhou, Tianjin, Shanghai, Xiamen, and Dalian. The size of China's supertanker fleet is also expected to more than double by 2014.<sup>99</sup>

Second, the security of energy supplies moving between critical sea lanes has turned into a top foreign policy priority for China. China's energy use more than doubled over the past two decades, aggravating China's dependency on energy imports.<sup>100</sup> In 2010, China surpassed the United States as the world's biggest energy consumer.<sup>101</sup> In 2011, China overtook Japan as the world's top coal importer for the first time.<sup>102</sup> Domestic oil production has stayed stagnant since China shifted to being a net oil importer in 1993, while consumption has increased steadily. This imbalance resulted in an uncontrolled surge in demand for foreign oil. China's dependency on imported oil reached 50 percent for the first

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<sup>97</sup> Keith Wallis, "Hong Kong Set to Lose No. 3 Port Rank to Shenzhen," *South China Morning Post*, November 26, 2012, <http://www.scmp.com/business/economy/article/1090848/hong-kong-set-lose-no-3-port-rank-shenzhen>.

<sup>98</sup> "Shipbuilding Surges in China," *Journal of Commerce Online*, September 29, 2006, [http://www.joc.com/maritime-news/shipbuilding-surges-china\\_20060928.html](http://www.joc.com/maritime-news/shipbuilding-surges-china_20060928.html)

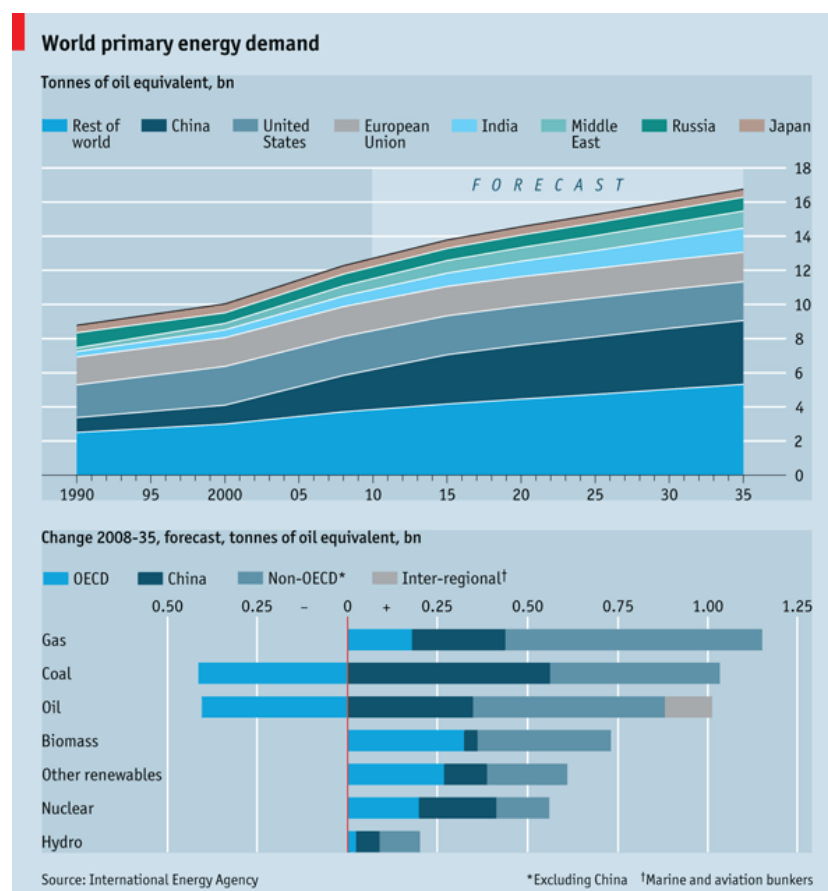
<sup>99</sup> Jamil Anderlini, "China Poised to Become World's Top Shipbuilder," *South China Morning Post*, July 19, 2012, <http://www.scmp.com/article/557360/china-poised-become-worlds-top-shipbuilder>.

<sup>100</sup> David Pietz, "The Past, Present, and Future of China's Energy Sector," in *China's Energy Strategy: The Impact on Beijing's Maritime Policies*, ed. Gabriel B. Collins et al. (Annapolis, MD: Naval Institute Press, 2008), 43.

<sup>101</sup> Jonathan Watts, "China Overtakes US as World's Biggest Energy Consumer," *Guardian*, August 3, 2010, <http://www.guardian.co.uk/environment/2010/aug/03/china-overtakes-us-energy-consumer>.

<sup>102</sup> Osamu Tsukimori, "China Overtakes Japan as World's Top Coal Importer," *Reuters*, January 26, 2012, <http://www.reuters.com/article/2012/01/26/coal-china-japan-idUSL4E8CQ3GS20120126>.

time in 2009 and is projected to rise to 75 percent by 2030.<sup>103</sup> China has reportedly driven more than 40 percent of the growth in global oil demand since 2000, and most non-governmental analysts acknowledge that Chinese oil demand (using the year 2000 as a baseline) will double by 2020.<sup>104</sup> The National Intelligence Council forecasted that Chinese oil consumption would have to increase by 150 percent by 2020 in order to maintain a healthy rate of economic expansion; this will be comparable to the U.S. demand for oil forecast in 2020.<sup>105</sup>



**Figure 9. World Primary Energy Demand**

Source: “Never Enough,” *Economist*, November 9, 2010

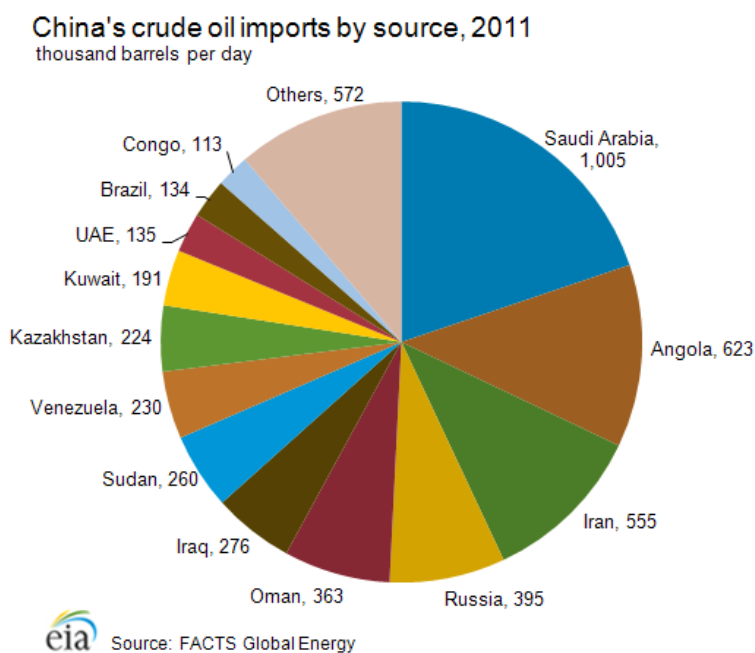
([http://www.economist.com/blogs/dailychart/2010/11/energy\\_demand](http://www.economist.com/blogs/dailychart/2010/11/energy_demand)).

<sup>103</sup> Watts, “China Overtakes US.”

<sup>104</sup> Philip Andrews-Speed, Xuanli Liao and Roland Dannreuther, *The Strategic Implications of China’s Energy Needs* (London: International Institute of Strategic Studies, July 2002), 25.

<sup>105</sup> National Intelligence Council, *Report of the National Intelligence Council’s 2020 Project: Mapping the Global Picture* (Washington: Government Printing Office, December 2004), 50.

China's insatiable demand for energy resources has created overwhelming pressure on Beijing to guarantee an uninterrupted supply of energy. Chinese leadership has pursued supplies of oil and gas as far away as the Persian Gulf and the Horn of Africa.<sup>106</sup> China's global hunt for scarce resources has generated worries that great power rivalries centered on energy will occur. In its search for energy security, Beijing will unavoidably encounter an energy-dependent Japan, whose economic survival relies almost completely on maritime trade. It will also inevitably confront the United States, an unmatched power that exerts strong influence in the Middle East and whose navy patrols the sea-lanes that carry oil, natural gas, and commodities of a modern industry economy into Chinese seaports.<sup>107</sup>



**Figure 10. China's Crude Oil Imports By Source, 2011**

Source: "China," *U.S. Energy Information Administration*, last modified 2012

(<http://www.eia.gov/countries/analysisbriefs/China/china.pdf>).

<sup>106</sup> Clifford Shelton, "The Energy Component of China's Africa Strategy," in *China's Energy Strategy: The Impact on Beijing's Maritime Policies*, ed. Gabriel B. Collins et al. (Annapolis, MD: Naval Institute Press, 2008), 186.

<sup>107</sup> Gabriel B. Collins, Andrew S. Erickson, and Lyle J. Goldstein, "Chinese Naval Analysts Consider the Energy Question," in *China's Energy Strategy: The Impact on Beijing's Maritime Policies*, ed. Gabriel B. Collins et al. (Annapolis, MD: Naval Institute Press, 2008), 301.

As a result, commerce and energy impel Beijing to worry about SLOCs. The security of the waterways in close proximity to China's coastlines has become more significant from a policy perspective for Beijing.<sup>108</sup> For the Chinese leadership, safeguarding free navigation in the Yellow, East China, and South China Seas is fundamental to their political survival. From Beijing's point of view, they do not want to entrust this paramount interest to the precarious altruism of the United States, the self-appointed police of maritime security in East Asia. These concerns drive China's desire for a strong, modernized navy capable of protecting its commercial and energy interests.

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<sup>108</sup> Zou Keyuan, "China's Maritime Security Considerations under the International Law of the Sea," in *China and East Asian Strategic Dynamics: The Shaping of a New Regional Order*, ed. Mingjiang Li and Dongmin Lee (Lanham, MD: Lexington Books, 2011), 258.

## Chapter Five: The PLAN's Actual Accomplishments

Since the beginning of PLAN modernization, China's navy has grown both in quantity and quality. This section of the paper will first discuss the general improvements of the PLAN in two periods: from 1996 to 2008, and from 2008 to 2012. Second, it will examine notable naval units within the current PLAN. Third, it will disclose the shortcomings of China's navy.

### 1996-2008

In this period, the PLAN had an extraordinarily fast build-up in both size and capacity. The Chinese acquisition of the Sovremenny-class destroyers from Russia in the late 1990s signaled that the PLAN started to concentrate on expanding warships that can face opposing ships by means of precision missile strikes, and can support area defense against air, submarine, and missile offenses. Furthermore, the PLAN attempted to obtain modern weaponry systems that could respond to potential adversaries operating on naval platforms or from land bases in the East and South China Seas, in particular the stand-off weapons such as long-range anti-ship cruise missiles (ASCMs) and land-attack cruise missiles.<sup>109</sup>

Such a fast build-up resulted in a rapid expansion of the PLAN's primary surface combatant fleet. The quantity of primary combatants has grown from 50 units (18 DDGs and 38 FFGs) in 1995 to 75 units (26 DDGs and 49 FFGs) in 2008. More significant is that all the additional units are bigger, consistently upgraded warships. Among the 25 recently added primary combatants, the most noticeable ones are:

- Two Luzhou Type-051C DDGs (*115 Shenyang* and *116 Shijiazhuang*)
- Two Luyang-II Type-052C DDGs (*170 Lanzhou* and *171 Haikou*)

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<sup>109</sup> Huang, *PLA Navy*, 23.

- Four Sovremenny-class DDGs (Project 956: *136 Hangzhou* and *137 Fuzhou*; and Project 936/EM: *138 Taizhou* and *139 Ningbo*)
- Two Luyang Type-052B DDGs (*168 Guangzhou* and *169 Wuhan*)
- Four Jiangkai-II Type-054A FFGs (*529 Zhoushan*, *530 Xuzhou*, *568 Chaohu*, and *570 Huangshan*)<sup>110</sup>

In addition to the surface combatant fleet, the PLAN submarine fleet also achieved remarkable progress. The quantity of PLAN submarines grew from 48 units (6 nuclear and 42 diesel) in 1995 to 64 units (8 nuclear and 56 diesel) in 2008. The antique Romeo-class submarines have been virtually removed, as only 8 remained in service primarily for training purposes. The Kilo-class (12 units) and Type-039 Song-class (16 units) submarines have turned into the primary combat units. A minimum of two additional advanced SS Yuan (Type-041) was introduced in 2008. At the same time, the PLAN launched at least two Type-093 Shang-class nuclear attack submarines and two Type-094 Jin-class ballistic missile submarines between 1995 and 2008. The Type-093 Shang-class was based upon the aging SSN Han (Type-091), and would eventually replace it. Meanwhile, the Type-094 Jin-class has been upgraded from the SSBN Xia (Type-092).<sup>111</sup> These new units have achieved two purposes: first, they improved the combat capacity of the PLAN's submarine fleet; second, the new, more advanced nuclear-powered submarines represented another step toward China's acquisition of a more credible second-strike capability.

Besides the surface combatant and submarine fleets, the three other significant improvements in this period are the new Type-051C, Type-052C, and Sovremenny destroyers. Type-051C and Type-052C destroyers possess Aegis-like combat systems and

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<sup>110</sup> "Naval Forces," *SinoDefence*, last modified 2012, <http://www.sinodefence.com/navy/default.asp>.

<sup>111</sup> Hans M. Kristensen, "New Chinese SSBN Deploys to Hainan Island," *FAS Strategic Security Blog*, last modified April 24, 2008, <http://www.fas.org/blog/ssp/2008/04/new-chinese-ssbn-deploys-to-hainan-island-naval-base.php>.

upgraded command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR). As a result, these recently obtained combatants have improved the PLAN's ability to "break the first-island chain in a hostile environment" and to respond to adversary naval force beyond the range of land-based air and missile-protections.<sup>112</sup>

Furthermore, these Type-051C and Type-052C destroyers will act as testing grounds for future improvements or new warships. Sovremenny destroyers (and to certain extent Type-054A frigates) are also armed with the weaponry system simulating the mentioned Aegis Combat System, anti-submarine helicopters, anti-ship missiles, torpedoes, and extensive electronic warfare systems.

## **2008-2012**

Since 2008, the momentum of PLAN's build-up has not slowed down. A China's 2008 Defense White Paper states that the PLAN will continue to "upgrade its weaponry and equipment system," with attempts "being made to build new types of submarines, destroyers, frigates, and aircraft, forming a preliminary weaponry and equipment system with second-generation equipment as the core and the third generation as the backbone."<sup>113</sup> It is reported that the PLAN is expanding various weaponry systems for long-range precision strikes, including theater-range ballistic missiles (TBMs), land-attack cruise missiles (LACMs), and anti-ship cruise missiles (ASCMs). At the same time, the PLAN will keep obtaining modern anti-submarine and anti-aircraft weapon systems. The focus will be on developing C4ISR and data links necessary for area defense missions, particularly when engaging low-observable aircraft and cruise missiles. A Chinese analyst confidently claims that the engineering efforts to upgrade these air and missile defense systems, which will be able to identify and counter

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<sup>112</sup> Huang, *PLA Navy*, 25.

<sup>113</sup> Information Office of the State Council of the People's Republic of China, "China's National Defense in 2008," *Chinese Government's Official Web Portal*, last modified January 2009, [http://english.gov.cn/official/2009-01/20/content\\_1210227.htm](http://english.gov.cn/official/2009-01/20/content_1210227.htm).



attacks from hostile naval platforms or land-based systems, will enhance the PLAN's combat capacity substantially in blue water in the next decade.<sup>114</sup>



**Figure 11. *Liaoning* – China's First Aircraft Carrier**

*Source:* "58,500 Tonnes of Coincidence," *Economist*, September 26, 2012

(<http://www.economist.com/blogs/clausewitz/2012/09/chinas-aircraft-carrier>).

The PLAN's most substantial accomplishment recently would have to be its commission of *Liaoning*, China's first aircraft carrier, on September 25, 2012. China initially bought the shell of the carrier, which was then called the *Varyag*, from the Ukraine in 1998. It was then towed to Dalian shipyard in northeastern China and completely rebuilt. The aircraft carrier was handed over to the PLAN on September 23, 2012. On November 4, 2012, an article on the PLA official newspaper PLA Daily described that J-15s had completed carrier touch-and-go training. On November 25, 2012, China media publicized that five J-15s

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<sup>114</sup> Huang, *PLA Navy*, 28.

had achieved successful arrested landings on the *Liaoning*.<sup>115</sup> Proponents of China having aircraft carriers have pointed out three reasons for why this development should be encouraged. First, an aircraft carrier provides better power projection, supplying China with a mobile base at sea from which its combat aircraft can carry out a wide range of missions at a reasonable cost. Second, it better defends sea lanes and maritime claims. Third, it promotes national pride, which has less to do with a vessel's actual abilities than with its symbolic meaning to China as a representation of its status.<sup>116</sup> As of right now, further information is needed in order to speculate about the future of China's aircraft carrier program.

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<sup>115</sup> "Jets Land on China's 1<sup>st</sup> Aircraft Carrier," *China Daily*, last modified November 26, 2012, [http://www.china.org.cn/china/2012-11/26/content\\_27222026.htm](http://www.china.org.cn/china/2012-11/26/content_27222026.htm).

<sup>116</sup> Felix K. Chang, "Making Waves: Debates Behind China's First Aircraft Carrier," *Foreign Policy Research Institute*, last modified October 2012, <http://www.fpri.org/enotes/2012/201210.chang.aircraftcarrier.pdf>.

**Table 1. The PLAN Inventory (1985-2020)**

<i>Class</i>	<i>Type</i>	<i>1985</i>	<i>1990</i>	<i>1995</i>	<i>2000</i>	<i>2005</i>	<i>2008</i>	<i>2010</i>	<i>2015</i>	<i>2020</i>
<b>Submarines</b>		<b>117</b>	<b>63</b>	<b>48</b>	<b>50</b>	<b>55</b>	<b>64</b>	<b>63</b>	<b>71</b>	<b>78</b>
SSBN Jin	Type 094	-	-	-	-	-	2	2	4	5
SSBN Xia	Type 092	1	1	1	1	1	1	1	-	-
SSN Shang	Type 093	-	-	-	-	1	2	3	4	6
SSN Han	Type 091	3	4	5	5	5	3	4	2	1
SS Kilo	Sov Kilo	-	-	1	4	10	12	12	12	12
SS NEWCON	Song/Yuan	-	-	-	-	-	-	-	10	20
SS Yuan	Type 041	-	-	-	-	2	2	2	2	2
SS Song	Type 039	-	-	-	1	10	16	20	20	20
SS Ming	Type 035	2	3	10	17	17	16	17	15	12
SSB Golf	Type 031	1	1	1	1	1	1	1	1	1
SS Wuhan	Type 033G	1	1	1	1	1	1	1	1	1
SS Romeo	Type 033	90	53	29	20	7	8	-	-	-
SS Whiskey	Type 03	20	-	-	-	-	-	-	-	-
<b>Destroyers</b>		<b>15</b>	<b>18</b>	<b>18</b>	<b>19</b>	<b>24</b>	<b>27</b>	<b>26</b>	<b>25</b>	<b>26</b>
DDG Luzhou	Type 051C	-	-	-	-	-	2	3	6	9
DDG										
Hangzhou	Sovremenny	-	-	-	1	2	4	4	4	4
DDG Luyang										
II	Type 052C	-	-	-	-	2	2	3	4	6
DDG Luyang I	Type 052B	-	-	-	-	2	2	2	2	2
DDG Luhai	Type 052A	-	-	-	-	2	1	1	1	1
DDG Luhu	Type 052	-	-	1	2	2	2	2	2	2
DDG Luda	Type 051	11	16	17	16	14	14	11	6	2
DD Anshan	Type 07	4	2	-	-	-	-	-	-	-
<b>Frigates</b>		<b>31</b>	<b>37</b>	<b>32</b>	<b>40</b>	<b>46</b>	<b>47</b>	<b>47</b>	<b>47</b>	<b>47</b>
FFG Jiangkai	Type 054	-	-	-	-	2	6	12	22	28
FFG Jiangwei										
II	Type 057	-	-	2	6	10	10	10	10	10
FFG Jiangwei										
I	Type 055	-	-	4	4	4	4	4	4	4
FFG Jianghu	Type 053	20	26	26	30	30	27	21	11	5
FFG										
Jiangdong	Type 053K	2	2	1	-	-	-	-	-	-
FF Jiangnan	Type 053	5	5	-	-	-	-	-	-	-
FF Chengdu	Type 01	4	4	2	-	-	-	-	-	-

Source: "Chinese Warships," *Global Security*, last modified 2012

(<http://www.globalsecurity.org/military/world/china/navy.htm>).

## Notable PLAN Units

### *Submarines*

Attack submarines have a central role in China's contemporary maritime strategy.<sup>117</sup> China's respected view of submarines can be largely attributed to the Soviet influence during the Cold War. The Soviet Navy regarded attack submarines "as the first line of defense against enemy aircraft carriers and warships capable of launching land-attack cruise missiles."<sup>118</sup> Chinese strategists, as previously mentioned, are most concerned about the Taiwan contingency. More specifically, they are worried about delaying U.S. reinforcements in wartime until the Chinese armed forces can intervene. As a result, Beijing views its submarine fleet, specifically its diesel-powered attack boats, as essential to defeating U.S. aircraft carriers.<sup>119</sup> One Chinese analyst asserted, "Submarines are the maritime weapons posing the greatest threat to an aircraft carrier formation. Submarines are also our Navy's core force."<sup>120</sup> A Western China watcher agreed, "China has decided submarines are its first-line warships now, their best shot at beating carriers. And China is right."<sup>121</sup> At the same time, it is important to recognize that the aim of the PLAN for the next ten years is "not to break through the first island chain and attack aircraft carriers" in the open ocean "but to

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<sup>117</sup> M. Ehsan Ahrari, "Strategic Implications of China's Naval Modernization," *Global Beat*, October 1998, [www.nyu.edu/globalbeat/asia/ahrari1098.html](http://www.nyu.edu/globalbeat/asia/ahrari1098.html).

<sup>118</sup> *Ibid.*

<sup>119</sup> Liu Dingping, "Anti-carrier Methods during a War in the Strait," *Junshi Wenzhai*, July 1, 2004.

<sup>120</sup> Shen Zhongchang, Zhang Haiyin, and Zhou Xinsheng, "21<sup>st</sup>-Century Naval Warfare," in *Chinese Views of Future Warfare*, ed. Michael Pillsbury (Washington, DC: National Defense University Press, 1997), 263.

<sup>121</sup> Bill Gertz, "Chinese Produce New Type of Sub," *Washington Times*, July 16, 2004, <http://www.washingtontimes.com/news/2004/jul/16/20040716-123134-8152r/?page=all>.

obtain absolute superiority of the sea area for about 500 miles off, and along China's coastline."<sup>122</sup>

Chinese submarine procurement arrangement hints at a strategy of sea denial in the Taiwan Strait and adjacent waters. This is evident in how Beijing has prioritized acquiring conventionally powered attack submarines appropriate for activities within the first island chain. The conventional Kilo-class submarines would constitute an exceptional force in a Taiwan contingency. Because the Kilos can move very quietly, they can dodge detection by passive sonar. In a war over Taiwan, Chinese submarines would hide in the waters surrounding Taiwan, cut down their machinery sounds to near zero, and ambush U.S. warships.<sup>123</sup> When equipped with air-independent propulsion, these submarines would not have to emerge to regenerate their batteries. This would allow them to lurk underwater essentially indefinitely without worrying about being exposed. Furthermore, the Kilos possess wake-homing torpedoes and can launch ASCMs, making them effective counters to aircraft carriers.<sup>124</sup>

Because the priority is given to obtainment of conventional submarines, the acquisition of nuclear submarines, which are more suitable for extensive sea control but more costly and need more lead times for assembly, is more gradual.<sup>125</sup> U.S. analysts observed that China has pursued a "measured commitment" to constructing the necessary nuclear submarines to support a blue-water navy.<sup>126</sup> This gradual build-up strategy "complements

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<sup>122</sup> Thomas Woodrow, "China's 'Tsushima' Anticarrier Strategy," *China Brief* 3, no. 1 (January 14, 2003), [http://www.jamestown.org/programs/chinabrief/single/?tx\\_ttnews%5Btt\\_news%5D=3553&tx\\_ttnews%5BbackPid%5D=193&no\\_cache=1](http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews%5Btt_news%5D=3553&tx_ttnews%5BbackPid%5D=193&no_cache=1).

<sup>123</sup> Lyle Goldstein and William Murray, "Undersea Dragons: China's Maturing Submarine Force," *International Security* 28, no. 4 (2004), 166.

<sup>124</sup> James C. Bussert and Bruce A. Elleman, *People's Liberation Army Navy: Combat Systems Technology, 1949-2010* (Annapolis, MD: Naval Institute Press, 2011), 71.

<sup>125</sup> Lewis and Xue, *China's Strategic Sea Power*, 23-108.

<sup>126</sup> Goldstein and Murray, "Undersea Dragons," 172-73.

strong efforts made in the near term to secure the littoral” with diesel submarines.<sup>127</sup> There are also reports of innovative tactics under development that would permit the PLAN to employ these units to maximum utility.<sup>128</sup> Overall, Beijing has made progress in obtaining the necessary undersea capabilities to reach both its short-term objectives vis-à-vis Taiwan and its long-term geopolitical ambitions.<sup>129</sup>

### *Surface Combatants*

Traditionally, the surface fleet has been the vital PLAN component.<sup>130</sup> The PLAN’s leading surface warship is the Russian-constructed Sovremenny-class guided-missile destroyer. Each Sovremenny holds eight of the latest surface-to-surface anti-ship missiles in the world.<sup>131</sup> This sea-skimming missile, also known as the Sunburn (SS-N-22), is made particularly to pierce through the defenses of carrier groups. Equipped with a 300-kilogram conventional warhead, the missile can hit targets as far as 120 kilometers away. Furthermore, the Sunburn can attain a top speed of Mach 2.5 and can evade counterattacks as it approaches its target. Most importantly, the U.S. Navy has not yet found capable countermeasures against the Sunburn.<sup>132</sup> As part of the East China Fleet, which is in charge of operations in the Taiwan Strait, the Sovremennys would be a strong asset for Beijing in any crisis over the island. The range, speed, and flight profile of the Sunburns would represent an immediate

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<sup>127</sup> Ibid, 179-81.

<sup>128</sup> Frank C. Borik, “Sub Tzu and the Art of Submarine Warfare,” in *Essays on Strategy XIII*, ed. Mary A. Sommerville (Washington, DC: National Defense University Press, 1996), 16.

<sup>129</sup> Goldstein and Murray, “Undersea Dragons,” 191-94.

<sup>130</sup> Cole, *Great Wall at Sea*, 97.

<sup>131</sup> Bussert and Elleman, *Combat Systems Technology*, 35.

<sup>132</sup> Holmes and Yoshihara, *Chinese Naval Strategy in the 21<sup>st</sup> Century*, 96.

threat to Taiwanese surface combatants and deter U.S. carrier groups.<sup>133</sup> Ultimately, the Sovremennys are appropriate for deterrence and sea denial.<sup>134</sup>

One drawback of the Sovremenny is that it lacks natural air defenses, which means it is not constructed to function as a stand-alone platform.<sup>135</sup> In order to defend the Sovremenny and maximize its combat performance, a group of escorts and support ships are necessary. The Chinese-built Luhai-, Luyang-, and Luzhou-class guided-missile destroyers can offer anti-surface-warfare support to the Sovremennys. These ships are equipped with covert superstructures, which minimize their radar signatures. More significantly, the Luyang II destroyers possess phased-array radars and long-range, vertically projected surface-to-air missiles.<sup>136</sup> These new warships embody a respectable improvement for the PLAN and can contribute to Beijing's sea-denial strategy in the Taiwan Strait. In addition, because anti-surface capabilities are fundamental to open sea warfare, these ships could also enable China to pursue its maritime aspirations outside of its immediate neighborhood.

## **PLAN Shortcomings**

### *Power Projection*

Despite its modernization, the PLAN still has three major weaknesses. First, China's navy has limited power projection, which include naval power projection and aerial power projection. Naval power projection consists of three components—sea-based air power, sea-based missile power and amphibious warfare capabilities.<sup>137</sup> Regarding sea-based air and

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<sup>133</sup> Xin Benjian, "United States Concerned over China's Anticarrier Strategy for Fear of Exposing Its Own Weakness and Plays Up 'Threat' of Other Countries," *Huanqiu Shibao*, February 7, 2003.

<sup>134</sup> "Blockade and Kill Taiwan Independence's 'Aegis'," *Xiandi Bingqi*, January 2, 2003.

<sup>135</sup> Cole, *Great Wall at Sea*, 99.

<sup>136</sup> Bussert and Elleman, *Combat Systems Technology*, 39.

<sup>137</sup> Schuster, *Maritime Traditions and Navy Today*, 61.

missile power, China's present strength comes from its ballistic missile submarines, which seem to function as a regional deterrent unit. Furthermore, its amphibious warfare forces are constrained in range and lift capability, most likely because they are geared toward the regaining of coastal islands and a potential war with Taiwan. At most, the current force could administer a brigade-sized amphibious attack against a lightly to moderately guarded coastal objective.<sup>138</sup>

With respect to aerial projection, the PLAN Air Force's (PLANAF) long-range strike and surveillance components are out of date<sup>139</sup>. The strike regiments still utilize the late 1940s-era B-6. These planes are slow and possess a big radar cross-section. Their sensor and countermeasures electronics are obsolete by over 40 years. They would not be able to effectively handle a modern task force, specifically one backed by airborne warning and control system (AWACS) aircraft and having local fighter support such as that aided by an aircraft carrier. In addition, the H-5 seaplanes utilized for anti-submarine warfare reconnaissance have sensor and weapons that are obsolescent. These reconnaissance seaplanes possibly would not be effective against an advanced nuclear-powered submarine operated by a well-led and well-trained crew.

### *Systems Integration*

The second weakness is the lack of full systems interoperability. Systems interoperability dictates "the speed of sensors to detect, decision makers to decide, and naval commanders to initiate operations, making time an important new 'fourth dimension' in the PLAN's technological capabilities."<sup>140</sup> The PLAN's current forces are constructed by combining equipment from many different countries, and the difficulty is to incorporate both

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<sup>138</sup> Ibid, 62.

<sup>139</sup> Ibid, 63.

<sup>140</sup> Bussert and Elleman, *Combat Systems Technology*, 175.



the old and the new platforms into a fully interoperable fleet arrangement. China's four-dimensional naval battle—air, sea, underwater, and the necessary time to integrate the three—poses five future problems for the PLAN interoperability. The first considerable problem will be to assess the effectiveness of China's new sensing systems and their integration level with the weapon systems. The second problem will be the efficacy of the PLAN's fire control systems, particularly its systems-of-systems capability to network-centric the whole fleet. The third problem will be the PLAN's willingness to utilize its improved ship mobility, faster reaction times, and forward basing to counter external threats. The fourth problem will be the PLAN leaders' strategic and operational leadership skills and their adaptability to constantly changing conditions. The fifth problem will be the willingness of Chinese leadership to accept a greater risk based on the government's confidence in the untried capabilities of the PLAN in battles.

In order to integrate the systems successfully, the PLAN will need two factors: advanced naval technology, and better training and education for its officer corps. Regarding technology, newer vessels are taking the place of outdated ships. The sophisticated forty newly built Houbei class is replacing the old patrol and small missile boats. The predicted thirty-ship production of modern, multimission 054A frigates is displacing large numbers of old frigates. The Kilos, new Yuan boats, and new SSN designs are supplanting old diesel submarines. However, Bussert and Elleman argue that it will most likely be in the area of officer training and naval education where “the true success or failure of China's maritime reforms will become clear.”<sup>141</sup> Proper training is important in order to maximize the effectiveness of indigenous and foreign-purchased systems. On this subject, the PLAN has engaged in across the board reforms in strategy and tactics, equipment procurement, and logistics of different fleets and other PLA forces.

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<sup>141</sup> Ibid, 176.

### *Maintenance and Supply*

Third, the PLAN still needs to improve the maintenance of its front-line combatants. The navy's challenge of maintenance and supply is closely related to systems integration. Even the latest combatants—the Luzhou and Luyang classes—encounter supply and maintenance problems as a result of the foreign origin of their weapons, sensor systems, and propulsion plants. Since France, the Netherlands, Italy, the United States, Ukraine, and Russia have all taken part in the design and/or construction of China's more recent warships, this creates complications in training personnel in equipment maintenance as well as supply support, including procurement of suitable test equipment.<sup>142</sup> These combinations decrease system efficiency and warship lethality, and are worsened by China's habit of constructing small classes of two to four ships. PLAN officers acknowledge the advantages of systems integration and equipment uniformity.<sup>143</sup> However, the slow development due to budgetary constraints, the amalgamation of domestic construction and foreign purchases, and the small number of ships in most PLAN classes is hurting its maintenance and supply capabilities.<sup>144</sup>

The event that triggered the overhaul of the PLAN's administrative organization for maintenance, material upkeep, and personnel training was the loss of the crew of the Ming-class submarine (hull number 361) in 2003. According to the official Chinese news agency, Xinhua, this submarine was participating in exercises east of Neichangshan Islands in the Bohai Sea. On April 16, 2003, all 70 crew members of the submarine died because the diesel engine could not shut down when the boat submerged and ended up depleting all the oxygen

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<sup>142</sup> Eric McVadon, "Systems Integration in China's People's Liberation Army," in *The People's Liberation Army in the Information Age*, ed. James C. Mulvenon and Richard H. Yang (Santa Monica, CA: RAND, 1998), 225.

<sup>143</sup> James C. Bussert, "China Builds Destroyers around Imported Technology," *Signal* 58, no. 12 (2004), 67.

<sup>144</sup> Cole, *Great Wall at Sea*, 196.

in the boat.<sup>145</sup> Most significantly, this incident was declared the “worst known peacetime military disaster in Communist Chinese history.”<sup>146</sup> This seemingly happened because of inadequate maintenance during a recently finished shipyard stay.<sup>147</sup> Because of this loss, Chinese leadership has paid more attention to the issue of maintenance and supply in its navy.

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<sup>145</sup> “Foreign Ministry Spokesperson’s Press Conference on May 8, 2003,” *Xinhua News Agency*, last modified July 2, 2003, [http://news.xinhuanet.com/english/2003-07/02/content\\_936853.htm](http://news.xinhuanet.com/english/2003-07/02/content_936853.htm).

<sup>146</sup> John Pomfret, “Sub Accident Kills 70, China Admits,” *Washington Post*, May 3, 2003, [http://articles.chicagotribune.com/2003-05-03/news/0305030145\\_1\\_chinese-navy-submarine-official-reports](http://articles.chicagotribune.com/2003-05-03/news/0305030145_1_chinese-navy-submarine-official-reports).

<sup>147</sup> Lyle Goldstein and William Murray, “International Submarine Rescue: A Constructive Role for China?” *Asia Policy* no. 5, Research Note (Seattle, WA: National Bureau of Asian Research, 2008), 167-83.

## Chapter Six: The PLAN's Capabilities Vis-à-vis Other Countries in the Region

This section will discuss the current PLAN's capabilities vis-à-vis the Philippines, Japan, and the United States. The Philippines is chosen because of its status as China's primary disputant in the South China Sea. Japan is selected because of its position as the leading United States security ally in the Western Pacific. Lastly, the United States is picked because of its eminence as the extra-regional balancer.

### *Philippines*

Even though Manila is Beijing's prominent contestant in the South China Sea, the Philippines does not possess a navy of regional significance. Even though Manila has repeatedly announced that its navy will be modernized, its promises have not yet been realized. Several reasons explain this stagnation: incompetent national treasury, ineffective national leadership, political maneuvering, tense civil-military relations dating back to Philippine independence in 1946, and absence of clear strategic objectives.<sup>148</sup> These elements result in the legislature's unwillingness to fund a competent navy. Furthermore, resurgent rebellions by the New People's Army in the north and Islamic groups in the south have compelled the Philippines military to focus on internal security. The Philippines does not have many assets available for enforcing maritime territorial claims. In 1999, the visiting forces agreement legislated by the Philippine Senate renewed Manila's mutual defense treaty with the United States. However, it is uncertain whether the treaty applies to the South China Sea Islands contested with Beijing. Prior to the 2012 Scarborough Shoal standoff, Manila actually sought diplomatic and economic accommodation with Beijing instead of actively opposing China's claims in the South China Sea.

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<sup>148</sup> Cole, *Great Wall at Sea*, 160.

Better economic performance and a change in approach by the Philippines government are fundamental to improving a Navy with a considerably obsolete fleet.<sup>149</sup> In order to make the Philippine Navy credible and effective, the Philippines government will have to engage in personnel and infrastructure development on an unprecedented scale to go along with equipment procurement. Around the time the *Gregorio del Pilar* arrived in the Philippines, President Benigno Aquino III issued a public statement, saying that the priorities for the Navy included “strategic sea-lift vessels, off-shore patrol vessels, naval helicopters, coast watch stations, and similar weather-heavy endurance cutters.”<sup>150</sup> Until the Philippines is able to convert its political rhetoric into material reality, the Philippine Navy is not a significant rival to China’s PLAN.

**Table 2. The Phillipine Navy Inventory (1952-2012)**

Type	1952	1962	1972	1982	1992	2002	2012
Frigates	-	1	1	7	2	1	1
Replenishment	-	2	-	-	-	-	-
MPA	-	-	-	2	5	7	5
Corvettes	7	7	7	10	10	13	11
Missile craft	-	-	-	-	-	-	-
Torpedo craft	-	-	-	-	-	-	-
Gun craft	-	-	-	-	-	6	8
Mine warfare vessels	-	2	4	-	-	-	-
Large patrol craft	8	7	4	7	3	9	14
Small patrol craft	8	34	39	94	41	73	67
Landing ships	5	7	11	20	8	7	7

Source: Goldrick and McCaffrie, *Navies of South-East Asia*, 134.

<sup>149</sup> James Goldrick and Jack McCaffrie, *Navies of South-East Asia: A Comparative Study* (New York: Routledge, 2013), 135.

<sup>150</sup> Alexis Romero, “Submarine for Navy? Noy Bares AFP Shop List,” *The Phillipine Star*, August 24, 2011, <http://maritimesecurity.asia/free-2/maritime-security-asia/submarine-for-navy-noy-bares-afp-shop-list/>.

## Japan

While China's maritime force is undergoing modernization, Japan owns one of the world's most technologically sophisticated navies, the euphemistically named Japanese Maritime Self-Defense Force (JMSDF). The JMSDF contains "Aegis-equipped ships, modern (if conventionally powered) 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."<sup>151</sup> Tokyo's surface force is more than twice the size of the British Royal Navy's and a submarine unit twice that of the French Navy.<sup>152</sup> This force is accompanied in its patrol capacity by a large and competent coast guard. Most impressively, Japan acquired three LSTs and two destroyers that are actually small aircraft carriers.<sup>153</sup> These vessels broaden Tokyo's maritime stretch from the Bering Sea to the Luzon Strait between Taiwan and the Philippines.

The perception in Tokyo that the strategic landscape in East Asia might alter dramatically—a decline in U.S. military presence, or a more advanced PLAN—encourages Japan to continue building its navy in order to safeguard its strategic interests in the East China Sea and the SLOCs. In the 2004 National Defense Program Guideline, Japan identified that Chinese military modernization, especially in the domain of naval and air power, was a source of growing concern. This happened because the rise of Chinese navy was intertwined with China's expanding economic interests at sea and their protection in contested waters. As a result, Japan seeks to build up a military to finish its development toward a "multi-

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<sup>151</sup> Cole, *Great Wall at Sea*, 159.

<sup>152</sup> Alessio Patalano, "Japan's Maritime Past, Present and Future," in *Sea Power and the Asia-Pacific: The Triumph of Neptune?*, ed. Geoffrey Till and Patrick C. Bratton (New York: Routledge, 2012), 93.

<sup>153</sup> LSTs (Landing Ship, Tank) is the military classification for naval vessels first developed during World War II to reinforce amphibious assaults by transporting vehicles, cargo, and landing troops directly onto an unimproved shore. See Gary P. Priolo, "Tank Landing Ship (LST) Index," *NavSource Naval History*, last modified 2013, <http://www.navsource.org/archives/10/16/16idx.htm>.

functional flexible defense force.”<sup>154</sup> Japan is expanding what is already the most modern and powerful naval force in Asia other than the U.S. Seventh Fleet, and undoubtedly possesses the financial, personnel, industrial, and technological-scientific assets to be Asia’s dominant maritime force.<sup>155</sup> Japan has both the technology and facilities to construct larger aircraft carriers, and is revamping its combat ships and aircraft at a constant pace. In addition, the United States is working to guarantee that the technology of JMSDF is up-to-date. Overall, the PLAN has not yet developed forces with the technological sophistication or personnel expertise to rival the JMSDF.

**Table 3. Japanese Maritime Self-Defense Force (JMSDF) Inventory (2013)**

Type	2013
Helicopter Destroyers	4
Destroyers	8
Frigates	30
Frigates (light)	6
Submarines	21

Source: “Galleries,” *Japan Maritime Self Defence Force*, last modified 2013, (<http://www.mod.go.jp/msdf/formal/gallery/ships/ss/index.html>).

### *The United States*

Similarly, the PLAN has not yet been able to directly match the capabilities of the U.S. Navy. Regarding hard power, the United States has sustained the largest and most advanced fleet in the Western Pacific since World War II.<sup>156</sup> Even peacetime American naval units in East and Southwest Asia usually carry “two aircraft carriers; four nuclear-powered submarines; a dozen cruisers and destroyers, most of them equipped with Aegis; four to six

<sup>154</sup> The Council on Security and Defense Capabilities, *Japan’s Visions for Future Security and Defense Capabilities* (Tokyo: 2004), 11-13,  
<http://www.jiaponline.org/resources/japan/security/Japan%20CSDC%20Report.pdf>.

<sup>155</sup> Cole, *Great Wall at Sea*, 159.

<sup>156</sup> Bratton, “The United States as a Pacific Power,” 20.

underway replenishment ships; and an amphibious ready group.”<sup>157</sup> This group consists of a large (48,000 tons displacement) helicopter carrier and two other large amphibious ships supporting the Marine brigade stationed in Okinawa. American air assets contain two Navy and one Marine Corps air wings, and three numbered U.S. air forces. According to Ralph Cossa, even the Pentagon, which is regularly accused of exaggerating the threat from China, evaluates that “China does not yet possess the military capability to accomplish with confidence its political objectives on [Taiwan] and that “China will take until the end of this decade or later to produce a modern force capable of defeating a moderate-size adversary.”<sup>158</sup>

The inability for China to defeat the United States in the open sea explains China’s rationale in obtaining diesel-powered submarines that enables area-denial strategy. Typically, sea denial is a strategically defensive posture embraced by inferior naval powers.<sup>159</sup> In Beijing’s view, the United States completely has the ability to launch an attack on China’s eastern seaboard, its economic center of gravity. Since China lacks the capabilities to directly challenge the U.S. fleet throughout the Western Pacific, area-denial have implications that are more significant to China beyond a Taiwan contingency. Area-denial constitutes the defense of the Chinese mainland if the United States attacks from the sea, and will most likely remain the Chinese primary counter to the U.S. fleet.<sup>160</sup> With the U.S. pivot to Asia, the PLAN’s relative disadvantages vis-à-vis the U.S. Navy will persist for the foreseeable future.

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<sup>157</sup> Cole, *Great Wall at Sea*, 163.

<sup>158</sup> Ralph A. Cossa, “Security Dynamics in East Asia: Geopolitics vs. Regional Institutions,” in *International Relations of Asia*, ed. David Shambaugh and Michael Yahuda (Lanham, MD: Rowman & Littlefield Publishers, Inc., 2008), 319-20.

<sup>159</sup> Holmes and Yoshihara, *Chinese Naval Strategy in the 21<sup>st</sup> Century*, 93.

<sup>160</sup> McDevitt and Vellucci Jr., “The Evolution of the PLA Navy,” 82.



**Table 4. Overall U.S. Navy Inventory (2013)**

<b>Type</b>	<b>2013</b>
Deployable Battle Force Ships	283
Aircraft (Operational)	3700
Aircraft Carriers	10
Amphibious Assault Ships	9
Amphibious Transport Docks	8
Dock Landing Ships	12
Cruisers	22
Destroyers	62
Frigates	17
Submarines	71
Littoral Combat Ships	3

*Source:* “Status of the Navy,” *U.S. Navy*, last modified 2013,

([http://www.navy.mil/navydata/nav\\_legacy.asp?id=146](http://www.navy.mil/navydata/nav_legacy.asp?id=146)).

**Table 5. U.S. Pacific Fleet Inventory (2013)**

<b>Type</b>	<b>2013</b>
Mine Countermeasure Ships	9
Littoral Combat Ships	4
Frigates	8
Destroyers	26
Cruisers	8
Dock Landing Ships	4
Amphibious Transport Docks	3
Amphibious Assault Ships	4

*Source:* “U.S. Navy Pacific Fleet Ships by Class,” *U.S. Navy*, last modified 2013,

(<http://www.public.navy.mil/surfor/Pages/USNavyPacificFleetShipsbyClass.aspx#.UVduF6vwLgA>).

## Chapter Seven: Conclusion

Overall, Chinese naval modernization is motivated by historical, strategic, territorial, and economic reasons. The PLAN has made considerable progresses in certain areas, yet still encounters a number of challenges. While the Chinese navy is relatively stronger than the Philippine Navy, it still lags significantly behind those of Japan and the United States. Aware of the inadequacy of its naval capabilities, Beijing will undoubtedly continue to commit resources to strengthening its fleet. The PLAN ongoing innovation suggests two potential scenarios for East Asian security.

### **Potential Scenario #1: Zero-sum Geopolitical Competition**

In this scenario, Chinese naval modernization will exacerbate the geopolitical competition among the regional powers. A recurring theme in international relations theories is anarchy, which compels states to hedge their bets against the chance that conflicts will be resolved with military capabilities. Attempts to hedge against the prospects of an unpredictable future in an anarchic international system leads to the security dilemma.<sup>161</sup> Because states are unsure of others' intentions and capabilities, China's improvement of its military capabilities in general and naval capabilities in particular produces anxiety in the United States and among China's neighbors.<sup>162</sup> From Chinese point of view, the PLAN modernization is necessary to protect the nation's interests. From the U.S. perspective, however, China's effort to build up its navy is unnecessary, because no countries are

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<sup>161</sup> Robert Jervis, "Cooperation under the Security Dilemma," *World Politics* 30 (1978), 167-214.

<sup>162</sup> Avery Goldstein, "Parsing China's Rise: International Circumstances and National Attributes," in *China's Ascent: Power, Security, and the Future of International Politics*, ed. Robert S. Ross and Zhu Feng (Ithaca, NY: Cornell University Press, 2008), 57.

threatening China. As a result, this might lead the United States to assume that China's buildup is geared toward challenging the balance of power in East Asia.

If China succeeded in becoming a dominant player in East Asia maritime environment, this would diminish American security directly by attempting to slowly supplant U.S. military power in the region, and indirectly by its ramifications for Japan. At present, the U.S.-Japan security treaty guarantees strategic security for Japan without alarming its neighbors. If Japan sensed the potential Chinese hegemony, it would have the incentive to rearm unilaterally, which would then aggravate regional tensions.<sup>163</sup> Robyn Lim argues that while great-power war is not necessarily inevitable, it is still feasible – not only between the United States and China, but over the long term between China and Japan as well.<sup>164</sup> Therefore, China's naval modernization would trigger a series of event that would result in an endless geopolitical competition.

### **Potential Scenario #2: Stable Balancing in a Bipolar Asia**

In this scenario, Chinese naval buildup still fosters rivalry between China and the United States, but the competition is moderated by geography, as China remains a primarily continental power. Ross suggests that geography separates contemporary East Asia into a land theater and a maritime theater. Because China is already an established regional power, the power structure in East Asia is fundamentally bipolar, “characterized by Chinese dominance of mainland East Asia, and U.S. dominance of maritime East Asia.”<sup>165</sup> On the one hand, the United States cannot maneuver its superior maritime capabilities against continental China completely to claim overall geopolitical dominance. On the other hand, China cannot

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<sup>163</sup> Robyn Lim, *The Geopolitics of East Asia: The Search for Equilibrium* (London and New York: Routledge, 2003), 2.

<sup>164</sup> *Ibid.*, 1-8.

<sup>165</sup> Robert S. Ross, “The Geography of the Peace: East Asia in the Twenty-first Century,” *International Security* 23, no. 4 (1999), 84.

project its powerful land power seaward in a significant manner. Ross observes, “Because Chinese and U.S. spheres of influence are geographically distinct and separated by water, intervention by one power in its own sphere will not appear as threatening to the interests of the other power in its sphere.”<sup>166</sup> Geography, then, will contribute to peace and stability in East Asia.

Ross further describes three reasons for why China is highly unable to upset America’s capability to practice maritime offshore balancing. First, history, culture, and the geopolitical complications originating from Russia and Central Asia have induced “a Chinese bias toward the development of land power.”<sup>167</sup> As a result, even though the threat of a strong continental Soviet Union already disappeared after the Cold War, the Chinese leadership is still fixated on interior land borders. Second, a historically continental power that desires to become a sea power typically encounters technical difficulties and the expensive costs. The technology and costs, especially those accompanied the construction of a carrier strike group, are almost impossible to overcome. Third, since “China has already secured a place at the table” in Asian geopolitics, it is a content power that has few incentives to confront the United States maritime dominance.<sup>168</sup>

### **Final Thoughts**

Essentially, the second scenario is more likely to occur because in reality, China’s naval buildup has not radically changed the power structure in East Asia maritime region. The U.S. Navy has comfortably dominated the Western Pacific as it has acquired naval bases throughout the region. At the same time, because other countries do not have access to air and naval facilities in the same way that the United States does, they do not possess aircraft

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<sup>166</sup> Ibid, 99.

<sup>167</sup> Ibid, 104.

<sup>168</sup> Ibid, 108.

carriers or land-based aircrafts that can project power into East Asia.<sup>169</sup> Despite the PLAN's expansion in recent years, the net effect of China's naval development on United States maritime superiority is negligible. According to Ross, the most important factor in evaluating the modernization of the PLAN is whether China is at the point of challenging the United States deterrence and making progress on war-winning capabilities to such a degree that maritime countries would doubt the value of their strategic alliances with the United States.<sup>170</sup>

China is not yet at this point. At the end of 2012, the PLAN has only just commenced the building of a next-generation guided missile destroyer. Both the quantity and quality of China's destroyers will not be able to match those of the United States' Aegis-class destroyer fleet. China has one old and relatively small aircraft carrier that was bought from the Russians; the United States has 10 aircraft carriers in service, all of which are nuclear-powered Nimitz-class.<sup>171</sup> China is manufacturing antiship ballistic missiles that could aim at U.S. aircraft carriers, but it still lacks the technology to deploy these missiles. Furthermore, the PLAN is not a uniformly modern force. "Less than 30 percent of the PLA's naval surface forces, air forces, and air defense forces and only 55 percent of its submarine fleet" could be characterized as up-to-date.<sup>172</sup> As long as the PLAN remains incapable of challenging U.S. maritime dominance, Chinese naval modernization may result in some low-level crises, but East Asia will continue to enjoy overall peace and stability.

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<sup>169</sup> Ross, *Chinese Security Policy*, 47.

<sup>170</sup> Robert S. Ross, "The Great Debate: Here Be Dragons," *National Interest* (2009), <http://nationalinterest.org/greatdebate/dragons-3816>.

<sup>171</sup> Eric Wertheim, *The Naval Institute Guide to Combat Fleets of the World: Their Ships, Aircraft and Systems* (Annapolis, MD: Naval Institute Press, 2007), 884.

<sup>172</sup> Robert S. Ross, "The Problem With the Pivot," *Foreign Affairs* (2012), <http://www.foreignaffairs.com/articles/138211/robert-s-ross/the-problem-with-the-pivot>.

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