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**The Evolution of China's Maritime Combat
Doctrines and Models: 1949-2001**

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ABSTRACT

The Peoples' Liberation Army (Navy) or PLAN (in short) is undergoing a major transition. Theoretically, this transition is guided by a long term strategy laid down by Admiral Liu Huaqing in the early 1980s. In practice, however, it is being guided by a number of combat models driven by perceptions of threat to the country's security. Among these models, the most important ones are those of sea control in coastal waters and sea denial in maritime regions within the island chain defined by the islands of Japan, the Liuqu Islands, Taiwan and the Philippines. Under these models, the Chinese military has formulated a number of guiding principles for force restructuring and deployment including those of forward defence, layered defence and mobile campaigns. However, there is a disparity between the guiding principles and the PLAN's real capabilities. As a result, analysts have questioned whether the PLAN has any blue-water strategy at all. This paper is an attempt to explore this and related issues.

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THE EVOLUTION OF CHINA'S MARITIME COMBAT DOCTRINES AND MODELS: 1949-2001

Introduction

In the late 1980s, some analysts, including this author, started to talk about China's blue-water naval strategy.¹ They echoed some Chinese naval researchers' projection that the Peoples' Liberation Army (Navy) or PLAN (in short) would have achieved its First Phase development objective around the year 2000, which would allow the Chinese navy to exercise a kind of sea-denial capability within the first island chain that it has identified in the West Pacific for its operational purposes.² A dozen years have passed, and this capability is still beyond its reach. There is no doubt that the Chinese navy has increased its operational readiness in the last decade. For instance, six new destroyers, including two purchased from Russia, and a similar number of submarines, have entered service. But the overall growth of naval capabilities has remained quietly flat. The Chinese navy has not acquired sea-control power even within its coastal waters let alone be capable of long distance power projection. It is therefore an appropriate question whether China can attain its Second and Third Phase objectives, i.e., that of exercising maritime influence beyond the second island chain by the year 2020, and becoming a naval power capable of making its presence felt globally by 2050.³ Indeed, there are doubts whether China has any blue-water naval strategy presently.

Even if the Chinese navy does have this ambitious strategy, we cannot see how this is being achieved. There is a huge gap between the current force structure and weapons

¹ I first delved into the subject of China's blue water strategy in 1989 when I sensed that its navy was aiming for a big increase in its sea power. Looking back, the Chinese effort is more illusionary than real. See You Ji, "In Search of Blue Water Power: The PLA Navy's Maritime Strategy in the 1990s", *The Pacific Review*, no. 2, 1991, pp. 137-49. This paper was first published as a working paper in ANU in 1989. See also Tai Ming Cheung, "Growth of Chinese Naval Power", *Strategic Papers*, Institute of Southeast Asian Studies, 1991.

² The PLAN has identified two island chains that figure prominently in the seaward defence of China. The first chain begins in Japan, passes through the Liuqu Islands to Taiwan, and then to the Philippines. The second chain stretches from Japan's Ogasawa-gunto Islands, through to the Ito-retto Islands, and from there to the Mariana Islands. Chinese naval planners consider these two island chains to be, traditionally, the U.S.'s ocean barriers for the containment of China.

³ Bai Keming, "Zhongguo haijun de weilai fazhan" (The future development of the PLA Navy), *Jianchuan Zhishi*, no. 12, 1988, pp. 2-4.

inventory in relation to its strategy. Recent acquisitions indeed provide larger platforms for blue-water missions but the number is too small, while proper logistical and surveillance systems are lacking, to support sustainable blue-water operations. There are several reasons to explain why the gap has not been significantly narrowed despite rigorous efforts over the last two decades. First, China is short of economic and technological power to undertake rapid and effective naval modernisation, which would allow it to project offensive power across deep oceans. Secondly, the political trend within Taiwan has become a factor in forcing the Chinese leadership to keep its focus close to home waters. Thirdly, the legacies of the PLAN's development model and experience have impeded its transition to become a true blue-water navy. Certainly there are other factors contributing to the slow growth of the PLAN in the last 20 years but these three reasons may present themselves as the missing links between an ambitious goal and an unpleasant reality facing the PLA. This paper is devoted to an analysis of the third reason, i.e., the influence of past models and legacies on the PLAN's current modernisation efforts.

The Influence of the Soviet Model

Theories of sea power have dominated the thinking of modern navies in the last 100 years. Of the many schools of thought regarding sea power, the two that have influenced the Chinese to a large extent were the Soviet and the U.S. models. In its early days, the Soviet model of naval employment was the sole guiding principle for PLA naval commanders. Its impact is still strongly felt in China's military preparations today. In recent decades, the U.S. has become the major source from which the PLAN draws inspiration. Concepts, such as the role of air and space superiority, long distance missile strike, and electronic warfare in the sea battle, have provided new guidelines for China's war game design and weapons programmes.⁴ However, in terms of naval operational doctrines, campaign theory and tactics, the Soviet model remains the dominant influence.

The Legacies: From Xiao Jinguang to Liu Huaqing

The PLA Navy recently celebrated its 50th birthday. Looking back, a number of personalities has had an impact on its development. Among these, Admirals Xiao Jinguang (naval chief, 1950-1979), Gorshkov and Liu Huaqing (naval chief, 1982-1988) were the key figures. The PLAN experienced a revolution in strategic thinking in the 1980s as it moved from the Xiao doctrine to the Liu strategy but this fundamental change bore the marks of Gorshkov who earlier effected a similar change in the USSR in the 1960s. In a way, the history of the PLAN is a mirror image of the Soviet navy's in terms of its evolutionary strategic thinking.

In contrast to U.S. global naval strategy, the Soviet leadership had, for a long time until Gorshkov, not had an ocean-going offensive strategy. Instead, it restricted naval activities to short range coastal defence, mostly at the campaign levels. In other words, the Soviet navy did not have a full-fledged maritime strategy, which greatly limited the navy's strategic objective, weapons programmes and battle tactics.⁵ This was partly because of the fact that the navy was considered subordinate to the land force. Sea battles were merely seen as an integral part of an overall war in which the army held the key to the final victory. More fundamentally, this Soviet neglect of the naval significance in its global strategy simply reflected a continental mentality in keeping with its long tradition as a continental power. Another important factor contributing to reduced leadership attention on naval developments in the USSR was that Stalin and his immediate successors in the 1950s over-estimated the role played by nuclear missiles which were thought to decide the outcome of an all-out war. For this reason, a larger proportion of military spending was channelled to the building of a nuclear arsenal.⁶

In line with this, the Soviet navy developed its campaign principles and weapons' research and development (R & D) programmes in the absence of an overarching maritime strategy. But its campaign theory was detailed and comprehensive, including that of traffic protection and destruction operations, raid operations, strait and channel defensive

⁴ Li Jie, *Gaojishu yu xiandai haijun* (Hi-tech and contemporary navy), Beijing: the PLA Academy of Military Science Press, 1994.

⁵ Zhang Xusen, *Haijun da cidian* (The Naval Encyclopaedia), Shanghai Cishu Publishing House, 1993, p. 4.

⁶ Zhang Wanchun, *Hedong jundui zhihuiyuan junbinzhong yunyong jichu* (Combat operations of combined units: a basic text for commanders of services and arms), Beijing: the PLA Publishing House, 1992, p. 273.

operations, and, blockade and anti-blockade operations. In a campaign, each of its fleets had clearly defined missions while the campaign theory defined the force structures for sea battles of various scales. It also specified the favourable conditions of engagement for combat. The theory was based on close co-ordination between the army, the air force and the navy in an operation close to home waters. All these had a strong influence on the PLAN in its formative years.

As with the Soviet navy, the PLAN did not have any overarching maritime strategy until Admiral Liu was put in charge in the 1980s. The theoretical guidelines of the PLAN were those directing it to accomplish missions of coastal defence. The factors hindering the development of the Soviet navy also applied to the Chinese side, although the PLAN suffered even more from a continental mentality, a subordinate position to the army and a backward economy. Therefore, China's maritime strategy was no more than some guiding principles for naval tactical missions involving limited numbers of small and medium-sized combatants.

The creation of a Professors' Campaign Study Society in the Department of Naval Studies at the Nanjing Military Academy in 1954 marked the beginning of the PLAN's efforts to learn from the Soviet models of maritime defence. One theory that greatly influenced the PLAN was the Soviet concept of layered defence. At the same time, the professors also tried to incorporate their learning into practice. They were involved in designing the PLA's first combined operation to capture Yijiangshan Island in 1955. Two years later, they provided crucial naval inputs in the joint anti-landing exercise in the East Liaoning Peninsula. For a while after 1957, the campaign study concentrated on the conduct of naval sabotage warfare against a background of heightened tension in the Taiwan Strait. These sabotage tactics required pre-positioned naval vessels to ambush the enemy's warships in China's coastal waters. This was for the purpose of enlarging the coastal defence depth at a time when the country was under great pressure from the blockade by the U.S. 7th Fleet and Taiwan's navy. Sabotage warfare became a key component of China's coastal defence and was viewed as the beginning of the PLAN's

injection of Chinese characteristics into a dominant Soviet theoretical model.⁷ Unfortunately for the PLA, the political campaign of 1959 against so-called ‘dogmatism’ brought to an end the study of maritime campaigns altogether.⁸ It was not until Mao’s death in 1976 that the PLAN launched a new effort to study naval campaign theory which led to the eventual emergence of Liu Huaqing’s maritime strategy in the early 1980s.

Although the navy did not have a maritime strategy for most of the Mao era, it did have operational guidance derived from “people’s war doctrine”. Formulated in 1950 by then navy commander-in-chief Admiral Xiao Jinguang, this guidance was a copy of the Soviet ‘small battle’ theory, which prescribed naval warfare to be conducted as part of an army-centred combined operation. Nothing is more revealing about the navy in its formative years than the following instructions of Xiao: “The PLA Navy should be a light type navy, capable of coastal defence. Its key mission is to accompany the ground forces in war actions. The basic characteristic of this navy is fast deployment, based on its lightness.”⁹ It should be noted however that Xiao was the first military leader in China to advocate some blue-water missions for the PLAN. Owing to the need to monitor the long range testing of the DF-5 in 1972, he had to send ocean-going vessels far beyond the traditional areas of naval activities. The effort to build this fleet got Xiao into a dispute with the radical faction of the Party.¹⁰ Again, out of the need to support the Xisha (Paracel Islands) operation against the South Vietnamese navy in 1974, he found himself in an awkward situation when there were not many warships in the navy that could venture to the deep oceans and match those of the opponent. In 1975, he submitted a report to Mao stating that the maritime defence line had to be projected relatively further away from the coastline. Mao immediately approved the report. As soon as Mao’s approval was secured, the navy dispatched submarines beyond the first island chain in 1977. On 4 March 1979, Deng Xiaoping summoned naval commanders to his residence where he

⁷ Chen Fangyou and others, *Haijun zhanyixue jiaocheng* (Textbook of naval campaign theory), Beijing, the PLA National Defence University Press, 1991, p. 11.

⁸ The political drive was launched by Marshal Peng Dehui against Marshal Liu Bocheng, President of the Nanjing Military Academy.

⁹ Xiao Jinguang, *Xiao Jinguang Zizuan* (Memoirs of Xiao Jinguang), Beijing: the PLA Publishing House, 1988, pp. 31-35.

¹⁰ Srikanth Kondapalli, “Chinese Navy’s Political Work and Personnel”, *Strategic Analysis*, vol. XXIII, no. 10, 2000, p. 1755.

endorsed, on the spot, the navy's request that China's maritime defence should extend to *jinhai*, i.e., off-shore waters rather than *jinan*, i.e., in-shore waters.¹¹

While Admiral Xiao was instrumental in paving the way for the PLAN's strategic change in the early 1980s, it was Admiral Liu who systematically developed the navy's maritime strategy. In Chinese official documents, it is Liu rather than Xiao who was credited with the new naval strategy. It is not possible to establish the exact link between Xiao's proposal to Mao and Liu's input to the policy change. But Liu, who was overseeing the navy's weapons programmes under Xiao, had easy access to the latter. And it may well be a fact that Liu used Xiao's close personal relations with Mao to realise his strategic vision for the PLAN.

A veteran of the Long March, Liu was one of four high-ranking naval commanders trained in the USSR in the 1950s (1954-1958). In the 1960s and 70s, he was first put in charge of naval R&D, and then of national military research. This experience exposed him to the latest military technological developments made by the superpowers. He was among the first generals in the PLA to note the changing nature of modern warfare. His advice to Deng Xiaoping played an important role in the latter's speech to the Central Military Commission's (CMC) enlarged conference in 1975 in which Deng said that war could not be won by the bravery of soldiers alone but by advanced hardware. Soviet training had made him a major campaigner for a modernised navy with a corresponding maritime strategy.

Liu Huaqing's New Thinking

Some naval analysts have regarded Admiral Liu as China's Gorshkov.¹² This can be substantiated given the fact that both commanders regarded high-technology equipment as essential for the conduct of sea battles. Furthermore, the way Liu changed Xiao's doctrine reflected Gorshkov's influence on his military thinking. Liu had studied in the Voroshilov Naval Academy in the second half of the 1950s. This

¹¹ Tang Fuquan, Du Zuoyi and Zhan Xiaowu, "Deng Xiaoping xinshiqi haiyang zhanlie sixiang yanjiu" (The study of Deng Xiaoping's strategic maritime ideas), *China Military Science*, no. 2, 1997, p. 76.

¹² Branley Hahn, "Hai Fang" (Maritime defence), *US Naval Institute Proceedings*, March 1986, p.119.

was at a time when the Soviet Union endeavoured to become a global power under Gorshkov's theoretical guidance. The Soviet effort to expand maritime defence from coastal waters to deep oceans could not have failed to make an impact on Liu, as was demonstrated by his recommendation to his colleagues that they should all read Gorshkov's book, *Sea Power of the State*, carefully.¹³ Indeed, when the PLAN took similar steps under Liu, the Soviet example became relevant in China's naval build-up. More specifically, Gorshkov's influence on Liu can be seen from the following doctrinal changes.

Defence in Depth

When Gorshkov was in charge of the Soviet navy in the 1960s, he started to build a layered defence line radiating from coastal waters covering Moscow against U.S. Polaris missiles which had a range of 1,500 nautical miles (nm). The defence line was then extended to the Norwegian Seas where the Soviet Northern Fleet operated nuclear submarines as a nuclear deterrent against the U.S. In the early 1970s when the Soviet ocean-going offensive fleets became operational, the defence line was further broadened. For the first time, it engaged in a serious competition with the U.S. navy. The purpose of this layered defence was clear from the very beginning – it would make it harder for an attacking force the closer it approached the Soviet coast.¹⁴ Gorshkov had also changed the Soviet maritime defence guideline from its sole emphasis on coastal protection to one which included the capability of threatening the enemy's heartland. He argued that naval activities were of two kinds; between a navy and a navy, and between a navy and a land target (*xianganxin*). The trend for a major power was to move from the former to latter.¹⁵ The Soviets finally had a global maritime strategy which emphasised an ocean-going offensive capability. This deeply influenced Liu Huaqing's strategic thinking.

¹³ Zhao Wei, "Colonel General Liu Huaqing - The New Vice-Chairman of the CMC", *Mingpao Monthly*, no. 1, 1990, p. 39.

¹⁴ John Downing, "China's Maritime Strategy", *Jane's Intelligence Review*, April 1996, p. 187.

¹⁵ Yan Youqiang, Zhang Dexin and Lei Huajian, "Haishang zhanyi de fazhan qishi jiqi duiwojun zhanyi de yingxiang" (The development of maritime campaign theory and its impact on the PLAN's campaigns), in the Editor Group (ed), the Selected Papers of the PLA's First Conference on the Campaign Theory: *Tongxiang shengli de tansou* (Exploring the ways to victory), Beijing: the PLA Publishing House, 1987, p. 993.

Admiral Liu's first contribution to the change in the PLAN's maritime defence strategy was his slogan "*Jijide jinhai fangyu zhanlie*" which meant "active green-water defence". The Chinese translation of "*jinhai*" is "green water". Geographically, that is the stretch between the "brown waters" (the coastal waters) and the "blue waters" (the deep oceans). However, the official Chinese translation of Liu's strategy is still "coastal defensive strategy".¹⁶ The word "coastal" here is somewhat puzzling. Clearly influenced by Gorshkov's idea of extended maritime defence layers, Liu explained that *Jinhai* is more than a simple geographic term for it spells out a new geo-political and strategic consideration. It is somewhat akin to the 1,000 nm defence line, which Japan considers crucial for the protection of its sea lines of communication (SLOCs). By Chinese interpretation, "green waters" embrace a large section of the East and South China Seas. As specified by Admiral Zhang Xusen, former vice navy commander-in-chief and chief of staff, this concept covers all of China's sea territories and the islands scattered in these waters, including Nansha (Spratly Islands) and Xisha Islands.¹⁷ Geographically, this area stretches from the Chinese waters adjacent to Vladivostok in the north to the Straits of Malacca in the south, and continues to the first island chain of the West Pacific in the east. Obviously, this incorporates a vast area of the Pacific including Japan, the Liuqiu (Ryukyu) Islands and the Philippines. Given the long distances from the Chinese mainland – some points more than 1,000 nm away – the concept constituted a leap in Chinese naval strategic thinking.¹⁸

¹⁶ Zhang, *op. cit.*, p. 5. Also see, Alexander Chieh-cheng Huang, "The Chinese Navy's Offshore Active Defence Strategy: Conceptualisation and Implication", *Naval War College Review*, vol. XLVII, no. 3, Summer 1994, pp. 16-19. To this author, the green-water scope is obviously only a transitional one leading to something else later.

¹⁷ Huang Caihong, "Zhongguo haijun de fazhang zhanlie" (The PLA Navy's development strategy), *Jianchuan Zhishi*, no. 4, 1989, pp. 2-3.

¹⁸ You Ji, 1991, p. 140; and You Ji, "A Test Case for China's Defence and Foreign Policy", *Contemporary Southeast Asia*, vol. 16, no. 4, March 1995.

Forward Defence

The concept of *jin hai* defence enlarges the space for military action. The defence of this layer will be the priority in the 1990s and beyond, depending on the pace of hardware modernisation. Within this layer, major surface combatants will be the main defence force. Nuclear and conventional submarines supported by long range aircraft, will play a crucial role intercepting invading warships. The defence line will radiate towards the first island chain within which a sea denial capability could be developed in the near term. This capability could eventually be extended towards the second island chain,¹⁹ as some zealous commanders have advocated.²⁰

In other words, Liu extended the radius for Chinese naval activities which incorporated a crucial forward defence feature. To the navy, this is a matter of life and death. Conditioned by China's coastal geographic make-up, the bulk of PLAN forces have to be stationed in first-line ports, whose defence depth is very shallow. As these ports are easy to seal off, the navy must deploy some of its combat units *elsewhere* to broaden the defence depth in order to give the central high command more warning time.²¹ Emphasizing defence in depth in turn dictates that the PLAN creates as large a space for fleet manoeuvrability as possible. As Admiral Zhang reasoned, unlike the army, the navy has no rear line. The buffer formed by China's 12 nm territorial limit is so thin that it cannot shield coastal political and economic centres from an enemy bombardment from inshore waters. Defence in depth is essential to the navy's survival, not to mention the fulfilment of its strategic tasks. The PLAN must extend its defence as far forward as it possibly can, disregarding the limit of the maritime borders. Only when this is achieved can the country's coastal cities and the navy's rear-bases be shielded from a direct attack.²²

¹⁹ Zhang Xusen, p. 1000.

²⁰ Lu Rucun, *et.al.* (eds), *Dangdai Zhongguo Haijun* (The Contemporary Chinese Navy), Beijing: Zhongguo shehui kexue chupanshe, 1987, p. 47.

²¹ Chen Fangyou, *Haijun zhanyixue jiaocheng* (The textbook for naval campaign theory), Beijing, the PLA National Defence University Press, 1991, p. 66.

²² Zhang Xusen, "Shilun weilai haishang zhanyi de zhidao sixiang" (On the guiding principle of our campaign tactics in future wars), in Editor Group (eds), the Selected Papers of the PLA's First Conference on the Campaign Theory: *Tongxiang shengli de tansou* (Exploring the ways towards victory, proceedings of the excellent essays of the first all services conference on campaign theory), Beijing: the PLA Publishing House, 1987, p. 979.

To achieve the objective of forward defence, Liu believed that the PLAN had to redress some legacies of the previous doctrine. As Admiral Zhang pointed out, the navy had constructed very few forward bases because of its obsession with defensive missions in the past. Forward airports and navigation facilities were especially scant. Preparations for action in deep seas, such as information about marine meteorology, magnetic field intensity and nautical charts of likely combat zones were largely neglected.²³ These have become priority objectives for the navy since the early 1990s. More recently, the navy has adopted an even longer view for forward defence, seeking potential sites for facilities in areas its ships cannot yet reach. The PLAN desires to establish footholds in areas that may be important for its future movements and even deployment. The observation stations that the PLA built in Burma in the early 1990s may help this objective.²⁴ China's heavy investment in South Pacific islands may also pave the way for naval port calls in the future when needed.

Enlarged Combat Platform

Another of Liu's contribution to the modernisation of the PLAN was to change the direction of weapons development from an emphasis on building small in-shore oriented warships to that of large ocean-going combat platforms. Under Xiao's command, the PLAN had built a force structure composed largely of light warships, small submarines and land-based aircraft, which were inadequate for new maritime missions. Liu improved upon this by making greater use of automation, electronics, missiles and nuclear power.²⁵

The light nature of the PLAN structure was also due to China's backward industries and to its financial constraints. For a long time, the Chinese were simply unable to construct large surface combatants. Their campaign theory of "small battles" which was borrowed from Soviet naval thinkers laid the foundation for the

²³ *Ibid.*, p. 980.

²⁴ Ashton William, "Chinese Bases in Burma: Fact or Fiction", *Jane's Intelligence Review*, October 1997, pp. 84-88.

²⁵ "China's naval strategy in the 21st century and its impact on Asia-Pacific security", paper of Liao Wenzhong of CPAS, delivered to the first Chinese navy conference, CPAS and CAN Corporation, 2000, p. 3.

light structure of the naval force. In the 1950s, China could have purchased larger warships from the USSR. Yet the advocates of a defensive and army-supportive navy viewed that large ocean-going vessels may contradict the principle of lightness that was thought to be conducive to fast movement in the coastal waters. This flawed doctrinal principle of fast deployment was thought to have conditioned the navy to focus on being light.

By the time Liu took command of the navy, China's level of industrialisation had become good enough to support the construction of larger surface combatants and more sophisticated submarines, especially those that were nuclear powered. But Liu focused on correcting the belief that lightness contributed to effectiveness. He believed that fast deployment by light warships was not a strong point for any large navy. Here, fast deployment by light craft was overtly defensive in posture. When there was no defence depth for the fleets, it was unlikely that they could survive a strategic maritime attack. Liu therefore advocated the construction of a large number of major surface combatants; mainly missile destroyers and larger submarines with a proportion being nuclear powered. Liu was particularly enthusiastic about the acquisition of aircraft carriers, which he believed to be indispensable for air control in a major sea battle. And without air control capabilities, he believed that it was impossible to acquire sea control. During his period in office, the PLAN rapidly equipped itself with large combat platforms. It also worked out blueprints for the construction of cruisers and aircraft carriers.²⁶ Although these plans have not fully materialised, the increased number of major surface combatants has laid the foundation for a new force structure for the PLAN.

The Combat Models

The PLA Navy has not as yet experienced any major sea battle. The armed clashes with the Taiwan Navy before 1970 and with the Vietnamese Navy in the 1980s cannot be regarded as maritime campaigns. Not being battle-tested, it is difficult for us to assess the capability of the PLAN. While some analysts regard the warships of the PLAN as little

²⁶ Interview sources.

more than junks, others believe that the Chinese navy is an increasingly formidable fighting force.²⁷ Although this paper is not intended to analyse the PLAN's order of battle, it is relevant to evaluate the combat models it adopted over different periods of time.

The Navy's Two Basic Missions

In Chinese terminology, the term maritime combat model has to do with the strategic employment of the navy. Here again, Soviet influence is pervasive. There are two models: a navy operating relatively independently, or a navy cooperating with other services, especially the army in a joint campaign.²⁸ In other words, the naval model of combat reveals the navy's role within the PLA; whether it undertakes independent strategic tasks or provides assistance to other services.

The first model refers to a scenario where the navy exercises power projection in areas away from home waters without much involvement from the other services. As in Soviet thinking, it was meant to launch strategic campaigns against the enemy's naval fleets in oceans or against its land targets. It was Gorshkov's idea that the Soviet navy should be able to destroy U.S. land targets after it acquired blue-water capabilities in the 1970s, especially after its nuclear submarines achieved a credible second strike capability.

The second model refers to a situation where the navy is only part of a united campaign spearheaded by the army. More often than not, the navy would engage the enemy's navy in a battle of homeland defence. The Soviet navy was capable in both categories before the collapse of the USSR. At this point, the PLAN is able only to assume the role of providing strategic assistance to the other services, and, even so, on a limited scale. As a light navy, it cannot yet engage the enemy in strategic sea battles beyond a certain range. Its transition towards gaining this capability will be painful. However, the PLAN's developmental trend is clearly set to follow the Soviet experience

²⁷ Lee, Ngok, *China's Defence Modernization and Military Leadership*, Canberra: Australian National University Press, 1989, p. 68.

²⁸ Yan Youqiang, Zhang Dexin and Lei Huajian, "Haishang zhanyi de fazhan qishi jiqi duiwojun zhanyi de yingxiang" (The impact on the PLAN campaigns of the developmental trend of the maritime campaigns), in

of achieving both capabilities, although it may take a much longer time for the Chinese to accomplish the goal.

The Evolutionary Trend

As mentioned earlier, the PLA Navy did not have a clearly defined maritime strategy in its formative years. Yet it did have clearly-defined contingency war plans. Looking back, these plans reflect the strategic concerns of Beijing over its immediate and long-term military security. They also reveal several rounds of geographic shift in defence gravity; from the east in the 1950s and 1960s, to the north in the 1970s, to the south in the 1980s and back again to the east in the 1990s. These shifts were in line with changes in China's threat perceptions and had driven the navy's contingency planning.

Anti-blockade Warfare in the 1950s

In the 1950s, the primary combat mission for the PLA Navy was to deal with the Taiwan situation. This included actions to counter blockades, sabotage warfare and tactical sea battles. After the Korean War, Taiwan's navy and the U.S. 7th Fleet conducted routine blockades in the Taiwan section of China's coastal waters. Many Chinese commercial ships were detained and destroyed, forcing Beijing to hire foreign commercial vessels to ship its goods.²⁹ This blockade prevented contact between the PLAN's East Sea and South Sea Fleets.

In the 1960s, this anti-blockade policy was extended to include surveillance but geographically it was enlarged from the Taiwan Strait to almost all the SLOCs surrounding the East and South China Seas. To counter this blockade, the PLAN adopted a strategy of small but continuous operations in order to enlarge the combat zones in the coastal areas so that the enemy's line of blockade could be pushed outward. This strategy

Editor Group (eds), the Selected Papers of the PLA's First Conference on the Campaign Theory: *Tongxiang shengli de tansou* (Exploring the ways towards victory), Beijing: the PLA Publishing House, 1987, p. 996.

²⁹ The cost was very high, with the total amounting to 170 million yuan a month. See Liu Jixian and Xu Xikong (eds.), *Haiyang zhanlie huangjing yu duice yanjiu* (The maritime strategic environment and the study of counter measures), Beijing, the PLA Publishing House, 1996, p. 339.

required the capture of islands occupied by the KMT, all the way to the Jinmen, Mazu and Taiwan islands proper.³⁰ From 1962, the PLAN began to dispatch warships to tail U.S. destroyers along the border lines of Chinese territorial waters; a defensive measure similar to the tailing of U.S. spy flights in recent years.

The PLAN's sabotage warfare was meant to counter similar actions by Taiwan's navy along the Chinese coast in the 1950s, mainly in the form of ambushes of Taiwan's military and civilian vessels, which also had the effect of countering its blockade. Hundreds of engagements took place, with both sides suffering serious damages. Some of the actions, such as the sea battle which took place on 6 August 1967 in which two Taiwan warships were sunk, remain the biggest in the PLAN's history. The tactical sea battles involved some major landing operations. The Jinmen bombardment in 1958 was meant to put military pressure on Taiwan for political purposes.

Dealing with the Soviet Threat in the 1970s

In the 1970s, the PLAN's defence focus shifted to North China where the Soviet threat loomed large. Its top priority was to assist the army to withstand a large-scale Soviet land invasion. Deng's strategy of "people's war under modern conditions" prescribed for the PLA its campaign strategy in the three "norths" (North China, Northeast China and Northwest China). The navy's primary mission was to defend the Bohai Sea Channel at all cost because the channel, one of China's three coastal channels, is the final choke point leading to the gateway of Tianjing. In the 19th century, successive foreign invaders had broken through the defence of this channel to land at the Tanggu port. From there, they proceeded to occupy Tianjing and Beijing. According to Admiral Zhang Xusen, as soon as the Soviets invaded the northern coastal regions, the PLAN would launch continuous attacks in the wide maritime areas from the Sea of Japan to China's northern coastal waters with the objective of slowing down the thrust of the land invasion. And in so doing, the enemy's pressure on coastal defences in the Bohai Sea, the Shandong Peninsula and the East Liaoning Peninsula would be reduced. In order to implement this

³⁰ Li Jie and Su Dushi, "Mao Zedong yu Zhongguo haijun" (Mao Zedong and the PLA Navy), *China Military Science*, no. 2, 1997, p. 71.

war plan, the navy would organise a few battle groups to interrupt Soviet transportation lines and especially its personnel supply vessels.³¹

The South China Sea Scenario in the 1980s

By the mid-1980s, China realised that a large-scale Soviet attack was more imaginary than real. There was no immediate danger of an invasion. But minor threats to the country's territorial integrity were suddenly magnified, as reflected by the occupation of the islands in the South China Sea by the regional states. The PLAN found itself ill-prepared to deal with this new challenge. The long distance between its nearest naval base, Yulin, to the sites of dispute seriously tested the navy's ocean-going capability. The air cover and logistical supply required were particularly daunting for a navy that had long focused on in-shore defence. In the ten years to the mid 1990s, the PLAN discussed how it could deal with long range, low intensity and regional wars at sea.³² The South Sea Fleet was beefed up for the purpose of responding quickly to incidents in the Spratlys. The effort included the construction of new airports and forward naval bases, and increasing the number of ocean-going warships. The navy improved its capability to engage its opponents independently, that is, with little assistance from the other services.³³

The desired goal of the PLAN in the South China Sea is to achieve section control along the crucial SLOCs. However, since this is politically impossible, the navy looked at the possibility of obtaining "points control" by laying "a presence chip" in different areas in the South China Sea.³⁴ The erection of a "shelter structure" in the Maiji Islet in the Southeast Spratlys was an act to implement this plan. Militarily, this represented a measure of forward defence and power projection. Yet at the moment, even this limited goal is beyond the reach of the PLAN. The navy's current possession of nine islets can deliver only minimum points control but further occupation has become unattainable

³¹ Zhang Xusen, p. 984.

³² You Ji, "Security Implications of Conflict in the South China Sea: the Chinese Perspective", in Carolina Hernandez and Ralph Cossa (eds), *Security Implications of Conflict in the South China Sea: Perspectives from Asia-Pacific*, Manila: Institute for Strategic and Development Studies, and Pacific Forum/CSIS, 1997, pp. 135-68.

³³ You Ji, "A Test Case for China's Defence and Foreign Policy", *Contemporary Southeast Asia*, vol. 16, no. 4, March 1995.

because of international protests. However, with the nine points in possession, China has established the firm status of being a legitimate party in the dispute settlement process. Hence, the reason for the PLAN's presence in the Spratlys is more political than military for the time being.³⁵

Back to Taiwan Again in the 1990s

Around the mid-1990s, the PLA refocused its attention from the South China Sea back to the home waters again, largely as a result of a new situation in the Taiwan Strait. Under Li Denhui's leadership, Taiwan's move towards independence accelerated visibly. In step with this trend, Taiwan's military made greater efforts to increase its combat capabilities. This not only alarmed the Chinese leaders but also exposed the PLA's inadequacies in combat readiness in dealing with this problem. The shift of naval strength from the Spratlys became inevitable, as the PLA could not afford to fight in two separate theatres simultaneously. Taiwan has always been the top priority. This strategic adjustment also dictated a major force restructuring and redeployment effort in the PLA. The navy is certainly the chief beneficiary of this priority change. Although the acquisition of a long range power projection capability to deal with a South China Sea crisis is no longer a priority, as indicated by a further delay of the aircraft carrier project, it has gained more budget for weapons purchase and research to cope with an increasingly assertive Taiwan. Any solution to the Taiwan question cannot be found without a powerful navy and this begins with the acquisition of capabilities to match Taiwan's latest weapons procurement from the U.S. For instance, the PLAN will have to enhance substantially its anti-submarine capabilities to match the eight more advanced submarines that Bush had decided in 2001 to sell to Taiwan.

The need to enhance its naval power is now more urgent given the greater willingness of the Bush Administration to intervene in a Taiwan situation. The EP-3

³⁴ Pan Shiyong, *Xiandai zhanlie sikao* (Thinking on contemporary strategy), Beijing: Shijiezhishi chubanshe, 1993, p. 265.

³⁵ Zhong Zhanxing, "Yidaying bianjing jiubu zhanzheng zuowei changbeijun jianshe de jinqi mubiao" (Aiming to win limited border conflicts as the near term goal of the standing armed forces), the PLA

incident, Bush's unprecedented promise to help defend Taiwan and the likely inclusion of Taiwan in the U.S.'s Theatre Missile Defense Plan demonstrate this new U.S. propensity. The PLA now regards U.S. military involvement in the event of a Taiwan crisis as a distinct possibility. Its naval development will reflect this concern.

It is not very clear what contingency plans the navy has to deal with a Taiwan Strait conflict. A naval blockade of the island has been a hotly discussed topic in the last decade.³⁶ The PLAN has a wide range of options in this regard. It may stage a strategic blockade, fully mobilising its strength and employing that of other services such as the air force and the missile force. But more likely, it will resort to a tactical blockade, relying mainly on mines and missile attacks selectively with limits in timing and scope. The reason for this is to force the Taiwan authority to renounce its independence move, not to achieve a decisive military victory. To accomplish this goal, the PLA may conduct other forms of warfare as well, such as sabotage missions, landings on Taiwanese occupied offshore islands (such as the Taiping Island in the South China Sea) and missile attacks on a small number of Taiwan's military installations. A massive invasion of Taiwan is out of the question, probably for a long time to come. This reduces the heavy burden of the navy in a war but it is not inconceivable for the PLAN to work on the basis that it may have to engage Taiwanese warships in a few measured operations. After all, it is politics, not the military, that decides on the objectives and methods for a cross-Strait war. However, since politics is not entirely predictable, an unintended escalation of the conflict cannot be ruled out. Whatever happens, the PLAN will bear the first brunt and therefore has to be well prepared. In the next decade or so, we may witness a major expansion of the naval capabilities catering to a Taiwan scenario.

The shift in the maritime focus is closely associated with the two scenarios of the navy's war plans in the immediate and medium terms. Power projection into the deep ocean entails the development of strategically employed naval power because the navy

Academy of Military Science (ed.), *Xinshiqi changbeijun jianshe yanjiu*, Beijing: the PLA Academy of Military Science Press, 1990, pp. 150-64.

³⁶ See for instance, Chong-Pin Lin, "The Role of the PLA in the Process of Reunification: Exploring the Possibilities", in Richard Yang (ed.), *China's Military: the PLA in 1992/1993*, Taipei: Chinese Council of Advanced Policy Studies, 1993, pp. 149-60.

would be required to launch independent campaigns or joint campaigns with the navy in the primary role. Such campaigns are offensive in nature. The most likely scenario would be an armed conflict in the South China Sea where the PLAN takes the initiative to seize more islands, including actions to eject the forces of other claimants. As for the employment of naval power in a support role, this will most likely be in coastal waters for the purpose of home defence.

A cross-Strait war represents a unique case as it cuts across the two scenarios. Military action is likely to be close to home waters but the war zone may extend well into the Pacific Ocean to deal with the possibility of U.S. intervention. As the U.S. Pacific Fleet may launch a long range pre-emptive strike against Chinese targets, the PLA has to enlarge its defence depth to counter this attack. And the navy assumes the key role in staging various kinds of blockade, landing operations and naval engagements. This dictates a certain level of strategic naval deployment.

The Strategic Models

What will the PLAN's maritime strategy be in a war? Generally speaking, it will be set in a defensive-offensive orientation. This is to say that the PLAN will take an overall defensive posture but in some special cases it will initiate offensive operations for political and geo-strategic objectives. More specifically, in the coastal regions, it will seek to control the seas for China's maritime security and for sea denial in the areas crucial to the PRC's national interests. Again, these sea control and sea denial capabilities are developed for defence against potential strikes similar in form to that of Desert Shield. In this, we see again the influence of the Soviet maritime campaign models of layered defence: the closer the enemy's operation is launched against China's home waters, the tougher it encounters the PLAN's resistance. As for special cases where the PLA takes an offensive posture, Taiwan and the Spratlys are the most likely targets.

The Model of Sea Control

The PLAN does have a plan to establish sea control in China's coastal maritime regions during a war. Admiral Liu regarded this mission as the most important of the four missions he had set for the navy. Soon after becoming the navy's Commander-in-Chief, he instructed his staff to do a study on how this could be achieved in pursuit its strategic objectives.³⁷ These objectives included three water channels – the Bohai Strait, the Taiwan Strait and the Qiongzhou Strait – and the SLOCs around them. To Liu, whether or not the PLAN was capable of exercising sea control over these key water-ways was the primary indicator of whether the navy was usable at all.³⁸ He further required the navy to be capable of initiating major sea battles in waters adjacent to China's maritime territories, as part of his sea control strategy.³⁹ This would help to deter external intervention in the Taiwan Strait. If the PLAN can achieve the necessary amount of control there, it will effectively influence the future political course of the island.

The PLAN's achievement of a sea control capability in the near term is based primarily on the enhancement of its naval battle groups and its submarine fleets, including its 09 nuclear submarine unit, and through mobile campaigns.⁴⁰ In a defensive campaign, the major surface ships directly engage the invading enemy as well as stop them from bombarding land targets and from landing troops. They would try to maximise human casualties amongst the enemy. The submarines will conduct ambushes in both coastal and outer waters, erect barriers against the invading fleets and disrupt their transport and supply lines. In an offensive campaign, the roles would be reversed.

There are several factors affecting the effort at sea control. The first is about the major strategic aims identified by Liu. As discussed earlier, in the 1970s, the Bohai Strait

³⁷ Zhang Xusen, 1987, p. 984.

³⁸ In 1979, Deng Xiaoping instructed the navy to build up its capabilities so that it could be usable in time of need. Since then, to have a usable navy has been the criterion for naval modernisation. This slogan was further elaborated by Jiang Zemin who directed the PLA (and the PLAN) to fulfil two fundamental requirements, i.e., to remain loyal to the Chinese Communist Party and to be capable of winning the next war. Therefore, the concept of a usable navy embodies the concrete requirement to win a regional high-technology war.

³⁹ Zhang Xusen, 1987, p. 984.

⁴⁰ Hu Wenlong and Cha Jinlu, *Xiandai junbingzhong zhanshu* (The contemporary tactics of services and arms), Beijing: The PLA Military Science Academy Press, 1991, p. 268.

was critical to the navy. Its defence was deemed essential in delaying a Soviet amphibious assault in North China and the Shandong Peninsula. Although it was impossible for the PLAN to secure sea control vis-à-vis the Soviet navy at that time, the Chinese believed that with effective land-based air support and concentrated use of large numbers of small and medium-sized naval vessels, it could pose a real threat to an invading Soviet navy. In the 1990s, when the PLA's centre of defence gravity shifted to the Taiwan Strait, a sea control capability in this sector became the main aim in war preparations. According to PLA officers, if the PLAN cannot overcome Taiwan's partial air and sea superiority, it cannot prevent its slide towards independence.⁴¹ Certainly, the dispute in the South China Sea is another area of major concern for the navy. Apart from political constraints, the 1500 km range represents a major hindrance to the desire of the navy to control the Spratly Islands.

In projecting sea control power, the navy would defend against an invading fleet in waters adjacent to major coastal cities such as Shanghai, Hong Kong and Xiamen. In an offensive campaign, such as forced landings on islands under Taiwan, e.g., Jinmen, the PLAN will move to control the seas around the areas designated for assault and to secure them for the landing of troops by air and sea. To the PLAN, sea control is not to be secured in a large horizontal geographic area but along vertically distributed lanes. Nor should it be a comprehensive control but a partial control within a limited time framework.

The second factor contributing to sea control is air control. Liu Huaqing was particularly concerned with this aspect of maritime warfare and this was one of the main reasons why he vigorously proposed the acquisition of aircraft carriers. He rejected the argument that given China's current needs in the South China Sea, using in-flight refuelling for air combat missions was more cost effective than the construction of aircraft carriers. In March 1990, when inspecting the testing base of the PLA's in-flight refuelling programme, he questioned how refuelling points are to be protected without fighter-jets from an aircraft carrier.⁴² One of the reasons for the PLA Air Force's preference for the

⁴¹ Xu Yan, "Jianguohou dalu yu Taiwan shili duibi de yanbian" (The evolutionary change in the military balance between China and Taiwan), *Journal of the PLA National Defence University*, no. 8, 2000, p. 28.

⁴² Shi Fei, *Zhongguo junli da qiushi* (Developmental trends in the Chinese military), Chengdu: Sichuan kexue chubanshe, 1993, p. 17.

Su-27 over the Mig-29 was the former's superiority in battles over the sea.⁴³ Liu's naval background was a key factor in the choice of the Su-27. The admirals believe that an attack against the enemy's warships from the sky is much easier than engaging them with their ships. If the PLAN can control the air, it could attack the enemy's warships at high speed and with a higher chance of success. Top PLA generals are now confident that as the PLA Air Force modernises at a quickened pace, its land based air power can at least deliver a level of air control over a selective range of the country's coastal waters. In a maritime conflict, airplanes will assume the primary role in frustrating the enemy's operations. Therefore, the model of sea control for the PLAN is based primarily on air control. Likewise, the major obstacle that could deny the PLAN sea control comes from the air. Furthermore, the lack of experience in joint operations between the navy and air force poses a serious obstacle in achieving strategic goals in waters away from home.⁴⁴

The third factor is the construction of defence and attack facilities at sea (*zhanchang jianshe*) including facilities on islands that can shield the coast, create underwater surveillance networks, and ambush sites for surface combatants and submarines, etc. Better location and distribution of the land-based air attack facilities, including land-based anti-ship missile batteries, is another key task of the construction project. The purpose is to create a large defence depth by exploiting the nature of the coastal lines and islands.

The Chinese concept of sea control is different from the western concept which relies on using superior combat strength to secure freedom of action for itself and to deny that of the opponent's. The Chinese concept is about building temporary and area tactical naval superiority through concentrated usage of combat facilities and the exploitation of geographic advantages. Because China's potential opponent is the largest navy in the world, it is beyond the PLA's ability to obtain real and strategic sea control. Hence, it has to project sea control to feasible geographic limits. During the process of securing sea control under the pressure of time, it hopes to inflict enough damage on the enemy so as to

⁴³ *Asian Defence Journal*, no. 3, 1993, p. 43.

⁴⁴ Paul Godwin, "The PLA Faces the 21st Century: Reflections on Technology, Doctrine, Strategy and Operations", in James Lilley and David Shambaugh (eds.) *China's Military Faces the Future*, Armonk: M.E. Sharpe, 1999, pp. 58-59.

force it to retreat or withdraw. In short, the concept is narrowly defined and tactically oriented.

The Model of Sea Denial

The concept of sea denial is not widely discussed in the PLAN's literature. It is not even listed in *Navy Encyclopaedia*, a most comprehensive dictionary compiled by the PLAN and which contain most of the naval terminologies in existence. This is probably due to Soviet avoidance of the terms in view of their western origins. The chief editor of the dictionary, Admiral Zhang Xusen, was a Soviet-trained naval strategist and the exclusion of this concept from the encyclopaedia shows how profound the legacies of the Soviet influence on the PLAN was even in the mid-1990s.

The concept of sea denial is an awkward one for the PLAN because it is not in the position to deny its most likely opponent the areas crucial to China's maritime security. For the regional navies, there is little need for denial. In geographic terms, denial requires a depth in which enough naval combat capabilities are deployed. In China's case, this defence perimeter is just outside the strategic Bohai channel and the Taiwan Strait, and is extended towards the first island chain in the West Pacific; about 200 to 250 nm from home. At the same time, the concept entails a major component of offence. It is obvious that any sea battle 200 to 250 nm from China's coast would be fought in international waters. Even if the campaign is defensively oriented, it still signals an element of interception. This is especially true if the campaign is aimed at disrupting the enemy's SLOCs, or at protecting China's key traffic lines. The offensive nature of the concept contradicts the PRC's naval policy which emphasises an overall defensive posture. It is understandable that official writings have avoided using this term.

However, in the PLAN's doctrinal literature, there is a term carrying a similar conceptual meaning, namely, that of regional defensive strategy. This strategy is defensive in form but offensive in nature, as it proscribes an enlarged defence depth, capabilities of pre-emptive strike, fast-reaction battle groups and long range air attacks.⁴⁵

⁴⁵ *Navy Encyclopaedia*, p. 5.

To a certain extent, this strategy constitutes Liu Huaqing's green-water active defence strategy. In other words, Liu's strategy can be seen in the same light as the sea denial strategy. What does this mean for the PLAN's model of combat?

The Layered Defence and Island Chains

Sea denial constitutes the second layer of maritime defence for the PLAN, which is in addition to the first layer of coastal line defence needed for sea control. In other words, sea denial, whether in defence or offence, provides the outer shield for China's coastal cities and maritime security. Geographically, this shield is largely within the first island chain which the PLAN regards as crucial for it to secure its vital interests. As noted earlier in a footnote, there are two island chains which the PLAN regards as traditional U.S. ocean barriers for the containment of China. The first chain begins in Japan, passes through the Liuqu Islands to Taiwan, and then to the Philippines; and is the vanguard of a discernible threat to the PRC. The second chain stretches from Japan's Ogasawa-gunto Islands, through to the Ito-retto Islands, and from there to the Mariana Islands.⁴⁶

This second defence layer was developed primarily for breaking a blockade within the first island-chain in the next decade or so. It is considered desirable if the PLAN can also break any blockade beyond the first chain. To the navy, the SLOCs in the two chains are narrow, strategically located and difficult to access. The PLAN is not in control over them, except for a section in the Taiwan Strait. In time of war, it would be difficult for PLAN fleets to be deployed in the planned areas of action as they may be sealed off in several isolated maritime zones. This is especially true in the East China Sea where the strategic depth is shallow, making it difficult for the navy to intercept the enemy at a distance early enough to safeguard the coast. Moreover, the shape of China's coastal line exacerbates the problem. It is widely extended from north to south but extremely shallow from east to west. The navy may therefore be divided by the section of the Taiwan Strait. The first island-chain is also well-known for its oceanographic peculiarities. For instance, the large tidal range and fast tidal flow make a landing operation difficult to mount.⁴⁷

⁴⁶ Li Jie and Liu Weixing, "Lun daoyu suolian de zhanlie diwei jiqi yingxiang" (The strategic status of the island chains and their impact), *Journal of the PLA National Defence University*, no. 12, 2000, p. 24.

⁴⁷ Ibid.

On the other hand, the oceanographic peculiarities in the two island chains may prove to be positive for China's layered maritime defence in other ways. The chains may be used as defence lines for the PLAN. Under certain conditions, they may serve to protect the concentration and dispersal of the fleets. The large number of islands, ports and anchorages may help conceal the movement of naval troops. The average water depth in the regions between the coast and the chains is relatively shallow which makes it conducive for mine warfare. Finally, because there are large numbers of straits, channels and water-ways in the West Pacific, and because these are under the control of a number of countries, it is not easy for one power to control all the SLOCs. This offers opportunities for the PLAN to get through a blockade. Accordingly, the PLAN can deploy its maritime defence in relation to the geographic features of the two chains. Indeed, the viability of a sea denial strategy is assessed against the background of an enemy's possible blockade in the two island chains. As a long term development objective, the PLAN is determined to acquire naval strength that would enable it to launch campaign-level operations in the area close to the first island chain. This constitutes a basic precondition for a sea denial strategy. Without this, the second layer defence will not be reliable at all.⁴⁸

Asymmetric Warfare: The Weak against the Strong

The second major component of the PLAN's sea denial strategy focuses on how it can fight a more powerful navy in a limited regional conflict. In this case, the definition of victory is a political rather than a military one. The PLAN is aware that it is unlikely to win a battle with the U.S. navy. Yet PLAN officers are inclined to think that if they are capable of inflicting sufficient damage on its forces, they may be able to force the U.S. to limit its war objective and to put pressure on Taiwan to refrain from declaring independence. Therefore, the concept of sea denial to PLA thinkers is also about how a weaker navy could deal with a more powerful navy.⁴⁹ In a way, this is what the PLAN tries to do in acquiring capabilities for asymmetric warfare.

⁴⁸ Zhang Wanchun *et. al.*, pp. 277-81.

⁴⁹ Paul Godwin, in *Strategic Trends in China, Session 4: Defence Policy and Posture*, Institute for Strategic Studies, National Defence University, 1998.

Asymmetric warfare is a counter to the on-going revolution in military affairs (RMA), as defined by Christensen.⁵⁰ The PLA strategists do have a realistic assessment of the enemy's power and its own vulnerability in a major war. Therefore, the Central Military Commission is not likely to commit the navy to an all-out battle with the more powerful opponent, unless it feels absolutely necessary. However, it may feel pressured to respond to an imminent threat, as a result of which it may opt for more cost-effective solutions than dispatching warships to the scene. Indeed, in an era of high-tech warfare, the potential for a weak navy to exercise sea denial power is actually greater because there are more combat mechanisms than a simple engagement of gunboats to decide the outcome.

A high-saturation conventional missile attack would be one of the first choices to be considered. To bring the war to the enemy's territories is an effective means of sea denial. This can be done through missile strikes against its naval bases, its warships and its supply lines. This is why the PLAN is studying how it could conduct missile warfare against aircraft carrier battle groups. It will certainly be a long time before the PLA can acquire the capability to threaten carrier battle groups. But the determination is there and the tactics are being seriously researched, probably encouraged by the result of a supposed computer simulation by the U.S. Department of Defense⁵¹. Over the next 20 years, the PLA will enhance its nuclear and missile deterrence capabilities against any possible U.S. intervention in the Taiwan Strait. New long range and more accurate missiles will become operational for a 'Tomahawk missile-type' offensive as an integral part of a sea denial operation.. Countermeasures are being developed to overcome missile defence systems that are aimed at neutralising the PLA's missile punches.⁵²

Another possible asymmetrical measure is electronic and information warfare to disrupt the enemy's high-tech command and control systems. In the information era, the

⁵⁰ Thomas Christensen, "Posing Problems without Catching Up: China's Rise and Challenge for US Security Policy", *International Security*, vol. 25, no. 4, 2001, p. 25.

⁵¹ The result of the simulation showed that the PLA won a sea battle against a US carrier group by using a concentrated missile attack.

⁵² You Ji, "China's Perception on the Changing Security Situation in Asia and the Pacific", *China Studies*, vol. 7, March 2001, pp. 127-44.

more a military depends on electronics to win a war, the more vulnerable it may become when facing a protracted attack on its information hubs. The Chinese navy may cause serious disruption to the complicated information warfare (IW) systems of its opponents, even though its own IW systems are much more inferior. Currently, the PLA is rigorously looking into how it can defeat a superior enemy. It has come to the conclusion that it needs to develop some ‘magic weapons’ (*shashoujian*) which would pose a real threat to the enemy.⁵³ One such weapon is electronic warfare which the PLA is devoting a lot of resources on, to develop weapons such as anti-radiation missiles, electromagnetic pulse weapons, laser guns, electronic jamming equipment, and computer viruses, and to train computer hackers to attack the enemy’s networks.⁵⁴

Sea Denial and Campaign of Defending and Disrupting SLOCs

In the past, the PLAN’s sea denial strategy was basically for application in waters close to home. However, China’s growing international trade is progressively imposing heavier demands on the navy to protect its SLOCs. Controlling major SLOCs effectively within China’s maritime waters up to a certain span of time, was one of four missions that Admiral Liu Huaqing had envisaged for the navy when he became Commander-in-Chief in the early 1980s.⁵⁵ This mission required the navy to enlarge its normal areas of activities and to make the protection of China’s shipping an objective in war. These requirements are regarded as new challenges to the PLAN on account of its lack of experience and capability in these areas. Nevertheless, the navy believes that it must be prepared to face these challenges because the safety of SLOCs is necessary for China’s economic survival.⁵⁶ The way the Japanese navy raised its sea denial limits beyond the self-imposed 1000 nm, such as the defence of its three key major water-ways of Tsugaru-Kaikyo, Soya-Kaikyo and Tsusushi-Kaikyo, has

⁵³ Major General Zhang Youcai (the Fourth Department of the General Staff), “Denglu zhanyi dianzi duikang zuozhan zidao de jige wenti” (Several issues regarding electronic warfare in a landing operation), in the PLA National Defence University (ed.), *Gaojishu tiaojianxia zuozhan zhihui yanjiu* (Research on operational command under high-tech conditions), Beijing: the PLA National Defence University, 1997, pp. 327-33.

⁵⁴ Thomas Christensen, p. 2.

⁵⁵ Zhang Xusen, p. 984.

⁵⁶ Chen Fangyou and Lu Jinxiu, 1991, p. 158.

been relevant to the PLAN in its own plans concerning the protection and disruption of SLOCs within the two island chains.

In the analysis of the PLAN, defending or disrupting SLOCs is a new challenge because of the following factors:

- (1) The Long Distances Involved. The naval escort has to be projected over several thousand nautical miles. This will force the navy to shift its preparations for naval actions from “points” to “long lines”; hence, this would stretch its strength to the limits because of its lack of ocean-going warships.
- (2) The Loss of the Initiative. In a campaign to defend SLOCs, the PLAN will have to face the problem of being the passive side, subjected to attacks by the enemy’s aircraft and submarines. It would be difficult for the escort fleet to decide when and where to engage the opponent. This compounds the navy’s inadequacy in general capabilities.
- (3) Restrictions Imposed by Civilian Ships. The escort fleets’ would be restricted by the civilian transport ships because it is the latter that set the speed, route and time frame . This greatly narrows the choices of engagement with the enemy’s navy.

As a result of these difficulties, the PLAN has formulated some basic guidelines for the defence of SLOCs. Firstly, the inshore escort should make use of China’s territorial islands and land-based aircraft. Secondly, a special fleet should be established for the deep ocean escort. This is made up of major surface combatants and submarines which could include nuclear ones. They should also have a strong anti-submarine warfare capability. Thirdly, the escort fleets have to increase their scope of surveillance and to enhance their air and missile defence capabilities because of the enemy’s use of long range missiles. Fourthly, the fleet should work out the priority defence areas and to take concrete measures for the possibility of actions here.

Fifthly, some large civilian ships may have to be transformed into defence platforms for use as helicopter carriers.

Closely related to the defence of the SLOCs is the mission of the navy in disrupting the enemy's SLOCs. This is regarded as an important part of the Navy's mission. According to PLA analysts, the ability at logistical resupply over long distances will be crucial for victory. Attacks on the SLOCs of Taiwan would be of practical significance in China's campaign to force the Taiwan authorities to give up their plans for independence.

In planning its campaign to disrupt SLOCs, the PLAN has formulated a number of principles.

- (1) Because of the Navy's limited offensive capabilities, it should launch an attack on the enemy's priority SLOCs, which can either be in deep oceans or in inshore areas;
- (2) In order to avoid the enemy's intense counter-attack, the choice of targets and employment of PLAN units should be dispersed. At the same time, the concentration of major combatants should be supplemented by small scale disruptive activities;
- (3) Because the PLAN is still a light navy and its normal radius of action is quite limited, anti-SLOC campaigns should be conducted mainly within the scope of "green water". This may make it possible for the campaign to be supported by the land-based air power of the Air Force.
- (4) Due to the lack of major combatants, the number of targets should be carefully planned. There should also be restrictions on the use of main attack units.
- (5) Anti-SLOC campaigns should include an assault on the enemy's ports.

The Missing Links between Strategy and Capabilities

Admiral Liu Huaqing raised the PLAN's ambition to achieve the status of a major sea power. But he also exposed its inadequacies. Although the navy has made steady progress modernising itself over the last two decades, it is still in a transitional phase, as indicated by the relatively flat growth in the number of its major combatants since the 1990s. Twenty years have elapsed but Liu's blue water dream for the PLAN remains unfulfilled. This contrasts sharply with the achievements of the Soviet navy under Gorshkov. Within fifteen years from the time Gorshkov aimed for an ocean-going offensive strategy in the 1960s, the Soviet navy had fully transitioned to blue water status.

Indeed, the expansion of the PLAN's combat power has been quite dismal. In the last decade, only four new destroyers have entered service; the *Zhangjiang*, *Harbin*, *Qingdao* and *Shenzheng*. The acquisition of the two *Sovremenny* destroyers has not increased the navy's overall strength either. Many plans for hardware upgrading remain uncompleted. For example, the prospects of building two aircraft carriers remain as remote as ever, the design of arsenal cruisers capable of launching hundreds of long-range missiles has been shelved for a long time, and the production of the third generation of home-made conventional submarines has been slow in coming. The number of nuclear attack submarines has also not reached the desired level. Moreover, it will take considerable time before the nuclear-powered strategic missile submarines become operational, while the 093 and 094 submarines have yet to materialise.

The PLAN's slow pace of modernisation has its roots in Soviet legacies. Structurally, the navy has been bound by its light framework. The large number of small naval crafts absorb manpower and resources. But to scrap them would dramatically reduce the operational readiness, as the navy cannot replace them with sufficient numbers of large and medium-sized vessels. The problem for the navy is that it may be dragged into a major war unexpectedly. As the PLAN's large vessels are small in number and easy to destroy, small craft maintain some usefulness, forcing

the navy to keep many of them. In turn, this makes the increase of large platforms difficult to achieve. The navy is stuck in a painfully vicious circle.⁵⁷

Technology is a major problem. Theoretically speaking, China, which has the world's third largest ship-building industry should be capable of constructing more major combatants than it is currently doing. But it realises that numbers alone do not count and that real combat power lies in advanced technology which can also integrate the systems together. The PLAN suffers from a lack of good electronic warfare systems, command and control systems, and surveillance and early warning systems. Without these crucial technologies, warships are little better than junks.⁵⁸ Therefore, it does not want simply to add numbers to its fleets. Unless China is confident of its technological capability, it will not easily commit itself to the design and production of large warships, while it hopes for a period of peace ahead.

Foreign procurement serves only as a quick fix. Furthermore, large quantities of foreign acquisitions are out of the question for a number of reasons. First, the PLA would not want its modernisation to be influenced by any foreign power. Secondly, the economic cost is prohibitive unless the need is critical enough. Thirdly, the difficulty of integrating the various components into a complete and effective weapon system is insurmountable. In short, the PLA cannot count on overseas purchases to improve its overall capabilities.⁵⁹

Due to these inadequacies, the PLAN's maritime strategy and especially its operational principles are still largely based on the coastal water defence strategy of the 1950s. It is true that the navy has a long term strategic objective that bears some resemblance to that of an ocean-going strategy, but in practice its tactics and training are those of a coastal navy. This may be the reason why the navy does not want to talk about sea control and sea denial capabilities. It talks only about strategies.

⁵⁷ Chen Fangyou, et.al., p. 51.

⁵⁸ Eric McVadon, "Systems Integration in China's People's Liberation Army", in James Mulvenon and Richard Yang (eds.), *The People's Liberation Army in the Information Age*, Santa Monica: RAND, 1999, pp. 217-56.

⁵⁹ See You Ji, *The Armed Forces of China*, Sydney, London and New York: Allen & Unwin and I.B. Tauris, 1999, ch. 3.

Moreover, its likely opponent is so powerful that it can neither be ‘controlled’ nor ‘denied’. Sea control and denial strategies require a wide range of capabilities to survive the initial exchange of fire, capabilities which the navy does not have presently. This is where the missing links are.

The fundamental problem for the PLA navy is that its force structure is not balanced and lacks major capabilities to cope with a fast moving, long ranging and high-technology war. The navy recognised this problem as early as the mid-1980s and was determined to remedy it.⁶⁰ However, little progress has been made, as reflected in the following points:

- Weak Anti-submarine Warfare (ASW) Capabilities. For instance, as McVadon has pointed out, in terms of systems integration in ASW warfare, the PLAN is still using rudimentary direct communications (e.g., voice radio) between ASW aircraft and surface ships. There is no interface to harmonise the disparate components. This is not to mention that the PLAN lacks effective platforms, such as aircraft, naval vessels, land-based or sea-based missiles.⁶¹
- Weak Logistical Supply Capabilities. The PLAN is short of ocean-going transports, a problem which the PLAN regards as a handicap in its naval modernisation.⁶² Without sufficient supply ships, the PLAN cannot establish battle groups composed of large and medium sized combatants. At high speed, a destroyer consumes 30 tons of oil a day and needs to be re-supplied daily.⁶³ If a group comprises five or six such ships and the navy has three or more such groups, the current number of such supply ships would have to be several times more but there is no sign that the PLAN is increasing their numbers.

⁶⁰ Wang Ziqiang, “Xinshiqi haijun jianshe de langge wenti chutan” (The two major questions concerning the navy’s buildup in the new era), in the PLA NDU (ed.), *Jundui xiandaihua jianshe de sikao*, the PLA NDU Press, 1988, p. 384.

⁶¹ McVadon, p. 226.

⁶² Wu Qisheng, “Nuli tansou haijun houqing xiandaihua jianshe de luzi”, (Working hard to explore ways of modernising naval logistics systems), *Journal of the PLA National Defence University*, no. 8, 2000, p. 73.

⁶³ Zhang Wanchun, Chen Fangyou and Li Shuyu, p. 285.

- Delay in Forming Ocean-going Battle Groups. The foundation of Liu's maritime strategy is the creation of ocean-going battle groups capable of blue water offensive missions. These groups represent the main units for sea control and sea denial missions in addition to the possibility that they might be used for independent campaigns in the West Pacific. The PLAN attempted to form these groups about the same time when its maritime strategy was undergoing change from that of brown-water defence to green-water defence. This means that the navy has plans to set up several task fleets. These fleets would be supported by long-range aircraft and nuclear submarines. When the conditions are ripe, they would be incorporated into aircraft carrier (or large cruiser) battle groups.⁶⁴ The navy presently has several fast response units but these are tactical units for small scale conflicts. Without larger platforms like aircraft carriers or cruisers, it is impossible for it to achieve sea control or sea denial capabilities beyond a certain range. But there is no sign that the navy is constructing such platforms.
- Lack of Specialised Combatants. The PLAN has modified some of the existing classes of destroyers and frigates into escort warships in order to enhance the fast response units' anti-air and anti-submarine capabilities. These would cater for different tasks required in blue-water missions but they are not truly specialised warships, as they are handicapped by limited facilities. Another factor that handicaps the navy's formation of battle groups is its inadequate number of ocean-going warships. Unless the navy has a sufficient number of major combatants, each fleet cannot conduct independent warfare on the high seas. Numbers are considered important not only to make up for quality, but also to avoid trading off crucial strength in strategic directions.⁶⁵
- Weak Naval Air Power. The PLAN has a small number of long range bombers but they are old and vulnerable to interception by air defence systems. The bulk of the naval air force is land-based and short ranged. Without air cover, it is

⁶⁴ Chen Fangyou and Lu Jianxu, 1991, p. 164; Hu Guangzheng, "20 shiji jundui tizhi bianzhi de fazhan jiqi qishi" (The development and lessons of force structure and establishment in the 20th century), *Zhongguo junshi kexue*, no. 1, 1997, p. 124.

⁶⁵ You Ji, "A Blue Water Navy, Does it Matter?", in David Goodman and Gerry Segal (eds.) *China Rising: Interdependence and Nationalism*, Routledge, 1997, p. 81.

unlikely that the CMC would allow the navy to dispatch battle groups to deep oceans for combat missions. The result is that naval activities will be confined within the radius of the air force which does not go beyond the first island chain.

Conclusion

Soviet influence on China's naval development is profound. This is largely due to the fact that the early Soviet naval strategy suited the Chinese whose naval hardware was backward and whose activities were confined to coastal waters. Technologically, China could not produce major surface combatants that would allow it to ply the deep oceans. For a long time, therefore, it had to be content with a light force structure propped up by fast torpedo boats, medium-sized submarines and land-based air support. This Soviet legacy haunts the PLAN to this day.

Liu Huaqing's contribution was basically in terms of strategy. He put forward a long term development plan based on an "active green-water defence strategy", with an open-ended goal of progressing it to a blue-water capability. But this strategic goal has proven to be unattainable, at least for the time being. In spite of this, however, Liu had set the navy in the right direction. He broadened its defence depth, pushed to build large platforms, and lifted its profile in the armed forces and in the country's politics. Although Liu's goal remains to be fulfilled, the navy is following his grand design very closely. Liu may not be as lucky as his Soviet teacher Gorshkov, to see the day when China's ocean-going fleets traverse the world. That day will eventually come if the navy patiently pursues Liu's strategic vision, especially if the country's economy remains on course to become, in twenty years time, the world's second largest, as the Soviet economy once was.

At the moment however, Chinese naval operations are not grounded in the blue-water ambition, but in more realistic combat principles. If we borrow the Western concepts of sea control and sea denial to explain these principles, we can say that the PLAN has tried to exercise sea control power in the coastal waters which are crucial if it is to prevent the enemy's navy from bombarding Chinese cities at close

range, or from landing forces on Chinese soil with little or no resistance. In the outer waters radiating gradually to the first island chain, the navy is trying to project a sea denial capability meant to inflict heavy losses on the enemy. This is a further effort to enlarge China's maritime defence depth and to protect the key waterways for the country's growing commercial shipping.

For the time being, the PLAN sees sea control and sea denial concepts more in operational than strategic terms. Given its current capabilities, the zones for control have to be limited. More specifically, they are around the country's three major channels, i.e., in the Bohai Strait, the Taiwan Strait and the Qiongzhou Strait. The PLA will pay special attention to the first two. The sea denial strategy gives China a larger maritime defence depth, which is indispensable in this age of the RMA. The PLAN will gradually develop its naval strength to deter its opponents within the first island-chain. For the PLAN, sea denial can be achieved by waging asymmetric warfare against a stronger navy. Inflicting damage and casualties, not victory, are its objectives. In time, as the navy becomes more capable, it will look at the second island chain. The two chains are geographically and strategically important for the Chinese in any effort to break a naval blockade and to secure safe passage for their shipping to the world. The goal of sea denial is to get the enemy to ponder over whether it is worthwhile to wage a major war with China.

The navy is presently silent on sea control and sea denial operations for it lacks the capabilities to execute them. Too much talk along this line may also alarm regional countries and adversely affect the country's interests since these two concepts have an 'offensive' connotation. The outcome is that there is a big missing link between the PLAN's maritime strategy and its actual operational principles and tactics. The strategy serves only as a long term guideline for the navy's development. It is not a present day reality. However, the navy will quietly modernise its fleets according to the strategy and will obtain sea control and sea denial capabilities in due time, when China's economy can provide the resources needed.⁶⁶ As the CCP

⁶⁶ See the section on ship building in the summary of Michael McDevitt of the Conference on the PLA Navy April 6-7, 2000, Washington DC.

leadership believes that a war with Taiwan is not entirely avoidable, it has invested heavily to modernise the navy, which will bear the first brunt of a cross-Strait conflict.

The outcome of this calculation may be that the relatively flat growth of Chinese naval power will be reversed in the years to come. More major warships will be added to the navy's three fleets, including possibly cruisers and nuclear submarines, either through foreign acquisitions or through domestic production. Air power will also be boosted. This development path is similar to that of the Soviet navy in the 1970s except for the fact that China's will take a much longer time. In time to come, the PLAN will be more confident in talking about a blue-water navy.

Nevertheless the PLAN has to tackle its missing links first before pursuing its ambitious goal. These are its backward hardware and vulnerable software. There are numerous difficulties to overcome: its lopsided force structure, the slow growth of its ocean-going offensive fleets, its lack of progress in building nuclear submarines equipped with strategic missiles, its obsolete long-range aircraft and its personnel quality. But the navy has got one thing right: its strategic vision. Liu Huaqing has absorbed the best thinking of the world and worked out a set of realistic long term plans. Given time, the navy may achieve its ambition of being a blue water power.

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