A New Era for Chinese Naval Expansion

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Introduction

You Ji of the University of New South Wales writes that while the Chinese navy

> "is still a long way off achieving its ambition of becoming a world class navy, China's naval modernization is not for a show of force to China's neighbours. Every class of warships - whether a submarine or a surface combatant - has a clear tactical function in an envisaged sea battle."

On the other hand,

> "China's technological breakthroughs are being rendered obsolete in the West. The major powers can move to a new level of development sooner than expected, making the new ships in the PLAN vulnerable in a short period of time. Technologically this means that the PLAN has not come to the stage of comprehensive transformation."

Essay: A New Era for Chinese Naval Expansion

The People's Liberation Army Navy (PLAN) will celebrate its 57th birthday in April 2006. In the last five decades it has gradually achieved a relatively respectful place in the world naval arena. Under the country's first ocean-going naval strategy promoted by Admiral Liu Huaqing, the navy has since the late 1980s extended its combat mission from coastal defence to offshore power projection, with corresponding alterations in operational objectives, weapons R & D and battle tactics. Yet the quickest progress has been made since 2000. A new pattern of naval transformation seems to be in the making with profound regional impact.

Unprecedented Force Enlargement

In contrast to only four destroyers committed in the 1990s, four were launched in 2003/2004 alone. Below is an incomplete list of new PLAN acquisitions since 2000:

- Two Sovremennyy destroyers (136 Hangzhou and 137 Fuzhou) (2000)
- Two 052B destroyers (168 Guangzhou and 169 Wuhan) (2003)
- Two 052C destroyers (170 Lanzhou and 171 unknown) (2004)
- One 051C destroyer (115) (December 2004)
- 054 frigates 525 & 526 (2003) [1].

In this decade other major combatants will also enter service that will greatly boost the PLAN's blue-water capabilities. These include three 053H3 Fast Firing Frigates (FFG), two 093 (SSGN-13) nuclear attack submarines (one operational), one 094 (SSBN-14) strategic nuclear missile submarine (toward the end of the trial period), one new class conventional submarine (Yuan class) and four 093 (Song class) submarines. Four more Russian-made Kilo (636) submarines will join the PLAN soon [2]. These acquisitions may have truly changed the image of the PLAN submarine fleet, previously made up of noisy, ill-equipped and accident-ridden vessels of Soviet origins, and may pose a real threat to any major naval power in the region. Although many of the ships mentioned above are not yet operational, the pattern of flat growth of the 1990s has been clearly broken.

Visible Technological Improvement

In addition to raw numbers, there is a great leap in technological improvement for the new ships. For instance, 052C destroyers are the first PLAN ships equipped with the Chinese Aegis systems and its first indigenous cool-launch Vertical Launch Systems. These provide the PLAN blue-water fleets with effective area air-defence. It is more likely that 051C will follow its identical predecessor 167 to become the command ship for the North Sea Fleet. As such, it is being installed with the advanced C4ISR (command, control, communications, computers, intelligence, surveillance, and reconnaissance) systems, aiming at network warfare. The difference is that 167 is an embodiment of foreign technologies, while the bulk of the systems integration equipment of 115 is self-developed by China. The Yuan class conventional submarines are tested with AIP technology, and it is much quieter than any existing Chinese submarines in the service [3].

The Chinese defence scientists have also made breakthroughs in other areas of naval technologies. Some of these include:

- Rubber insulation material used by 039, 091, 093 and 094 submarines.
- Length/width ratio of 8.5 achieved by 054 frigate (eight is western standard).
- Module design for ship-building and installation of weapons systems.
- Initial success in producing combined diesel or gas turbine (CODOG) that will ensure more large ships to be committed.
- The battle-field management system based on the LINK technology [4].

The PLA would like to see its new achievements constitute a solid foundation for the naval transformation in the years ahead and ensure that the Chinese naval leap forward will not be a one-off show. In a way, the technological progress may give analysts an impression that in some military R & D areas China may have finally caught up with the tail of the current Western technology. This is against our long-held view that the technological gap between the Chinese and the West is of generations.

Trend Analysis

Such phenomenal growth both in quantity and in quality is unprecedented in PLAN history. Analysts still debate whether this change represents a normal trial/production cycle or a new era of a sharp rise for the PLAN. Whatever the answer to the debate, the stagnation of the 1990s is over. That decade witnessed PLA technological accumulation, which helps to kick off a big jump now.

On the other hand, however, have we seen the end of the era of the PLA weapons development principle in the last three decades of "maximized research but minimum equipment? The answer to the question is of strategic importance. A yes answer will result in a relatively quick and quantitative rise in power in the navy, while the no answer will mean continued "pockets of excellence" that will hinder the PLAN's overall transformation. One key fact is that since the last decade each destroyer class has yielded only one or two ships, a typical phenomenon of trial production. The PLAN is still considering the idea of more research, less production. China's technological breakthroughs are being rendered obsolete in the West. The major powers can move to a new level of development sooner than expected, making the new ships in the PLAN vulnerable in a short period of time. Technologically this means that the PLAN has not come to the stage of comprehensive transformation.

Four points illustrate this lack of comprehensive transformation. First, the fact that China continues to import major weapons systems from overseas proves that it has not been able to produce key technologies of its own [5]. Second, the good progress in laboratory research has not been matched by engineering and manufacturing maturity. Thirdly, although the Navy has greatly raised its fire-power, its C4ISR interconnectibility and combat management systems are still far behind the world standard, partly due to China's weak space and IT industries. The past stress on mechanization in force modernization (hardware) still hampers the pace of informatization. Fourthly, China's financial situation does not allow the navy to expand quickly. Although the navy is the beneficiary of China's priority allocation, the current level of obligated funds is hardly enough to sustain the trend of the first half of the decade in which new ships were introduced at an abnormal pace. Finally a deep transformation begins with series production of certain advanced systems. There is no sign of this if we take a detailed look of China's new classes of warships.

Armament for Specific Targets

China's naval modernization is not for show of force to China's neighbours. Every class of warships - whether a submarine or a surface combatant - has clear tactical function in an envisaged sea battle. In the short- to medium-future, the combat situation for these ships is set in the country's maritime territories, most likely in the Taiwan Strait. To be more concrete, the extensive waters to the east of Taiwan are designated as the major battle ground in which the naval vessels cannot expect effective air force support. The aircraft carrier project is largely for this purpose [6]. Before the PLAN possesses any aircraft carriers, fleet air defence becomes essential for naval operations of some duration. This is one of the reasons why the PLA has identified air warfare destroyers as the top priority for weapons development, resulting in the production of 170 and 171. In a way, they compensate for the lack of aircraft carriers. At the same time, the PLA realized that any Taiwan operation has to factor in U.S. interference. A sophisticated submarine fleet is thus regarded as more cost/effective weapons of deterrence. In addition preparation for U.S. involvement forces the Chinese to seek sufficient anti-submarine warfare (ASW) capabilities, leading the PLAN to develop large specialized warships organized in battle groups. Clearly the PLAN's transformation is combat-driven and target-specific.

Future Development

The PLAN is still a long way off to achieving its ambition of becoming a world class navy. The prospects of war in the Taiwan Strait propel the Chinese navy to enter a fast track of modernization. The navy's transformation is directed by possible real combat requirements that have driven its hardware and software development. The question of whether the Chinese navy is a capable one is gauged by the technologies it possesses, not by maritime strategy, such as Admiral Liu's. Yet the continued addition of new capabilities will fill the gap between strategy and combat effectiveness. The PLAN is firmly committed to move in the direction of achieving partial superiority in a specific war situation relatively close to home waters. This will force the navy to add more advanced warships and sophisticated IW measures in the years to come. Consequently, this persistent modernization will gradually produce capabilities for long-range power projection beyond the initial combat design. The civilian leadership seems to have committed itself to providing enough national resources to this naval leap forward. Liu Huaqing's blue-water dream may be brought to reality sooner than we expect.

Information about the author

Dr You Ji teaches Northeast Asian politics (China, Japan, North and South Koreas, Taiwan, and Hong Kong) and international relations in Asia/Pacific at the School of Politics and International Relations, University of New South Wales.

His research interests cover China's politics, economic reform, and military modernisation; and international relations and defence and security studies with an emphasis on the Asia/Pacific region. He is currently researching how China is positioning itself for the new century, the future of China/Taiwan relations, and the PLA's modernisation efforts.

Footnotes

[1] The information of these ships can be found in journals of Jianchuan zhishi (The Naval Warships), Bingqizhishi (the study of weapons), Jane's Defence Weekly and others. The Chinese military forums

on the internet also provide many useful details.

[2] The information about 093, 094 and 039 submarines has been widely available in Western defence journals, such as Jane's. As for the number of kilos, it varies from different sources. China acquired four in its first deal with the Russians in the 1990s. Another contract of eight was signed in 2002. The number 'four' indicates the first delivery of the second acquisition. CRS Report (RL 30700) has detailed analysis on Sino-Russian military cooperation.

[3] There is much discussion on these new warships in the military forums in both China's and Taiwan's websites. Some of these, e.g., the AIP technology in Yuan (041) and the Chinese Aegis system in 170, have been published by Beijing's primary magazine on maritime affairs Jianchuang zhishi (The naval warships). See, for instance, the journal's no. 6, 2005, pp. 11-12.

[4] The details of these can be found on Chinese military forums on the internet, such as http://www3.bbsland.com/cgi-bin/military.cgi and http://www.excitecity.com/china/chat/military.

[5] Richard Bitzinger, "Dual-use Technologies, Civil-Military Integration, and China's defence Industry," in Nan Li (ed.), Chinese Civil-Military Relations: Transformation of the People's Liberation Army, Routledge 2006.

[6] Admiral Liu Huaqing, The Memoirs of Liu Huqing, Beijing: PLA Publishing House, 2004.

Nautilus invites your response

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