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Ian Storey

You Ji

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Dr. Storey is lecturer in the School of Social and International Studies, Deakin University, Geelong, Australia. He obtained his master's degree from the International University of Japan and his Ph.D. from the City University of Hong Kong. Dr. Storey is currently course coordinator for the Defence and Strategic Studies Course delivered by Deakin University at the Centre for Defence and Strategic Studies (CDSS), the Australian Defence College, Canberra. He has published articles in Contemporary Southeast Asia and Parameters and is a regular contributor to Jane's Intelligence Review. His latest book is The China Threat: Perceptions, Myths and Reality (coedited, 2002). He is currently working on Southeast Asia and the Rise of China: The Search for Security. E-mail: ijstorey@deakin.edu.au.

Dr. You Ji is senior lecturer in the School of Political Science, The University of New South Wales (UNSW), Sydney, Australia. He received his first degree from Beijing University and his doctorate from the Australian National University. He has taught political science and international relations at the Australian Defence Force Academy (ADFA) in Canberra, the University of Canterbury in New Zealand, and UNSW. He is author of In Quest of High Tech Power: The Modernization of China's Military in the 1990s (1996), China's Enterprise Reform: Changing State/Society Relations after Mao (1998), and The Armed Forces of China (1999).

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CHINA'S AIRCRAFT CARRIER AMBITIONS

Seeking Truth from Rumors

Ian Storey and You Ji

For more than a decade there have been persistent reports that the People's Republic of China (PRC) intends to acquire an aircraft carrier force as part of its ambition to achieve "blue-water" (high seas) naval capability. Some reports suggest that China plans to refit one or more aircraft carriers from the former Soviet Union or other countries. Others claim that China has investigated the possibility of buying a light aircraft carrier from a European shipbuilder. Other reports suggest China has already made the decision to build two or three indigenous carriers and has even allocated funding for the program. However, none of these reports has ever been confirmed, and no firm evidence exists that China really does intend to refurbish, build, or buy an aircraft carrier. Thus the prospect of a Chinese carrier remains subject to a great deal of rumor and speculation.

However, the issue is an important one, for a number of reasons. Were China to begin operating aircraft carrier battle groups, the strategic equations in the Taiwan Strait and South China Sea would be altered. Moreover, the appearance of Chinese aircraft carriers would inevitably set alarm bells ringing throughout East Asia, especially in Japan and Southeast Asian capitals. It would also have implications for U.S. naval policy in the Asia-Pacific region.

This article examines the issue of Chinese aircraft carrier capability from several angles. First, it reviews the "development" of China's aircraft carrier program to date and the various media reports that have appeared over the years. Second, it traces the progress of China's blue-water ambitions and the debate within the People's Liberation Army Navy (PLAN) as to the necessity of acquiring such vessels. Third, it assesses China's ability to initiate a carrier-building

program, and the financial, technological, and geopolitical problems involved in such a venture.

CHINA'S AIRCRAFT CARRIER PROGRAM TO DATE

The father of China's aircraft carrier research and development (R&D) program was Admiral Liu Huaqing. From 1954 to 1958 Liu studied under the great Soviet naval strategist Admiral Sergei Gorshkov at the Voroshilov Naval Academy in Leningrad. Gorshkov was the driving force behind the Soviet navy's oceangoing offensive strategy, an ambition that came to fruition during the 1980s. Gorshkov's maritime strategy greatly influenced Liu's ideas on how the People's Liberation Army Navy should evolve. Like its Soviet counterpart, the PLAN had traditionally been subordinate to the army, with a primary role of coastal defense. Liu argued that China's maritime doctrine should evolve through two stages. The first should be a "green-water active defense" that would enable the PLAN to protect China's territorial waters and enforce its sovereignty claims in the Taiwan Strait and South China Sea. The second phase would be to develop a blue-water navy capable of projecting power into the western Pacific. Liu was able to put these ideas into practice during his tenure as commander in chief of the PLAN (1982–88) and then as vice chairman of the powerful Central Military Commission (1989–97).

Liu believed that in order to fulfill a blue-water capability, the PLAN had to obtain aircraft carriers. In 1997, just before his retirement, Liu penned an article in *Zhongguo Haiyang Bao* (China's Maritime Paper) in which he argued it was "extremely necessary" for China to possess aircraft carriers. According to Liu, aircraft carriers were needed to protect China's sovereignty and maritime resources, especially with regard to Taiwan and the South China Sea; guard China's sea lanes of communications as the country industrialized and increasingly became a major trading power; enable China to keep up with regional powers such as India and Japan; and give the PLAN a decisive edge in future naval warfare.¹

On becoming commander in chief of the Chinese navy in 1982, Liu initiated at the navy's Shanghai Research Institute a feasibility study on the design and construction of an aircraft carrier. Models were constructed and tested in the institute's six-hundred-meter (656-yard) pool and at Tai Lake in Jiangsu Province.² In 1985 Liu ordered the establishment at the Guangzhou Naval Academy of a training course for aircraft carrier commanders.³ (Following the American tradition, aircraft carrier commanding officers would be selected from among pilots rather than captains of surface warships.) The importance of the course was underlined by the academy's president, Admiral Yao:

Since the Second World War, aircraft carriers as the symbols of a country's important deterrent power have been accorded more attention. For some historical reasons,

China has not yet built aircraft carriers. But the Academy must look forward and train experts needed for the carriers. As the building process is long we simply cannot afford to dig wells after becoming thirsty.⁴

In 1992, students in the course began active training on board China's most advanced guided-missile destroyers.⁵

Carrier design and pilot training received a major boost in 1985 when a Chinese ship breaker purchased the fifteen-thousand-ton *Majestic*-class aircraft carrier HMAS *Melbourne* from Australia. At that time the Australian government did not oppose the sale, because China was seen as an important strategic counterweight to perceived Soviet expansionism in Asia. The purchase helped the PLAN's R&D program in two ways. First, as the carrier was being dismantled for scrap, Chinese naval architects and engineers were able to see at first hand how it had been designed and built; using this information naval architects were able to prepare drawings for a light carrier. Second, the flight deck of the *Melbourne* was kept intact and used for pilot training in carrier takeoffs and landings (though a static flight deck would, of course, have been of limited utility, since it could not replicate the pitch and roll of an aircraft carrier at sea). China's carrier R&D program remained top secret. In 1987 Colonel General Xu Xing denied that China wanted to acquire an aircraft carrier capability, citing the country's "defensive" military doctrine.⁶

During much of the 1980s the People's Liberation Army (PLA) focused on the land threat posed by the USSR in the Soviet Far East and did not see an aircraft carrier as a strategic priority. However, the collapse of the USSR in 1991 allowed China to turn its attention to strategic priorities in the south and southeast—namely, the South China Sea dispute and Taiwan. Both of these areas of potential conflict required increased naval power. As a result, China's aircraft carrier R&D program was accelerated.

In the first half of the 1990s reports appeared and persisted that China was interested in purchasing an aircraft carrier from another country as a stopgap measure while it built its own. In 1992 the Chinese government reportedly approached the Ukrainian government with a view to buying the unfinished Soviet *Kuznetsov*-class carrier *Varyag*. However, nothing came of these talks; the Ukrainian government in fact denied that any discussions had taken place.⁷ In December 1992 Russian president Boris Yeltsin visited Beijing, where Chinese officials reportedly expressed to him an interest in buying one of the Russian navy's forty-thousand-ton *Kiev*-class carriers.⁸ Although nothing came of these talks either, Chinese companies were later able, as will be discussed later, to purchase two *Kiev*-class carriers (the *Kiev* and *Minsk*) and the still-incomplete *Varyag*.

In 1995–96 two European countries approached China with aircraft carrier technology. In February 1995 it was reported that the Spanish shipbuilder Empresa Nacional Bazan had offered to build China a low-cost, lightweight conventional-takeoff-and-landing (CTOL) carrier. Bazan placed before China two designs: the twenty-three-thousand-ton SAC-200 (overall length 728 feet, or 221.8 meters); and the twenty-five-thousand-ton SAC-220 (overall length

787 feet, or 240 meters).⁹ The cost of the vessels would be \$350–400 million. The SAC-220 would accommodate up to twenty-one CTOL fighters, such as the MiG-29K. According to Bazan, the first carrier could be delivered within five years, with the second three and a half years later. At the time, Bazan was constructing the 11,500-ton carrier *Chakri Naruebet* for the Royal Thai Navy and was eager to secure further orders in Asia. China expressed an interest in the proposal, and initial talks between the Chinese and Bazan were held in January 1996. However, according to a representative of Bazan who spoke with the authors, the Chinese side seemed more interested in obtaining the blueprints of the carrier than in ordering the actual vessel.¹⁰

At the end of 1995 it was reported that France had offered to give China, gratis, the 32,700-ton carrier *Clemenceau*.¹¹ In return it was expected that French companies would be awarded lucrative contacts to upgrade the vessel's radar and communication systems. Again, nothing came

of the proposal. However, even if the Spanish or French proposals had progressed farther, delivering an aircraft carrier to China would have been politically difficult, especially with the European Union's 1989 post-Tiananmen Square arms embargo on Beijing still in place.

Beginning in 1997, a series of newspaper articles suggested that China had decided to build its own fleet of aircraft carriers rather than either upgrading secondhand vessels from abroad or buying new ones. In November 1997 the *Far Eastern Economic Review* reported that the Chinese government had shelved plans to build fixed-wing carriers in favor of smaller helicopter carriers.¹² In 1999 Singapore's *Straits Times* reported that the Chinese Communist Party Central Committee and the State Council had earmarked 250 million *yuan* for the design and construction of two aircraft carriers, to be completed by 2009.¹³ In



2000 the respected Hong Kong Chinese-language newspaper *Ming Pao* reported that construction of China's first carrier would begin later that year and would be completed by 2003.¹⁴ According to *Ming Pao* the Chinese carrier would displace forty-eight thousand tons and carry twenty-four fighters, probably Su-27Ks (Su-33s) from Russia. The cost of each vessel would be 4.8 billion *yuan* (\$580 million).

However, to date there is absolutely no evidence to suggest that any aircraft carriers are under construction in the PRC.

EX-SOVIET AIRCRAFT CARRIERS AND CHINA'S R&D PROGRAM

As mentioned earlier, during the early 1990s China repeatedly sought to buy aircraft carriers from the former Soviet Union. By 2000 it had managed to acquire three: *Minsk*, *Kiev*, and *Varyag*. How these vessels were acquired and the purposes to which they have been put make interesting reading.

In 1975 the USSR commissioned the *Kiev*, the first of a new class of forty-thousand-ton carriers designed to provide organic fighter cover for the Soviet navy. Between 1978 and 1984 three more *Kiev*-class carriers were commissioned: *Minsk* (1978), *Novorossiysk* (1982), and *Admiral Gorshkov* (1984). *Kiev*-class carriers (referred to by the Russians as "heavy aircraft-carrying cruisers") were conventionally powered and capable of carrying twelve Yak-38 Forger vertical/short-takeoff-and-landing (VSTOL) fighters and twenty helicopters. Following the collapse of the USSR in 1991 and the subsequent emasculation of the Russian navy, all four carriers were decommissioned.

In 1995 the *Minsk* and *Novorossiysk* were sold to South Korea for scrapping. However, in June 1998 the *Minsk* was purchased for five million dollars by a Chinese firm, the Minsk Aircraft Carrier Industry Company.¹⁵ Before the sale went through, however, the South Korean firm stripped the warship of its armaments, engines, and communication systems and exacted a guarantee that the new vessel would not be used for military purposes.¹⁶ The *Minsk* was towed to Guangdong Province, where a four-million-dollar conversion transformed the carrier into a floating museum. The vessel was moved to Shenzhen in September 2000 to form the centerpiece of the "Minsk World" theme park. For an entrance fee of eight dollars, visitors can now board the former flagship of the Soviet Pacific Fleet and see MiG fighters on the flight deck, models of antiship missiles and other weapons systems, and exhibitions on the history of the Russian navy and the Soviet space program. Visitors can also watch displays of Russian dancing in the hangar, eat at a Russian-themed restaurant, and ride on a tank on parkland in front of the vessel. According to the pro-Beijing Hong Kong newspaper *Wen Wei Po*, Minsk World is aimed at "popularising science as well as

national defense education.”¹⁷ Minsk World has proved a hit with both locals and tourists alike.

In May 2000 the *Kiev* was purchased by the Tianma Shipbreaking Company in Tianjin for \$8.4 million.¹⁸ The contract with the Russian Defense Ministry stipulated that the vessel had to be scrapped. However, local authorities in Tianjin had other ideas for the *Kiev*. In July 2000 the Tianjin Municipal Standing Committee established a project investment corporation with the aim of turning the aircraft carrier into a tourist attraction. In November 2000 the original contract with Moscow was renegotiated to allow the *Kiev* to be used for tourism purposes. According to the developer, the *Kiev* will form part of the Beiyang Recreation Harbor project, which will include “military recreation activities, museums, exhibitions, fun parks, recreational grounds, [and] education sites.”¹⁹ Planned amenities on the *Kiev* include a conference center, TV studio, nightclubs, restaurants, and swimming pool.

The most intriguing purchase to date has been that of the *Varyag*. The second of the 67,500-ton *Kuznetsov* class, the *Varyag* was laid down in 1985 at the Nikolayev shipyards in the Ukraine, then part of the USSR. *Kuznetsov*-class carriers are conventionally powered but unlike the *Kiev* class are capable of accom-



Ex-Varyag under tow en route to China
(Serhat Guvenc)

modating fixed-wing aircraft, such as Su-27Ks and MiG-29Ks. This class of carrier does not utilize a steam catapult for launching fighters but is equipped instead with a ski jump at the bow to allow short takeoffs. Work on the *Varyag* was abandoned at the beginning of 1992 following the breakup of the Soviet Union. The USSR's successor state, Russia, could not afford to pay Ukraine to complete construc-

tion. The vessel was 70 percent complete but was without engines, rudders, or armament. As mentioned earlier, the Chinese government expressed an interest in buying the *Varyag* in 1992, but the sale did not go through at that time.

In March 1998 the *Varyag* was bought by the Chong Lot Tourist and Amusement Agency for twenty million dollars.²⁰ Chong Lot was based in the then Portuguese colony of Macau, although the company had no offices there;²¹ Chong Lot was in fact a subsidiary of a Hong Kong company, Chin Luck Holdings. In November 1998 Chong Lot unveiled plans to turn the *Varyag* into a

floating casino and entertainment complex anchored in Macau harbor.²² Two aspects of this plan were unusual. First, the Macanese authorities did not (and have yet to) receive an application to operate a casino on an aircraft carrier in the enclave. Second, the waters around Macau are too shallow to accommodate such a large vessel.²³

When news of the sale was announced, the Russian media claimed that Chong Lot and Chin Luck were acting on behalf of the Chinese government. The Chinese embassy in Moscow was quick to dismiss these reports.²⁴ However, investigations by the Hong Kong media revealed that the two companies involved in the purchase of the *Varyag* had close connections with the PRC. Two of Chong Lot's directors were former PLAN officers.²⁵ In August 1999, Hong Kong-based Goldspot Investments became a majority shareholder in Chong Lot. One of the directors of Goldspot has an address inside a military compound in Beijing. The majority shareholder of Goldspot is China Securities International Ltd., which in turn is a subsidiary of China Securities, a large, state-owned brokerage house.²⁶ The plan to tow the *Varyag* to Macau was held up for fifteen months because the Turkish authorities refused to allow the vessel to pass through the Bosphorus Strait, alleging a danger to shipping.²⁷ In September 2001 Turkey finally gave permission for the passage. After an eventful journey through the Mediterranean and around the Cape of Good Hope, the *Varyag* arrived in March 2002 at the north-eastern Chinese port of Dalian.²⁸ The owners continue to assert that the vessel will be turned into a casino.

The purchase of these carriers raises two important questions. First, is it mere coincidence that three of the former Soviet navy's aircraft carriers have ended up in the PRC? Second, if it is not coincidence, how valuable are these vessels to China's research and development program?

It stretches belief that the acquisition of three ex-Soviet carriers by Chinese companies is mere happenstance. Chinese authorities actively tried to purchase directly one or more *Kiev*-class carriers and the *Varyag* in 1992–93 but failed. Beijing has now been able to accomplish this goal through China-based companies. In the case of the *Varyag*, as noted, the companies involved had links to the central authorities and the Chinese military. For some reason Beijing was particularly keen to acquire the *Varyag*. Its price, twenty million dollars, was about three times its scrap value. Moreover, it was the direct intervention of Chinese deputy foreign minister, Yang Wenchang, who visited Ankara in September 2001, that finally won clearance to tow the ship through the Bosphorus. Yang reportedly offered a \$360 million economic aid and tourism package to induce the Turkish government to let the *Varyag* go.²⁹

If the Chinese government was behind the purchases, to what purpose could it put these vessels? Many analysts have contended that Chinese naval architects

and engineers could learn a great deal about the design and construction of aircraft carriers by inspecting the vessels. Presumably PLAN experts have already inspected the three carriers. In May 2002 the Hong Kong media reported that security around the *Kiev* in Tianjin was very tight, leading to speculation that naval architects and engineers were examining the vessel.³⁰ However, the value of these inspections has probably been overstated. The technology employed was a generation behind that of Western navies; China would simply be learning obsolete technology. Should the Chinese employ this technology in an indigenous carrier, it would be obsolete when begun, let alone after the time it would take to construct and commission it.

CHINA'S MARITIME DOCTRINE AND THE ROLE OF AIRCRAFT CARRIERS

Since the early 1980s, and especially during the 1990s, there was much talk of China's blue-water ambitions. Military analysts generally believed that by the year 2000 or shortly thereafter, the PLAN would have achieved green-water (i.e., coastal zone) status and would be capable of limited power projection into the western Pacific. By 2010 the transition to a blue-water navy would be complete. As of 2003, however, although the Chinese navy has increased its basic war readiness over the past decade, its overall progress is stagnant. It cannot even exercise sea control in its own coastal waters.

China's blue-water ambitions have remained unfulfilled for three reasons. First, despite impressive economic growth and industrialization since 1978, the PRC still lacks the financial resources and technological know-how to effect rapid and effective naval modernization. Second, as will be examined later, the Taiwan issue has forced the Chinese leadership to focus on home waters. Third, Soviet influence in terms of operational doctrine, campaign theory, and combat tactics persists, hindering the PLAN's transition to blue-water capability.³¹

In combat terms, the PLAN is restricted to offshore-water defense, mostly at the campaign level. In other words, although the Chinese naval strategy envisages, on paper, a global reach in the future, for the present it emphasizes the strategic or tactical deployment of naval power. This emphasis limits strategic objectives, weapons acquisition, and battle planning. More importantly, the PLAN's maritime strategy is reflected in the combat models that actually guide the navy's modernization.

According to China's maritime doctrine, there are two combat models: the first is the independent employment of naval power, and the second is that of joint operations with other services, particularly the army.³² According to the first model, the navy's role is to project power into areas far from home waters, most likely in the form of strategic independent campaigns against the enemy's

fleets or land targets. Under the second model, the PLAN's primary mission is defensive—to engage enemy ships in coastal waters—but the navy also has an offensive role, to assist the army and air force in amphibious operations. At present, the PLAN is limited in scope to missions of the second model, and has accordingly developed a light fleet. Ultimately, though, the goal is to fulfill the first model.

The projection of naval power far from coastal waters (i.e., the first model) is in fact a mission the PLAN already faces, though without the resources to accomplish it.³³ The most likely scenario would be armed conflict in the South China Sea, where the Chinese navy's mission would be to occupy disputed islands, ejecting the forces of other disputants. Conflict in the Taiwan Strait is a unique case that cuts across the two models. Any action in the strait would be geographically close to home. However, the conflict zone could expand into deep oceans if the United States were to become involved militarily (as the majority of Chinese security analysts fully expect that it would).³⁴ In this case, the PLAN would have to engage enemy fleets relatively independently and in distant waters while it was assisting the army in amphibious landings on the island.

Sea control and sea denial are two important concepts that sustain the PLAN's combat models. Admiral Liu set attaining sea control as the service's most important priority soon after he became commander in chief. The PLAN

The Kiev will form part of the Beiyang Recreation Harbor—“military recreation activities, museums, exhibitions, fun parks. . . .”

proposes to exercise sea control within an inner line of defense that comprises China's three off-shore narrows: the Bohai Sea Strait, the Taiwan Strait, and the

Qiongzhou Strait. Of these the Bohai is the most important, as it protects Beijing and northern China. The Taiwan Strait is also vital, because it allows the PLAN access to the western Pacific. Aside from these three straits, the South China Sea is an area of major concern for the navy.

In exercising sea control, the PLAN would launch defensive campaigns against enemy fleets in waters adjacent to major coastal cities, such as Shanghai, Hong Kong, and Fuzhou. The Chinese navy would also try to obtain, by means of an offensive campaign—such as an amphibious landing on islands occupied by Taiwan, such as Jinmen—control of the sea around the invasion area and to protect the People's Liberation Army from the air and sea. As far as the PLAN is concerned, sea control is to be achieved not across a large horizontal geographic area but in a few vertically distributed lanes. It need not be comprehensive; partial control for a limited time would be sufficient.

In contrast, the outer layer of China's maritime defense is covered by the sea-denial concept. According to senior Chinese naval analysts, the traditional

U.S. ocean frontiers of containment against China involve two “island chains.” The first stretches from Japan to the Liuqi Islands, then to Taiwan and the Philippines. The second island chain stretches from Japan’s Ogasawara-gunto Islands to the Marianas. The PLAN’s second layer of defense and its sea-denial capabilities are designed primarily to break a blockade of the first island chain.³⁵

How is the PLAN’s aircraft carrier program linked to these two combat models? Actually the linkage is not very clear, and this is one of the reasons why the project has been shelved. That said, the program has only been delayed, not canceled altogether. Research and development continues, demonstrating that aircraft carriers are not considered irrelevant to China’s national defense and the Chinese navy’s long-term modernization goals.

The continued relevance of an aircraft carrier capability for China lies in the fact that sea control can be achieved only through air superiority. This reality was the origin of China’s aircraft carrier ambitions. In the 1980s the PLAN perceived a need to acquire aircraft carriers for possible action in the South China



Ex-Varyag passing under tow through the Bosphorus (Serhat Guvenc)

Sea. If China was to dominate the area, it needed air superiority. Given the distances involved from the Chinese mainland (950 miles, or 1,500 kilometers) and the very short reach of People’s Liberation Army Air Force fighters, the navy considered that air control could be won only by carrier-based aircraft. Admiral Liu was not convinced that aerial in-flight refueling was the answer to the range limitations

of land-based air. In March 1990 Liu visited the air force base where in-flight refueling technology was being developed; he remained unconvinced that the tanker aircraft could be protected except by fighters from aircraft carriers.³⁶

As mentioned earlier, with the disappearance of the Soviet threat in 1991, the Chinese military focused its attention on the South China Sea dispute and the Taiwan problem. During the first half of the decade, priority was given to the South China Sea dispute, which centered around the Spratly Islands, a group of about two hundred small reefs and atolls. Sovereignty of the Spratlys is contested by six parties; China, Taiwan, and Vietnam claim ownership of all the islands in the archipelago, and the Philippines, Malaysia, and Brunei claim certain parts of the group. The area includes valuable fishing grounds and is believed to

be rich in oil and gas deposits; additionally, the islands occupy an important strategic position straddling vital sea lanes that link the Indian and Pacific Oceans and carry much of the world's trade. China bases its claims on grounds of discovery and occupation stretching back thousands of years. In the early 1990s China began pursuing a more assertive policy in the area. In 1992 the Chinese National People's Congress passed the Territorial Law of the Sea, by which it claimed sovereignty over almost the entire South China Sea; in May 1992 Beijing awarded the U.S. oil company Crestone a contract to search for oil in waters disputed by Vietnam; and in July 1992 PLA forces occupied Vietnamese-claimed Da Lac Reef. Most alarming of all, Chinese-built structures were discovered in February 1995 on Mischief Reef, claimed by the Philippines.³⁷ These structures were upgraded into a permanent military fortress in November 1998.³⁸ China's policy in the South China Sea has been one of "creeping assertiveness"—establishing an ever greater physical presence, but gradually and without military confrontation.

Later in the 1990s China's focus shifted to the Taiwan Strait, because of a deterioration in cross-strait relations. During the decade Taiwan had democratized, a strong Taiwanese identity had emerged, and the leadership in Taipei had begun to pursue more self-confident and independent-minded policies.³⁹ Manifestations of this newfound self-confidence included President Lee Teng-hui's trip to the United States in June 1995, the December 1995 legislative elections, and the March 1996 presidential poll, the first ever held on the island. China was increasingly exasperated by these developments and lashed out at what it saw as moves toward Taiwanese independence. Cross-strait relations reached crisis point between July 1995 and March 1996, when Beijing conducted a series of military maneuvers and live missile tests near Taiwan in an effort to intimidate its voters and to send Taipei an unmistakable and definite signal that it was serious about reunification at any cost. When President Lee announced his "two states theory" in July 1999, Beijing mobilized the armed forces and conducted amphibious landing exercises, again as a warning to Taiwan. The Taiwanese electorate was not intimidated and in March 2000 elected as president the pro-independence Democratic Progressive Party candidate, Chen Shui-bian, thus propelling cross-strait relations into a new and uncertain realm. The Chinese government has since repeatedly warned Taiwan that it does not rule out the use of force to achieve reunification.

As China's primary security concern has shifted to the Taiwan theater, the acquisition of aircraft carriers seems to have lost whatever urgency it had. Should conflict erupt in the Taiwan Strait, operations are likely to be conducted within three hundred kilometers (190 miles) of the mainland. The PLA is confident that as modernization of the air force continues, land-based aviation can control

the air over at least selected maritime areas at that range. In addition, China is increasingly relying on its growing arsenal of medium and intermediate-range Dongfeng ballistic missiles stationed in Fujian and Zhejiang Provinces to achieve victory in any attack on Taiwan.

If shifting priorities reduced the strategic impetus for aircraft carrier acquisition, the retirement in 1997 of Admiral Liu Huaqing removed the idea's main champion. At the same time, proponents of a "revolution in military affairs" (RMA) were gaining influence within the Chinese armed forces. They argue that aircraft carrier battle groups are becoming obsolete.⁴⁰ Because of their high radar and electromagnetic visibility, proponents hold, carriers have become easy targets for precision-guided missiles. Further, in their view, aircraft carriers are vulnerable to submarines and mines. Third, the frequent need to resupply carriers at sea makes them vulnerable to the destruction of logistical vessels. For all these reasons, the RMA school believes that in modern warfare aircraft carriers have become "floating coffins."⁴¹

In any case, the RMA advocates believe, it is not in China's interests to develop a costly symmetrical fleet. Instead, China should exploit technological advances and adopt asymmetrical strategies to defeat the larger and more powerful U.S. Navy in a cross-strait conflict. Specifically, they argue, its carrier battle groups can be defeated by disabling command and information systems and severing access to supply, and by attack with such sophisticated weapons as shore-based precision-guided missiles, stealthy surface vessels, and advanced submarines.⁴² In fact, the PLAN's acquisition of Kilo-class submarines and *Sovremenny*-class destroyers from Russia is part of just such asymmetrical warfare strategy.⁴³

TECHNICAL, FINANCIAL, AND GEOPOLITICAL HURDLES

The lack of urgent strategic need is not the only factor that has put the acquisition of a Chinese aircraft carrier on hold. Even if the central government decided that the project was a strategic necessity, Chinese engineers would face formidable problems in transforming their ambitions into reality. In addition, the astronomical cost militates against the project for the time being. Moreover, the Chinese leadership would also have to weigh the geopolitical consequences very carefully.

Building an indigenous carrier or upgrading a secondhand vessel would present a raft of technical and engineering problems. Although China has a competent shipbuilding industry with much experience in constructing large, oceangoing vessels, aircraft carriers require special technologies to which it has had little exposure. These include steam catapults, arresting wires, and large elevators. In addition, a carrier would also require highly advanced electronic warfare and radar systems—an area in which China has a patchy record and has

relied, in the main, on foreign technology. As suggested earlier, the extent to which Chinese engineers can make up for these deficiencies by examining ex-Soviet carriers is doubtful.

Transforming the *Minsk*, *Kiev*, or *Varyag* into operational vessels would be highly problematical. The *Minsk* and *Kiev* have both been stripped of their propulsion machinery, armament, and communications. Replacing these key elements would be difficult and costly. In addition, the vessels had been laid up for over five years, resulting in significant deterioration by the time they arrived in China (the incomplete *Varyag* is in even worse condition than the *Minsk* or *Kiev*).

Moreover, China possesses no VSTOL aircraft that could operate from the carriers as they are now configured. The Russian navy was always disappointed with the performance of its Yak-38s, and in any case these aircraft are no longer

The Minsk was towed to Guangdong Province, where a four-million-dollar conversion transformed the carrier into a floating museum.

in production. It is highly unlikely that Britain, the United States, or Spain would sell secondhand Harrier “jump jets” to Beijing. The Western arms embargo

placed on China following the 4 June 1989 Tiananmen Square massacre is still in force; in any case, these countries would not want to help equip the PLAN for possible action in the Taiwan Strait or South China Sea. India, which also possesses Harriers, views China as a long-term rival.

China could use these vessels as helicopter carriers. Another option, however, would be to modify the *Minsk* or *Kiev* to accommodate conventional or short-takeoff fixed-wing aircraft. This is what India plans to do with the last of the *Kiev*-class carriers, *Admiral Gorshkov*. In December 1998 India and Russia agreed in principle on the transfer of the *Admiral Gorshkov*;⁴⁴ the ship is to be provided free, if India has the extensive refit and refurbishment work done in a Russian shipyard. The weapons forward will be removed to make way for a “ski jump.” The flight-deck elevators will be enlarged and arresting gear fitted. This conversion will configure the carrier for short takeoff but arrested recovery (STOVAR).

The Indian project, however, will cost an estimated two billion dollars—\$750–800 million for the refit and a further \$1.2 billion for an air wing of fifty MiG-29Ks and a number of Ka-28 and Ka-31 early-warning helicopters.⁴⁵ For China, this figure is prohibitive. Construction of a carrier or conversion of a secondhand vessel in a domestic yard would also be extremely costly, especially since much of the technology would have to be purchased abroad, quite aside from the new fighters, helicopters, early-warning aircraft, escort surface vessels, and screening submarines required. Moreover, one carrier would not be sufficient; full operational capability would require, nominally, three whole carrier

groups—one deployed, one in refit, and one working up. Strategically located naval bases capable of berthing the carriers would also have to be constructed, adding to the already burdensome bill.

Presumably the technical and engineering difficulties could be resolved over time, with the assistance of foreign companies. There is no reason to believe that Moscow would not assist China in the construction of an aircraft carrier, as it has done with India. Also, the money could be found if the Chinese government deemed it a strategic necessity; the Chinese economy continues to register impressive growth. After all, the Chinese were able to overcome both technical and financial problems in the mid-1960s, the height of the chaotic Cultural Revolution, to develop nuclear weapons; the country's scientific, industrial, and economic bases have been strengthened considerably since then.

The geopolitical consequences, however, are a different matter. The Chinese government could argue that aircraft carriers are defensive, but other countries in East Asia would view the matter very differently. A Chinese aircraft carrier battle group would be seen as a formidable power-projection tool. It would reinforce fears that Beijing intended to resolve its territorial disputes (especially in the South China Sea) by force and to become the dominant regional power. The members of the Association of Southeast Asian Nations (ASEAN), particularly those with competing territorial claims to the Spratly Islands, would undoubtedly strengthen their military links with the United States, ensuring a continued U.S. naval presence in the region. Japan would almost certainly initiate its own aircraft carrier program.

China has been interested in the concept of aircraft carriers since the early 1980s, when Admiral Liu Huaqing advocated the acquisition of such vessels as part of his blue-water navy aspirations. With the retirement of Liu in 1997, however, the aircraft carrier lost its champion in the Chinese navy. At the same time, the need to control the South China Sea as a strategic priority was downgraded as reunification with Taiwan hurtled to the top of Beijing's agenda. In that context, given the relative closeness of Taiwan and improvements in the capabilities of the Chinese air force and missile arsenal, aircraft carriers are not now considered vital. Moreover, the costs associated with building and operating aircraft carriers, the technical difficulties involved, and the likely adverse reaction of neighboring countries all argue against a Chinese carrier battle group for the moment.

However, the PLAN has not abandoned the idea altogether—merely shelved it. The Chinese navy is determined to fulfill its blue-water ambitions, even if it takes a generation or more. Moreover, public support for the acquisition of an aircraft carrier seems high. Following the accidental bombing of the Chinese embassy in Belgrade by NATO warplanes on 8 May 1999, a campaign was

initiated on Chinese Internet sites to raise funds to build a carrier. Provincial newspapers across the country took up the cause; within a month eleven million *yuan* had been collected.⁴⁶ Aircraft carriers are perceived as potent symbols of national power around the world, and China is no different. The memory of the “Century of Humiliation” (1842–1949), when European countries, Russia, and Japan forced a weakened China to grant territorial concessions and then divided the country into competing spheres of influence, still has a deep resonance among the Chinese people. The Chinese see a powerful navy, capable of projecting power into the world’s oceans, as an important tool to prevent China from being “bullied” again by outside powers.

NOTES

1. The article appeared in *Zhongguo Haiyang Bao*, run by the State Oceanography Bureau, and was entitled “The Chinese Navy and Aircraft Carriers.” See “‘Extremely Necessary’ for Chinese Navy to Have Aircraft Carrier,” BBC Monitoring Service: Asia-Pacific, 17 March 1997.
2. Shang Guanji, *Zhongguo Wuqi Paosi* (Taipei: Dongga Chubanshe, 1987), p. 156.
3. Shen Lijiang, “The Mysterious Course of the Pilot Warship Captains,” *Jianchuan Zhishi*, no. 7 (1989), p. 6.
4. Ibid.
5. “Secret Training for Carrier Officers,” (*Hong Kong*) *South China Morning Post* [hereafter *SCMP*], 13 February 1993.
6. *Jianchuan Zhishi*, no. 5 (1987), p. 19.
7. “Ukraine Denies Talks on Carrier,” *SCMP*, 1 February 1993.
8. “Beijing Seeks to Buy Russian Aircraft Carrier,” *SCMP*, 4 February 1993.
9. “Spain Offers Carrier Designs to Chinese,” *Jane’s Defence Weekly*, 18 February 1995.
10. Private discussion with a Bazan official, February 2002.
11. “No-Cash Carrier,” *Far Eastern Economic Review*, 10 October 1996.
12. “China Opts for Copter Carrier,” *Far Eastern Economic Review*, 13 November 1997.
13. “Beijing Okays Building of Two Aircraft Carriers,” *Straits Times*, 27 August 1999.
14. “China’s First Aircraft Carrier Ready for Service in 2005: Report,” Agence France Presse, 12 January 2000.
15. “Mainland Firm Buys Aircraft Carrier,” *SCMP*, 3 September 1998.
16. Ibid.
17. “Ex-Soviet Ship Now a Park in China,” *Straits Times*, 9 May 2000.
18. See “Kiev Sale to China ‘Will Not Tilt Power Balance,’” *Straits Times*, 10 May 2000, and “Aircraft Carrier Acquired for Scrap,” *SCMP*, 30 August 2000.
19. The developer’s official website can be seen at kiev-a-c-com/.
20. “No Connection to Naval Ship, Says Embassy,” *SCMP*, 4 April 1998.
21. On 20 December 1999, sovereignty of Macau was transferred from Portugal to China. Like Hong Kong, Macau is now a “special administrative region” of the PRC.
22. “\$1.6b Hotel Plan for Warship,” *SCMP*, 11 November 1998.
23. “Macau Says Waters Too Shallow for Ex-Soviet Carrier,” *Turkish Daily News*, 12 January 2001, Internet version [accessed 10 March 2002].
24. “No Connection to Naval Ship, Says Embassy.”
25. “Beijing Calms Waters for ‘Floating Casino,’” *SCMP*, 9 September 2001.
26. Ibid.

27. In addition, under the 1936 Montreux Treaty (Amended) aircraft carriers require permission from the Turkish government to transit through the Bosphorus.
28. "China Pays \$45m for Carrier Hull," *Straits Times*, 6 March 2002.
29. "Mystery of 'Casino' Ship Deepens," *SCMP*, 24 February 2002.
30. "Security for 'Casino' Carrier Fuels Speculation of Navy Use," *Sunday Morning Post*, 12 May 2002.
31. For a fuller examination of these issues see You Ji, *The PLA's Blue Water Illusion: Legacies, Models and Reality*, CAPS Papers 32 (Taipei: Council of Advanced Policy Studies, December 2001).
32. 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 *Selected Papers of the PLA's First Conference on the Campaign Theory: Tongxiang shengli de tansou* [Exploring the ways to victory], ed. The Editor Group (Beijing: PLA Publishing House, 1987), pp. 993–95.
33. Wu Haibo and Zhang Boshuo, "Haijun zhiliang jianshe zhi wojian" [Our view on the navy's quality modernization], *Journal of the PLA National Defence University*, no. 7 (2000), p. 56.
34. David M. Finkelstein, "Chinese Perceptions of the Costs of a Conflict," in *The Costs of Conflict: The Impact on China of a Future War*, ed. Andrew Scobell (Carlisle, Penna.: Strategic Studies Institute, U.S. Army War College, 2001), p. 13.
35. Li Jie and Liu Weixing, "Lun daoyu suolian de zhanlie diwei jiqi yingxiang" [The strategic status of the islands chains and their impact], *Journal of the PLA National Defence University*, no. 12 (2000), p. 24.
36. Shi Fei, *Zhongguo Junli Da Qiushi* [The general development trend of the Chinese military] (Chengdu: Sichuan Kexue Chubanshe, 1993), p. 17.
37. For a full account of the Mischief Reef Incident and its implications, see Ian Storey, "Creeping Assertiveness: China, the Philippines and the South China Sea Dispute," *Contemporary Southeast Asia* 21, no. 1 (April 1999), pp. 95–118.
38. See Ian Storey, "Manila Looks to USA for Help in Spratlys," *Jane's Intelligence Review* 11, no. 8 (August 1999), pp. 46–50.
39. Bernice Lee, *The Security Implications of the New Taiwan*, Adelphi Paper 331 (London: Oxford Univ. Press for the International Institute for Strategic Studies, 1999), p. 10.
40. Michael Pillsbury, *China Debates the Future Security Environment* (Washington, D.C.: National Defense Univ. Press, 2000), p. 83.
41. The U.S. Navy clearly does not agree with this assessment, as plans are already well advanced on a new generation of aircraft carriers. As Loren B. Thompson has argued, in order to "kill" an aircraft carrier the enemy must first locate and target the fast-moving vessel, then penetrate its defenses with the aim of causing catastrophic damage—four extremely difficult goals to achieve. In addition, carriers can operate at great distances from enemy territory and destroy the enemy's surveillance capabilities. According to Thompson, "barring a major tactical error or technological breakthrough, carriers are likely to remain very hard to successfully attack for many years to come." See Loren B. Thompson, "What It Takes to Kill an Aircraft Carrier," *Defense Week*, 11 June 2000.
42. Pillsbury, p. 293.
43. The PLAN operates four Kilo-class submarines and is currently in negotiations with Russia to purchase eight of the newer Project 636 Kilos. See "Chinese Plan Big Russian Arms Deal," *International Herald Tribune*, 25 June 2002. In 1997 China ordered two Project 956E *Sovremenny*-class destroyers from Russia. It is widely believed that the decision to purchase these vessels was made after the dispatch of two U.S. aircraft carriers to the Taiwan Strait in March 1996. The two ships, *Hangzhou* and *Fuzhou*, were delivered in December 1999 and November 2000, respectively. In January 2002 China signed an agreement with Russia to purchase two more *Sovremenny*-class destroyers. See "China Buys Two More Project 956EM Ships," *Jane's Defence Weekly*, 8 January 2002.
44. Because of the condition of the *Gorshkov* (which had been badly damaged in a fire) and

the high costs associated with refurbishing the vessel, final agreement on the transfer of the vessel was not reached until March 2003. See Ian Storey, "Russia Maintains Top Position in India," *Jane's Intelligence Review*, March 2003.

45. "India Agrees to \$3 Billion Arms Deal with Russia," *Jane's Defence Weekly*, 11 October 2000.

46. "Internet Message Spurs Drive for Aircraft Carrier," *SCMP*, 14 June 1999.