

THE CHINA-TAIWAN MILITARY BALANCE

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Numerous authors claim that China's military modernization will create a new superpower and threaten the balance of power in Asia in the coming decades. Just as people only grow older, militaries only modernize. What matters for balance of power is not absolute, but rather relative modernization. Most writings on China's military modernization neglect comparisons of China with its most likely enemies. Despite rapid economic growth, China is actually becoming weaker militarily relative to Taiwan and all of its other potential rivals (except Russia, which has declined even faster). China's military equipment is the most backward of any large or medium-sized power. It is much inferior, for example, to the equipment used by Iraq during the Gulf War. Military training in China is also inferior to that of its major neighbors. Although as a nuclear power China could conceivably practice nuclear terrorism (at enormous cost to its relations with the rest of the world), China's conventional military capability is surprisingly limited. This paper focuses on military *capabilities*, which are relatively easy to discern, rather than *intentions*, which are changeable, covert and often disguised by public posturing.

China's most aggressive military posturing against Taiwan in recent years came around the time of Taiwan's first ever presidential election in 1996. Unarmed ballistic missiles were fired into waters not far off the northern and southern coasts of Taiwan. At the same time, small-scale naval and air exercises were held that included a simulated amphibious invasion. The implied threat of the missile tests and landing exercises caused great concern in Taiwan, which was also reflected in a

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temporary downturn in the stock market. The US reacted by sending two aircraft carrier battle groups into the Taiwan Strait, warning China that the US might act to protect Taiwan in the event of any actual use of force against the island. Since 1996 there have been no further incidents of this type and China's relations with the US have improved. Still, many are worried that the saber-rattling of 1996 presages a new assertiveness by a China that does not shy away from threats of force.

China's awkward military blustering is a product of frustrated weakness, not strength. Chinese leaders have been disappointed by the autonomy of Taiwan and by what they see as the unreasonable resistance of Western leaders to China's full participation in the world community. On the other hand, the West seems not to appreciate China's quite substantial demilitarization since the 1970s. China's military strength is now often being exaggerated both by China itself, to avoid being taken for granted by the West, and by Western commentators, some of whom are merely ignorant of China's limited military capabilities, while others are interested in promoting a new justification for maintaining high military spending in the post-Cold-War era. In this climate, China's self-assertion may backfire, contributing to its further isolation. The West, Taiwan, ASEAN and others in the Pacific region must recognize their own relative strength and security to avoid overreacting to China's occasional blustering in order to continue to develop the mutual benefits of economic cooperation with China, and to nurture warmer ties in the future.

China has no real military options in dealing with Taiwan. Others have discussed at least three major ways China could use military force against Taiwan: 1) invasion, 2) blockade (or mere harassment of flights and shipping) and 3) missile attacks (with or without nuclear warheads). I argue below why none are practical military options. Taiwan's military modernization is proceeding more rapidly than China's. Thus, despite China's more rapid economic growth, its capacity to threaten Taiwan militarily is not increasing; in fact, it is probably decreasing. I conclude by suggesting why the "China threat" seems to many US commentators to be increasing, when, objectively, China's continuing neglect of its military portends the opposite.

The Fourth Modernization

Ever since 1978, when Deng Xiaoping proclaimed the Four Modernizations (of industry, agriculture, science and technology, and the military) as China's national goal, the military has been running a poor fourth. China's military (the People's Liberation Army, or PLA) continues to be the world's largest, measured by personnel strength, however, weapons procurement has been cut so much since the early 1970s that nearly all Chinese troops are equipped with aging and increasingly obsolete weapons. Only a very small proportion of the Chinese forces are equipped with weapons as modern as those typical abroad. Chinese military equipment is, on average, considerably less advanced than what the Iraqis used during the 1991 Gulf War. In contrast to the rapid growth and modernization of China's civilian economy, China's military technology is actually falling further behind that of the other major powers and most of its neighbors.

Chinese military effort peaked at over 10 percent of GDP during 1969-71, when Chinese leaders feared imminent war with the Soviet Union, and has been declining ever since. It is now about one quarter of that peak percentage.¹ The biggest cuts were in 1972, after the death of Defense Minister Lin Biao, and in 1978, after the accession of Deng as China's paramount leader.² Military procurement was cut in half from 1978 to 1982 and fell another 20 percent by 1986. Real military spending continued to fall by about 3.5 percent per year during the 1980s. It has increased slightly since 1989, but still continues to decline as a percentage of GDP. Although calculations of China's defense spending vary widely because of Chinese secrecy, researchers agree on these basic trends. During the Deng years, factories producing for the military have been encouraged to switch

¹I agree with Shaoguang Wang's ("China's Defense Expenditure," manuscript, 1995) more conservative estimate of Chinese military spending that place it at about 2.5% of GDP, rather than the higher estimates of the International Institute of Strategic Studies (IISS) in London, Stockholm International Peace Research Institute (SIPRI), CIA, or US Arms Control and Disarmament Agency, which estimate it at up to double that percentage. The precipitous drop in Chinese arms procurement is more consistent with Wang's figures. If the higher figure were accepted, it would have to reflect higher income of soldiers (including from non-military business ventures) rather than higher spending on arms or research.

²Spending increased briefly during 1980-81 in response to the threat perceived from the Soviet invasion of Afghanistan and the costly 1979 border war with Vietnam.

production to civilian goods. By 1994, about 70 percent of the gross output of former arms industries was for civilians. That figure is expected to plateau at about 80 percent this year.³

China's major military cuts *preceded* the post-Cold War cuts in the US, Russia and Europe. US military spending has decreased recently, but not nearly as much as China's did earlier. Other major Asian powers, including Japan, the Koreans, Taiwan, India, and Pakistan, did not cut back their military effort as China did in the 1970s and 1980s. Instead, these nations have steadily increased their real military spending as their economies grew. Japan, India, and Pakistan have expanded military spending at roughly the same rate as their economies grew, so that spending as a percentage of GDP remained approximately constant at about 1, 3, and 7 percent, respectively. During the 1990s, military spending rates in Taiwan and South Korea did not quite keep pace with their booming economies, but nevertheless real spending expanded significantly while China's stagnated. South Korea increased spending during the 1970s from around 4 percent of GDP to over 6 percent, maintained this during the early 1980s, then dropped slowly back down to around 4 percent during the 1990s. Taiwan's military effort has fallen from 8-9 percent during the 1970s to 4.6% in 1998. China's military spending, relative to that of its neighbors, has declined over the last three decades. China's military has declined relatively in both the quantity and quality of its arms. Meanwhile, Taiwan during the 1990s has re-equipped virtually its entire air force and navy with advanced weapons far superior to China's.

China's Limited Replacement of its Aging Stock of Obsolete Arms

Although the PLA has been declining in size since the 1970s, deeper cuts are yet to come since new weapons are being procured in numbers far too small to replace the huge stock of obsolete and worn out equipment of the bulk of the current forces. The PLA is now about 2.4 million, less than half of its peak in the 1970s. Cuts of hundreds of thousands per year continue. Yet China has not cut the size of the PLA nearly as much as it has cut its arms procurement (domestic production

³Eric Arnett, "Military Technology: The Case of China," in *SIPRI Yearbook 1995: Armaments, Disarmament and International Security*, 362; and Jean-Claude Berthélemy and Saadet Deger, *Conversion of Military Industries in China*, OECD Development Centre Studies, 1995, 43-44, 51.

plus imports). Thus most old and obsolete weapons are not being replaced, so the average age and relative backwardness of Chinese weaponry is actually *increasing*: a fact seldom acknowledged amid the constant talk of China's military "modernization." Old weapons are not only less technologically advanced, they are also more likely to wear out and difficult to maintain in serviceable condition. For example, the Chinese-made J-6 (MiG-19) fighter flown to South Korea in May 1996 by a North Korean defector was so worn out, according to a Japanese air force officer who inspected it, "The aircraft could disintegrate if it engaged in air combat."⁴ Much of the existing inventory of Chinese weapons was built during the Cultural Revolution when production standards (not to mention technological prowess) were quite low. Meanwhile, other armed forces in the region, though smaller, have not made the deep personnel cuts that China has and are re-equipping more rapidly with modern weapons. Therefore China's large armed forces are deceptive. Its actual military strength is much less than raw numbers would indicate, and declining relative to most neighbors, including Taiwan. Furthermore, given China's large size and underdeveloped transportation network,⁵ it would have difficulty concentrating a large portion of its armed forces against any one adversary.

The most backward of China's military branches is the most important one for modern warfare: the air force or PLAAF. Numerically, China has the world's second largest air force,⁶ but this is only because it maintains a huge inventory of aircraft long considered obsolete elsewhere. In fact, China's warplanes, on average, are more backward than those of any other of the top 60 air forces in the world (including all those with more than 100 combat aircraft). Of China's roughly 4000 combat aircraft, two-thirds are obsolete Soviet models from the late 1940s and early 1950s, mostly

⁴*Jane's Defense Weekly*, 10 July 1996, 18.

⁵For example, although China is three times larger than India, and its economy produces about twice India's output, railroad mileage in the two countries is about the same.

⁶The combined US combat air forces (Air Force+Navy+Army+Marines) are larger, not to mention vastly superior in training, experience and equipment. Taking quality into account, the Chinese air forces (PLAAF+naval air force) are also quite a bit weaker than the Russian.

MiG-19 variants.⁷ The Soviets stopped producing the MiG-19 in the late 1950s, at about the same time China began producing it as the J-6. Chinese production of the J-6 continued into the early 1980s, years after the last MiG-19s retired from Soviet service. Production of the Q-5 ground-attack variant continued throughout the 1980s. The primitive jet engines of the J-6/Q-5 have never been upgraded and are quite inefficient by modern standards. Whereas most modern fighters can fly at least twice the speed of sound, these aircraft are barely supersonic. Their usefulness is further limited by their short range and small weapons payload. Worst of all, many lack radar, which is standard equipment for any modern fighter. Aircraft without radar cannot fight at night, in poor visibility, or at long range. They are vulnerable to unseen long-range attack from the radar-guided missiles of nearly any modern fighter. Those with radar have a weak and primitive set that is shorter range than those in use elsewhere. The Il-28 (Chinese: H-5) was the *first* Soviet jet bomber, developed fifty years ago, yet it still constitutes almost two-thirds of the Chinese bomber force. These thousands of obsolete aircraft would be worthless deathtraps in any campaign against Taiwan's very modern air force.

Even aircraft quality of the *best* third of PLAAF is no better than any other of the world's top 60 air forces and inferior to every other significant air force in Asia, except the North Korean, which is similar. Pilots in Taiwan, Japan, India, Pakistan and South Korea are also better trained than those in China, averaging more than twice as many flight hours per year. Nearly all of this top third of the PLAAF comprises Chinese-made F-7 and F-8 fighters and old Soviet Tu-16 (H-6) bombers, which are all decades behind the latest technology. Almost half of this top third are the earlier versions of the F-7. These are copies of early-model MiG-21s, which formed the mainstay of the Soviet air force during the 1960s, but had retired from Soviet service by the time China began mass-producing them in the 1980s. Although faster than the J-6/Q-5, these early-model J-7s have all of their other important disadvantages, including short range, limited weapons suite, and no

⁷Including about 400 Q-5s, which are a Chinese-designed variant of the Soviet MiG-19. Sources disagree on the numbers. A study for the US Air Force (Kenneth W. Allen, Glenn Krumei, and Jonathan D. Pollack, *China's Air Force Enters the 21st Century*, RAND, 1995) gives lower total figures, assuming that fewer of the older aircraft remain in service. The figures given above are from *The Military Balance, 1999-2000*. The RAND study, however, assumes slightly higher figures for production of the latest fighters.

radar. The PLAAF has only a few hundred of the radar-equipped J-7-III and J-8, which are comparable to the MiG-21MF and MiG-23: front-line Soviet fighters of the 1970s that still comprise a major part of some Russian-equipped air forces, such as those of India, Syria, Libya and Iraq. China's only really modern aircraft are 50 Su-27s (a.k.a., J-11s) purchased from Russia during the 1990s, plus a handful built so far in China. China also agreed recently to purchase 30 modern Su-30 fighters from Russia at a cost of US\$2 billion for delivery in 2002. Su-27/30s, also used by India, are in the same class as the Russian MiG-29, used by India and Malaysia; the French Mirage 2000, used by India and Taiwan; and the standard US fighters, the F-15, F-16, and F-18, used by Japan, South Korea, Taiwan, Indonesia, Malaysia, Singapore and Thailand. Japan, India, and Taiwan each have at least five times as many modern, high-performance aircraft as does China. Any one of these three would likely prove superior to China in the event of an air war, because China's large numbers of obsolete aircraft would have little effect. China is no longer mass-producing the J-7 or J-8, using its scarce funds instead to assemble in China about 15 per year of the much superior J-11/Su-27.⁸ At that rate, the PLAAF's total combat strength will continue to plummet as thousands of obsolete aircraft wear out during the next decade.

The Chinese navy (PLAN) seems to be the most favored of the three services today. The navy is the only branch of the PLA that has actually increased its strength since Deng came to power in 1978. The surface navy grew throughout the Deng years, adding two or three seagoing warships (destroyers and frigates) each year during the 1980s. New construction has slowed down recently, however, to about one per year, and seems to be slowing further to release funds for purchasing Russian-built ships, beginning with two recently-ordered *Sovremenny*-class destroyers (aping the import-dependent trend of the PLAAF). A rapid building program during the 1970s brought the PLAN to a peak strength of over 100 submarines by the early 1980s. The submarine force has since declined to about half that, however, as old submarines wear out, since new construction dropped to two per year and is now slowing further to afford importation of expensive Russian

⁸The RAND study cited in fn7 projects continued F-7/F-8 production of about 200 per year, but the annual accounting of *The Military Balance* shows no increases for years until a correction in the 1999-2000 issue revised totals upward.

Kilo-class submarines. The PLAN has become, at best, the world's sixth most powerful navy (after the US, Russia, UK, France, and Japan), but is more backward than any other major navy. Chinese naval technology has made few advances over the standard inherited from the 1950s cooperation with the Soviets. Maintenance and operational standards are not very high. The PLAN's best equipment is imported from France and Russia, but China can afford it only in very small quantities.

China possesses no aircraft carriers, and nearly all of its fighter force has limited range, therefore, China's surface navy is quite vulnerable to air attack beyond China's coastal waters. Therefore the most important element of the PLAN is its submarine force. Submarines, being easier to hide than the surface navy, can more safely operate beyond the range of friendly air cover.

China has the world's third largest submarine force, however, much of it is non-operational and the entire force is technologically backward, despite the fact that China's most noteworthy naval technological accomplishment has been the design and development, at great expense, of nuclear-powered submarines.⁹ The main thrust of this project was to add a few submarine-based ballistic missiles to China's nuclear weapons delivery capability, but the technology was also applied to produce five nuclear-powered attack submarines (SSNs), launched 1971-90. Submarines depend on stealth for protection, yet the Chinese SSNs, like the earliest Soviet ones, are noisy, and thus relatively easy to detect and destroy. Their sonar and other electronic equipment was recently replaced by superior French gear, but it is not nearly as sophisticated as that of foreign SSNs. Like all other Chinese submarines, the SSNs' weapons—torpedoes and cruise missiles—are less sophisticated than those of the top naval powers. China has for some years been constructing a more modern nuclear submarine (Type 093) similar to the Russian Victor III class of the 1980s, but it is not expected to be completed before 2002.

The bulk of China's submarine force is several dozen copies of the non-nuclear Soviet R-class of the 1950s. China built 84 from 1962 to 1984, continuing to produce them for years after the last of the Soviet R-class was scrapped as obsolete. *Jane's Fighting Ships* estimates that about 30 are still

⁹John Wilson Lewis and Xue Litai, *China's Strategic Seapower*, Stanford University Press, 1994.

active, but says, “Operational numbers are difficult to assess as no submarine spends more than a few days at sea each year because there are insufficient trained men. . . . [Anti-submarine] capability is virtually non-existent.” Submarines are very difficult to operate, especially to operate effectively in combat. US and German navy experience in World War II was that a handful of ace captains working with top-notch submarine crews accounted for the vast majority of all ships sunk by submarines. China has no combat experience with submarines. Its crews spend so little time at sea that even their basic seamanship is questionable, let alone their combat ability.¹⁰ The PLAN’s inexperience must seriously impair the capability of most of its submarine force. It is interesting to note that Australia purchased from the Russian navy an operational F-class submarine, larger and more capable than China’s R-class, as a museum exhibit open to public inspection in Sydney harbor.

Since completing the R-class in the mid-1980s, the Chinese have built diesel-electric submarines of their own design, but the rate of construction has dropped from over per eight per year in the later 1970s to no more than two per year since Deng’s accession to power. Few details of these newer classes are available, but the 17 Type 035 ‘Ming’ class and one new Type 039 ‘Song’ class are slightly larger and 38 percent faster underwater than the R-class (Type 033). The ‘Song’ class represents a significant advance, because it can fire modern anti-ship missiles from underwater and is much quieter than the ‘Ming’ class. Two more are under construction, along with additional ‘Ming’ class submarines. China has recently purchased four modern Russian ‘Kilo’ class submarines. These are the first Chinese submarines quiet and capable enough to stalk enemy submarines. *Jane’s Fighting Ships* says, “If Russia has provided its more modern torpedoes, the acquisition of this class is a major step forward in China’s submarine capabilities.” The ‘Kilo’ and ‘Song’ classes are comparable to the Dutch, Swedish and German-designed submarines obtained by South Korea (9), Taiwan (2), Indonesia (2), Singapore (4), and India (14, including 10 ‘Kilo’ class, plus 2 more building), but quite inferior to the 16 Japanese submarines and the six Swedish-

¹⁰ A former US Navy commander of a P-3 anti-submarine patrol plane based in Japan informed me that though his crew got lots of practice tracking Russian submarines, they rarely detected a Chinese submarine out of port. The few times when they did it was at or near the surface. He said that the Navy believes that most Chinese crews are not trusted to dive their boats deeply.

designed submarines with revolutionary air-independent fuel-cell propulsion built in Australia. China's few modern submarines do not outclass forces available to several other Asian navies, not to mention the huge and sophisticated US and Russian submarine fleets.

Of the three services, the army has been cut the most in recent years. Its personnel strength of 1.8 million is about half of what it was in 1978 when Deng took over. Recent announcements promise further cuts of at least 20 percent. China's army equipment, though less obsolete than most of the navy and air force equipment, is nevertheless more backward than that of all neighboring Asian powers. China has the world's third largest tank force, but almost three-quarters of the PLA's 8,300 tanks are Type-59s: Chinese copies of the Soviet T-54 tank of the 1950s. Production of newer models has been very limited, far below the peak levels of Type-59 production in the 1970s and completely inadequate to replace existing stocks as they wear out. Although China has long land borders and potential enemies on every side, it has on order only 400 of its latest-model Type-85-III tank, while Taiwan, an island, recently bought 300 superior US M-60A3 tanks. At the current low rate of tank production, the PLA's ratio of tanks to combat troops, already low in this predominantly infantry army, will actually *decrease* unless further cuts are made in combat troop strength.

China's armed forces have always centered around the ground forces. In fact, the Chinese air force and navy are not independent and equal services, as in most countries, but subordinate parts of the army, or PLA. Mao Zedong's strategy of "people's war" against the threat of all-out invasion by the Soviet Union or the US reinforced the dominance of the ground forces until after Mao died in 1976. More recently, with the demise of the Soviet Union and the crucial role played by air power the Gulf War and in Kosovo, Chinese strategists have emphasized the greater possibility of limited wars conducted predominantly by naval and air forces, but the PLA has been slow to restructure and modernize to adapt to this change in strategic thinking. The existing armed forces remain more than adequate to defend Chinese territory against invasion, but they are inadequate for any significant offensive operations beyond China's borders and coastal waters. If current trends continue, and China does not greatly increase its arms procurement, China's armed

forces must continue to shrink, both absolutely and relative to its neighbors. China is not poised to become a regional hegemon, let alone a superpower.

China's Failure to Close the Technological Gap

China's leaders decided in 1985 that China was unlikely to face a major war in the foreseeable future, therefore, they further cut current weapons production to concentrate on developing more modern weapons in an effort to close the technological gap between China and potential adversaries. Chinese leaders expected that modernization of the civilian economy would also facilitate military modernization and that closer cooperation with the West would include transfers of military technology. Both these expectations have been frustrated. The civilian economy has been greatly stimulated by a combination of decentralization and privatization. However, these same processes have undermined China's military-industrial complex. Numerous military joint ventures with the West were canceled after the Chinese government's violent suppression of the Tiananmen Square protest in June 1989. Most of these projects have never recovered. The most important were the J-10 fighter, which was to be equipped with advanced Western jet engines and electronics, and the largest and most capable of China's warships, the two 'Luhu'-class destroyers. With the cessation of Western help, the J-10's development has been so delayed that it is now not expected to enter service before 2003, yet it is now likely to be inferior to the imported Su-27s in service more than ten years earlier. Since 1989 China has turned to Russia for military technology no longer available from the West. China has been disappointed, however, by Russia's preference for sales of complete weapons systems rather than technology transfer. So far, Russian help has done little to advance China's capacity for indigenous development of sophisticated weapons.

During the first 30 years of the People's Republic of China (1949-78), the nation's economic development focused on state planning to produce the basic means of subsistence for the population and, beyond that, military equipment and related industries and research facilities. Seven of China's eight Ministries of Machine Industries were devoted mainly to military projects. Most research was organized to support priority military projects under the umbrella of the

National Defense Science and Technology Commission and the National Defense Industry Office, combined in 1982 as the Commission on Science, Technology and Industry for National Defense (COSTIND). However, because of the severe disruptions of the Great Leap Forward (1958-60) and especially the Cultural Revolution (1966-76), Chinese military research made little progress beyond copying the 1950s technology inherited from the Soviets. The big exception to this was China's autonomous development of nuclear weapons and the missiles to deliver them. This nuclear effort was pursued at enormous cost. Meanwhile, except for a few spin-offs from the nuclear program, such as the nuclear submarines, most projects to develop new weapons systems floundered in the chaos of the Cultural Revolution.

Deng's economic reforms promised to restore progress, which they have certainly done for the civilian economy. Yet two cornerstone's of Deng's economic reforms—decentralization and privatization—have substantially eroded China's defense industrial base particularly because they have redirected talent and resources away from military research and development (R&D) and thereby stifled progress toward autonomy in military technologies. Privatization and decentralization have encouraged a brain drain from military to civilian research, a shift of production from higher-tech to lower-tech products, and starved the remaining military industries and research facilities of funds, particularly hard currency, to develop a wide range of state-of-the-art military technologies. China's recent arms purchases from Russia are more a symptom of the failure of domestic R&D than they are evidence of China's military modernization.

Market incentives have generally replaced the old system of conscription of talent, leading to a brain drain from military R&D to the booming private civilian sector. The China National Science Foundation (CNSF) was formally inaugurated in 1986 as the civilian counterpart of COSTIND, and soon began to eclipse it as a sponsor of scientific research. CNSF awards funds by competitive peer review, in contrast to COSTIND's military-bureaucratic fiat. Because of the generally low profitability and uncompetitiveness of military-industrial sector, it now has difficulty recruiting and retaining experts. The best scientists and engineers are no longer attracted to the isolated defense sector, but to the open and booming civilian economy. During Cultural Revolution, many

military-related research facilities and factories were built or relocated to the so-called “Third Front”, the mountainous interior of China, to be secure in case of Soviet or American invasion of northeastern China or the populous coastal region. Many Third Front sites have little infrastructure and harsh living conditions. Today it is difficult for such remote facilities to attract and retain skilled researchers when much more promising economic opportunities beckon in the more comfortable and prosperous coastal cities.

Even though most of China’s arms are not particularly sophisticated, they are high-tech relative to most of the civilian products that China’s industries have converted to producing. Given China’s abundant labor and low average standard of living, China’s comparative economic advantage lies in producing low-tech consumer products such as clothing, processed food, household appliances and construction materials. Indeed, industries such as these have flourished. In the more high-tech industries, such as electronics and aerospace, the greatest expansion has occurred not in the autonomous development of new high-tech products, but rather in the assembly of imported components and the manufacture of the simpler components, such as aircraft fuselages. This pattern of development is not likely to stimulate much improvement in military-related technologies.

The inferior quality of China’s arms is highlighted by the experience of two important (former?) export customers. During the 1980s Thailand contracted to buy Chinese warships and army equipment, including tanks. The Thai navy began a rapid expansion with the purchase of six Chinese-built frigates. Thailand wanted to buy only the hulls from China, and equip the ships with Western weapons and electronics. China insisted on providing complete warships, offered a good price, and delayed its own warship programs to prioritize the Thai order. Thailand agreed, but was soon disillusioned with its choice. The workmanship was so poor the ships had to be overhauled as soon as they arrived in Thailand. The diesel engines proved so unreliable that Thailand has had to confine the ships to coast guard duties. Thailand insisted that the final pair be delivered as empty hulls, which were fitted in Thailand with GE gas turbines, German diesels, and weapons and electronic equipment from the US, as originally planned. The Thai army was similarly disappointed

with Chinese Type-69 tanks and 130mm artillery. The 130mm gun barrels wore out too quickly. The tanks' inferior diesel engines belched black smoke, rendering them too conspicuous on the move. They are now in storage. Thailand now prefers to buy surplus US Army M60 tanks rather than newly manufactured Chinese models. Myanmar (Burma) has had a similar experience. After the army violently crushed the pro-democracy movement there in 1988, China was one of Myanmar's few foreign friends. From 1990 China sold Myanmar over \$1 billion worth of warships, planes, tanks, and other weapons. "Now, however, Myanmar is trying to diversify its sources of military hardware. The Burmese are complaining about the poor quality of the Chinese equipment, as well as problems with maintenance and spare parts."¹¹ Other major Chinese arms customers, such as Pakistan and Iran, now prefer to buy most of their weapons from more sophisticated producers: France and Russia, respectively.

After China's honeymoon with the West ended in June 1989, US and French arms exporters more than made up for the loss in mainland Chinese business by massive sales to Taiwan, including sophisticated weapons such as the F-16 fighter and the Harpoon anti-ship missile previously denied to Taiwan to avoid offending Beijing. The honeymoon with China probably would have ended eventually even without Tiananmen, if not so abruptly, because the logic of Chinese arms sales guarantees some friction with the West and, with the demise of the Soviet bloc, the original motivation for US strategic partnership with China—as a counterweight to Soviet power—has disappeared. China, which seemed the bold market reformer during the 1980s, now looks, by the standards of the 1990s, like a political anachronism. Even as memories of Tiananmen fade, the military cooperation of the 1980s is unlikely to be reestablished.

In reaction, China has revived arms purchases from Russia, suspended for almost 40 years. However, the known deals with Russia are less tailored to developing China's indigenous military production and technology than those contracted in the West during the 1980s. The deals with Western companies did not require large purchases of complete weapons. Many manufacturers were willing to help the Chinese improve their weapons design and manufacture, and to sell China

¹¹Bertil Lintner, "Myanmar's Chinese Connection," *International Defense Review*, November 1994, 23.

only those sophisticated components most necessary to upgrade China's existing weapons and new designs. Taiwan has benefited extensively from such technology transfer in developing its own arms industry. On the other hand, Russia, chronically short of foreign exchange itself, has insisted that China must purchase substantial quantities of completed weapons (such as the Su-27, Su-30, and 'Kilo' class) with hard currency before Russia will consider licensing Chinese firms to produce such weapons themselves. Nevertheless, because of the failure of so many indigenous Chinese weapons projects, the PLA seems increasingly to prefer importation and licensed production of small numbers of high-tech foreign weapons rather than buying cheaper, but obsolescent, Chinese designs.

China's Offensive Military Capabilities are Limited

Despite the nervousness in abroad about the "modernization" of China's huge armed forces, China's offensive capabilities remain quite limited. The most talked about scenarios involve Chinese armed action against Taiwan or against rival ASEAN claimants for the islands and waters of the South China Sea. A successful invasion of Taiwan would be impossible. More limited harassment of Taiwan or ASEAN by sea and air is possible, but China's ability to prevail is questionable. With the more rapid build-up and modernization of the military forces of Taiwan and ASEAN, China's capability to gain from military action in the East or South China Seas is actually declining. Many commentators focus on China's acquisition of certain modern capabilities, without noting that modernization is not affecting the vast bulk of the Chinese forces. Taiwan, on the other hand, is procuring more new weapons than China. During the 1990s Taiwan is re-equipping virtually its entire navy, air force, and army with new warships, missiles, combat aircraft, and tanks.

China's military, especially the navy and air force, lack combat experience and adequate training. The army fought fierce border wars with India in 1962 and Vietnam in 1979, and a border battle with the Soviet Union in 1969. On the other hand, the navy experienced only limited combat

against Taiwan's navy in 1954 and minor skirmishes with Vietnam in 1974 and 1988. The PLAAF has not engaged in significant combat since it battled Taiwan's air force in 1958.¹² During PLA's 1979 incursion across its border with Vietnam, "China had deployed a large number of aircraft [over 700] to border airfields, but she relied on heavy artillery barrages to prepare the attack, perhaps because her obsolete air force would have been no match for the more sophisticated Vietnamese air arm."¹³ Three-quarters of the PLAAF strength today—21 years later—is still the same aircraft considered too obsolete to fight the Vietnamese in 1979! The age and unreliability of many Chinese ships and aircraft restrict the time spent in training. On average Chinese combat pilots fly less than half as many hours per year as American, Indian, Japanese, Taiwanese, and South Korean pilots. Many Chinese navy vessels seldom put to sea. Chinese military maneuvers are smaller and less frequent than those of most major powers. It is difficult to judge the overall impact of such inexperience, but it should at least increase doubt about China's ability to coordinate and execute successfully complex offensive operations.

Four scenarios of possible Taiwan-China conflict are worth considering: 1) a blockade of Taiwan, including harassment by air and missile attacks; 2) Chinese invasion of the offshore islands of Kinmen (Quemoy) and Mazu (Matsu); 3) Chinese invasion of Taiwan itself; and 4) missile attacks alone (with or without nuclear weapons). A blockade is unlikely to succeed, since China probably cannot gain control of the sea and air around Taiwan. China and Taiwan could both damage each other's overseas trade and military forces, but a decisive result is unlikely. A massive Chinese military build-up over a period a decade or so might suffice to give China the capacity to mount a serious blockade and possibly even to conquer the Taiwanese-held offshore islands, however, even in that case, and even without foreign military intervention on its behalf, Taiwan itself is secure.

¹²Krumel and Pollack, *China's Air Force Enters the 21st Century*, 20, 93.

¹³IISS, *Strategic Survey 1979*, p. 58.

China's Inability to Invade Taiwan

China's weak naval and air forces provide it no ability to invade Taiwan. If Taiwan were not an island, China might be able to threaten it with its large (but inefficient) army. To invade Taiwan across the 80-mile-wide Taiwan Strait, China would first have to win control of the sea and air. This would be extremely unlikely, as I argue in the next section, given Taiwan's considerable qualitative advantage in naval and air forces, even if the US did not aid Taiwan. Taiwan's qualitative advantage has increased recently. If China *could* gain control of the sea and air, a blockade of Taiwan might be *possible*, though it would almost certainly require direct confrontation with US ships defying the blockade.

However, *even if* China somehow could gain complete control over the sea and air in the Taiwan Strait, for example, by nuclear strikes against Taiwan's naval ports and military airfields that somehow avoided US intervention, a successful invasion of Taiwan would be virtually impossible because of China's limited sea and air lift capability relative to the size of the defending forces. Amphibious invasions can succeed only if the attacker can land enough troops by sea and air either to overwhelm the defender in the initial attack, or, more usually, to hang onto a beachhead long enough so that reinforcements can be landed before the defender can build up overwhelming strength to crush the beachhead. Ports are usually too strongly defended to be attacked directly, so supplies must initially be brought in by the same means as the troops: by parachute, helicopter and, mostly, by specially-built amphibious warfare vessels landing on a beach. Once a port and airports are secured and repaired, forces and supplies can be landed more efficiently using regular transports, cargo ships, and large air transports. Thus it is not the size of China's army, or even its navy or air force, that ultimately constrain its ability to invade Taiwan, but its capacity to transport troops and supplies to a hostile beach and nearby air landing sites.

Much attention in the West has been directed at the recent reorganization of the Chinese army so that 12 "rapid-reaction" divisions, including three as central national reserves, can mobilize more quickly than the bulk of the army. These have been compared to the highly mobile forces used by the US and its allies in the Gulf War. This is entirely inappropriate. China has very limited air and

sea transport capability. Most “rapid-reaction” units must rely on rail transport, and thus could not deploy outside of China itself, and certainly not across bodies of water like the Taiwan Strait. These units are probably designed more to counter internal security threats¹⁴ rather than to provide China with a large external intervention force.

The PLAAF has limited ability to transport troops into combat theaters. Long-range air transport units (using about 80 Y-7/An-24, Y-8/An-12, and Il-76 aircraft) could transport and paradrop one airborne brigade (about 3,000 troops, one third of a division) over a distance of at least five hundred miles, presuming that China possessed near total air superiority and could suppress most ground-based anti-aircraft defenses, which would be difficult against virtually any neighboring country. Short-range transports (300 antique Y-5/An-2 *biplanes*) could drop another brigade of airborne troops a couple hundred miles from friendly bases. China has enough helicopters to transport a couple thousand troops over distances of less than a hundred miles, though it would be difficult to concentrate most of the helicopters in any one region, since they have many support functions for the ground army. It would take weeks to transport all three airborne divisions by air, let alone their supplies. A RAND study, noting the limited use of PLAAF air transports in the conflict with Vietnam and in military exercises, concludes, “These numbers are so small that it is hard to imagine air transport influencing the outcome of any major action.” Using both military and “civilian transports will allow the PLAAF airborne troops quick access to any internal trouble spots. Their ability to be delivered into combat on China’s periphery has not been greatly enhanced, reflecting the true mission of these forces.”¹⁵ China has not

¹⁴Occasional small-scale armed actions in Tibet and Xinjiang, for example, may presage larger troubles. Traditionally, the PLA has been quite decentralized in accord with Mao’s doctrine of “people’s war” and because of poor transportation. About 30 percent of the PLA combat troops are local forces organized for defense of each province. Even the main force units are subordinated to military region commanders rather than to the central headquarters in Beijing. The last reorganization, in 1985, combined military regions with low population, such as Urumqi and Kunming, with populous provinces (Shaanxi and Sichuan, respectively) so that each of the seven remaining military regions is now able to be virtually self-sufficient in personnel recruitment. Soldiers tend to spend their entire careers within their home military region. Decentralization can pose political dangers. During the Tiananmen Incident, Chinese authorities were alarmed when the Beijing garrison appeared reluctant to act against protesters. More dependable troops, including airborne troops, had to be brought in from elsewhere to crush the protests. At that time, only three airborne divisions and one naval infantry brigade recruited nationally and remained under central control. With the addition of three “national rapid-reaction” divisions, central authorities now directly control about 10 percent of the main force units.

¹⁵Krumel and Pollack, *China’s Air Force Enters the 21st Century*, 169-70.

prioritized procurement of new transports to replace these aging planes or to expand airlift capability.

China's military sealift capability is also limited. The PLAN could transport two brigades (each with one infantry and one tank regiment) by ship across the open ocean to land on an enemy beach. In calm seas, over distances of less than 200 miles, small landing craft could add enough capacity to transport, at most, two infantry divisions reinforced by two tank regiments (about 28,000 troops with over 300 tanks). Additional troops could be landed in multiple trips, but would require several days for each round trip. As more and more troops are landed, a greater and greater portion of amphibious capacity would have to be devoted to resupply these rather than reinforcing them, at least until a major port could be captured so that civilian shipping could be used to land supplies at regular docks. Despite China's interest in recovering Taiwan, it has not invested in expanding its amphibious warfare fleet since the early 1980s.

Thus China could potentially land about three divisions in Taiwan initially given: 1) enough time to concentrate all available air and sea transport, 2) fair weather, and 3) complete control of the air and sea. Unless a major port could be quickly captured, the build up of troops in the beachhead would be slow and transport losses heavy. It is hard to imagine any circumstances under which Taiwan's army of 24 divisions would not quickly overwhelm the invaders. By comparison, the Allied invasion of France in 1944 crossed a much narrower body of water and landed 10 strong divisions on the first day and four more in the next few days. They faced seven German divisions initially. By the end of the first week 16 Allied divisions faced 14 German ones. At no time did the Germans concentrate superior force against the beachhead. Whereas France is seventeen times bigger than Taiwan and most of the German forces there had little motor transport, and thus had to walk to the front line, Taiwan's entire army is motorized and could concentrate its full force against any beachhead in a matter of days. Since the 1970s, technological advances, particularly portable, easily concealed anti-aircraft and sea-skimming anti-ship missiles, favor the defender in amphibious invasions. Even an attacker with complete control of the sea and air would suffer heavy losses from such missiles, which Taiwan manufactures. Any Chinese attempt to launch an amphibious invasion

of Taiwan would almost certainly be an unmitigated disaster for China. Even use of nuclear weapons would not make it possible for China to invade, since the number of nuclear weapons necessary to neutralize Taiwan's army would render Taiwan inhospitable if not uninhabitable.

China is not capable of successfully invading Taiwan now or in the foreseeable future, even assuming a substantial increase in China's air and naval weapons procurement enough to win an arms race with Taiwan. Amphibious operations, that is, transporting troops across open sea to land on a hostile beach, are among the most complex and difficult of all military operations. Only two powers have substantial accumulated experience in this form of warfare: the US and Britain. (Russia has more limited experience, but also has significant transport capability). Today the US is the only country with any substantial fleet of amphibious warfare vessels, yet even the US would have difficulty landing troops on an island as well defended as Taiwan (even assuming proximate bases). After mobilizing its reserves, Taiwan has a well-equipped army of over a million soldiers. Even if China were to give high priority to expanding its air, naval, and amphibious capability, it would be unable to gain the capability to invade the main island, though the offshore islands could perhaps become vulnerable.

Taiwan is Increasingly Secure from Any Non-Nuclear Chinese Military Threat

China's sheer size and rapid economic development have engendered unreasonable fears about its military capabilities. It might be hard to imagine how an island of 22 million people could be secure next to a continental power of over 1.2 billion. Yet Taiwan today is quite secure from invasion and could probably stalemate a naval and air campaign against it, *even without US help*. Recent trends in the balance of power favor Taiwan, not China. China's only decisive advantage over Taiwan is its nuclear weapons, but China could not hope to employ these without inciting the most severe international reaction, including, at the very least, an international embargo against China's foreign trade, not to mention the horror and hatred that nuclear attacks would produce in Taiwan. Several reasons for Taiwan's relative security have already been mentioned: the obsolescence of most of China's existing weaponry, China's low level of military expenditure and

procurement, and China's limited amphibious and air transport capacity.

Taiwan's military procurement, like China's, has been impeded by foreign embargoes on certain types of weapons. During 1981-89, the heyday of warm US-China relations, the US prohibited sales of many important weapons systems to Taiwan, including major warships, many types of missiles, and sophisticated combat aircraft.¹⁶ Most other major arms producers also restricted exports to Taiwan. The US did not, however, prohibit US companies from supplying arms components and helping Taiwan develop its own arms industry. Collaboration with Israel and South Africa also assisted Taiwan's arms industry. Even with the foreign restrictions on arms exports to Taiwan, Taiwan's arms imports were twice the value of China's during the 1980s.¹⁷ Meanwhile, Taiwan's indigenous arms industry developed the capacity to produce sophisticated fighter aircraft, warships, and many types of missiles.

Since 1989, US relations with China have soured. In 1992, in reaction to China's purchase of Su-27 fighters from Russia, President Bush authorized substantial new arms sales to Taiwan, including previously embargoed weapons such as F-16 fighters and Harpoon anti-ship missiles. Although diplomatically the US still recognizes Beijing, not Taipei, US arms flow only to Taiwan. France also began selling arms to Taiwan, including sophisticated warships and fighters. During 1992-95, Taiwan became one of the world's biggest arms customers, ordering \$23 billion from the US and almost \$10 billion from France. These purchases are far larger than China's recent purchases from Russia, but they have gotten much less attention in the Western press. Taiwan's domestic arms production adds considerably to these imports. Taiwan's military capabilities are expanding significantly faster than China's.

Today any Chinese attempt to blockade and harass Taiwan would not likely succeed because of the superior quality of Taiwan's air and naval forces. Until recently, Taiwan's air force relied on 424 older US fighters: 277 F-5 and 147 F-104. These are comparable to the few hundred best Chinese-made fighters (F-7-III and F-8), but inferior to China's new Su-27s. However, in the last

¹⁶Jon Lake, "Taiwan's Indigenous Defensive Fighter," *Air International* 50 (June 1996): 349.

¹⁷Gill and Kim, *China's Arms Acquisitions from Abroad*, 37.

few years Taiwan replaced all of its aging F-104s and some of its F-5s with new fighters. These include 130 Taiwanese-built Ching-Kuo, 150 F-16A/B,¹⁸ and 60 French-made Mirage 2000-5 fighters. All of Taiwan's new fighters are in the same league as the Su-27, and much superior to any previous Chinese-built fighters.¹⁹ These 340 first-rate fighters, plus 200 of the still-useful F-5E/F fighter-bombers, give Taiwan a considerable advantage over the PLAAF.

Taiwan currently holds a big technological advantage over China in airborne warning, control and surveillance (AWACS) aircraft. These large planes, equipped with a long-range radar, extensive electronics sensors, and sophisticated communications equipment, monitor enemy and coordinate friendly air activity within a radius of several hundred miles. Such aircraft were invaluable to the US and its allies during the Gulf War. Taiwan's first four US-made E-2C AWACS aircraft were delivered in 1994-95. Four more are to be delivered by 2002. Each can track more than 2,000 aircraft within a radius at least 345 miles. A single E-2C circling over central Taiwan can detect any aircraft within 200 miles of Taiwan and 200 miles into China itself. Virtually any Chinese aircraft within range of Taiwan would be detected shortly after take off. An E-2C protects not only Taiwan itself, but also any Taiwanese ships operating within its radar umbrella, by warning of any impending air attack in time to allow interception by Taiwanese fighters. In a crisis, the E-2Cs, flying four daily six-hour shifts, could provide 24-hour coverage.²⁰ China is acquiring similar capability with four Russian-made Il-76 AWACS, but it may be a few years yet before they are operational. Once both sides have AWACS, the advantage goes to the defender, because the attacker loses the chance of surprise.

Taiwan's navy is smaller than China's, with only about two-thirds as many major surface warships (destroyers and frigates), but is improving more rapidly and has superior anti-submarine,

¹⁸Taiwan's F-16A/Bs are an upgraded version superior to early versions of the F-16C/D model, which is the standard lightweight fighter in US service, complementing the heavier F-15 (*Jane's All the World's Aircraft 1995-96*, 569). Taiwan is the first export customer for Raytheon's advanced ALQ-184 jamming pod that can help its F-16s confuse enemy radar-guided missiles (*International Defense Review*, July 1994, 18).

¹⁹Lake, "Taiwan's Indigenous Defensive Fighter," 347-56.

²⁰*Jane's All the World's Aircraft 1995-96*, 617-18.

anti-aircraft, and anti-missile capabilities. Taiwan's surface fleet is the world's seventh largest, ranking just behind China's in numbers, but is arguably more powerful. However, Taiwan's overall naval strength is hampered by having only two modern submarines. Taiwan wishes to procure a dozen more, but has been frustrated by the unwillingness of European submarine manufacturers to risk China's ire by selling to Taiwan. (The US builds only very expensive nuclear-powered submarines, which it does not export.) Until recently, most of Taiwan's major combat ships were fifty-year-old US-made destroyers, but these have been extensively modernized with the addition of new missiles, electronics, and, on many, a helicopter. Some of these old destroyers have been replaced recently by 24 new frigates, seven built in Taiwan to a US design (with one more under construction), six built in France, and 11 refurbished veterans of the US Navy. The remaining 13 old destroyers are to be replaced within a few years by more new frigates and four US Aegis destroyers. These Aegis destroyers have anti-aircraft and anti-missile capabilities far more advanced than any available to China.

Taiwan's lack of submarines somewhat compensates for China's weak anti-submarine warfare (ASW) capabilities, but the PLAN would be pretty helpless to defend itself from a strong submarine force. Taiwan has superior ASW capability. The most effective weapons against submarines are: first, other submarines, if they are quiet and have modern sonar; second, ASW aircraft, either land-based fixed-wing or ship-based helicopters; and, third, ships equipped with variable-depth towed sonar and homing torpedoes. China's few 'Kilo' and 'Song' class submarines and Taiwan's two Dutch-built submarines have significant ASW capability. Taiwan has 32 land-based ASW aircraft to China's four (plus four obsolete flying boats). Nearly all of Taiwan's 37 major warships carry a helicopter and all 24 new frigates are equipped with towed sonar, whereas only nine PLAN warships carry a helicopter and even less have towed sonar.

The most potent weapons against warships are accurate sea-skimming anti-ship missiles (ASMs) such as the French Exocet and US Harpoon, both used by many nations and credited with sinking or damaging several ships, including modern US and British warships, in the Falklands, Iran-Iraq, and Gulf Wars. ASMs may be launched from properly equipped submarines (a few

Chinese submarines have them), surface ships, or aircraft. There are three main defenses: 1) destroying the attacker before it can launch the ASM, 2) destroying the ASM before it can hit a ship, or 3) distracting the ASM's homing system to a false target. The PLAN is inferior to Taiwan's navy in all three defensive capabilities. If the attacker is an aircraft, destroying it depends on either early interception by friendly fighters (AWACS help) or hitting it with surface-to-air missiles (SAMs) beyond the range of its ASMs. No PLAN warships have long-range SAMs, and they thus have no way to attack aircraft beyond about 11 miles, much less than the range of any modern ASM. Fourteen of Taiwan's major warships carry US SAMs able to outrange the most common Chinese air-launched ASM, the C-801 (similar to the Exocet), though not the new C-802. The four planned Aegis destroyers would be able to intercept Chinese planes beyond even the range of the C-802. If the attacker is a ship, the most effective defense is to hit it with ASMs first. Only 12 PLAN ships carry ASMs,²¹ whereas all major Taiwanese ships do. All 24 new and 7 of the old Taiwanese warships have a US Vulcan Phalanx automatic radar-controlled gun that fires 50 20mm shells per second to destroy ASMs in the last seconds before they can hit the ship. The six new French-built frigates also have Crotale SAMs capable of intercepting ASMs. The PLAN is rumored to have an anti-missile system under development, but so far has no weapons to destroy missiles except for three ships with the French Crotale system. Systems to confuse missiles include radar jammers and chaff or flare rockets that produce a false radar or infrared image to distract the missile's homing device. These systems are most effective when computer-integrated with sensors, so that ASMs can be identified and the most appropriate decoy activated automatically. Chaff rockets are common, but only 11 PLAN warships carry radar jammers and only two have modern computer-integrated defenses, whereas these are universal on Taiwanese ships. In addition, Taiwan's six French-built frigates are designed to be "stealthy." Their reduced radar, infrared, and acoustic signatures make it easier for them to distract missiles and torpedos with decoys.

²¹The other PLAN warships have anti-ship cruise missiles, but these fly higher than ASMs and are therefore much easier to detect and destroy with conventional anti-aircraft weapons.

China is acquiring two Russian-built *Sovremenny*-class destroyers that are much more powerful than any existing Chinese warship. These ships have excellent long-range, supersonic ASMs that are thought to be very effective. They also have good ASW equipment, fast-firing short-range anti-missile guns, and short-range SAMs. These modern, expensive ships will add significantly to Chinese naval power, perhaps enough to counterbalance the advantage Taiwan has gained with its new frigates. Without these new destroyers, the PLAN would suffer heavily from Taiwan's naval and air forces. These new ships do not much improve the PLAN's defenses against air attack, but they do give it a more even chance in the event of a sea battle. But such limited acquisitions do not give China any overwhelming naval capabilities. They will be more than counterbalanced by Taiwan's four new Aegis destroyers, which are more advanced than the *Sovremenny*-class.

The Ineffectiveness of Ballistic Missiles

The Chinese ballistic missile tests near Taiwan around the time of Taiwan's 1996 presidential election alarmed many in the West and in Taiwan that missile attacks are the most viable means for China to threaten Taiwan. Ballistic missiles seem at first to have many advantages: long range, difficult to intercept, relatively easy to conceal, and China has them, whereas Taiwan does not. These advantages are overwhelmed by one enormous disadvantage, however: their extraordinary inaccuracy relative to manned bombers or non-ballistic (mostly short-range) precision-guided missiles. Inaccuracy does not matter much if the missile's payload is a nuclear weapon, whose destructive effects extend for miles (at least if the target is not underground). However, if ballistic missiles are used with anything other than nuclear warheads they are mere nuisance weapons. Extensive experience with ballistic missiles in World War II (German V-2s), the Iran-Iraq and Gulf Wars has shown that as terror weapons against civilians they are much inferior to manned bombers. Any single major Allied bomber raid in World War II or US B-52 raid on Vietnam delivered more explosives more accurately than would the entire Chinese missile force, which, of course, can be used only once. Ballistic missiles are terror weapons of weak powers that cannot control the air and therefore cannot sustain truly devastating attacks by manned aircraft. Thus no advanced military

power bothers to maintain ballistic missiles *except to deliver nuclear weapons*. Ballistic missiles with non-nuclear warheads are useless against any militarily significant facilities like railroads, bridges, airfields, ports or transportation lines. Such facilities are notoriously hard to damage and easy to repair, even under sustained bomber attack. Despite thousands of firings of ballistic missiles in several wars, not one has ever damaged any militarily significant facility, though indeed thousands of civilians and a few soldiers have been killed by them (mostly in London in 1944).

Only with nuclear warheads are ballistic missiles transformed from a random terror weapon into a militarily significant (though not necessarily decisive) threat. Any Chinese use of nuclear weapons against Taiwan would risk, at the very least, worldwide economic boycott, and possibly a preemptive US nuclear attack against the dozen or so Chinese missiles that can reach the US and against other Chinese nuclear facilities. A nuclear missile attack is not necessarily decisive, as mentioned above, because even if Taiwan's air and naval forces were eliminated by nuclear attack, this would not make it any easier for China to transport an invasion force to the island. In fact, nuclear destruction of the naval bases, and thus the ports, of Taiwan would make it even more difficult for China to transport troops and supplies there. Widely dispersed ground forces in the mountainous interior of Taiwan would be extremely difficult to eliminate without using hundreds of nuclear bombs, i.e., most of China's total arsenal. Since such extensive attacks would leave Taiwan an uninhabitable wreck, it is scarcely imaginable that China could believe that any useful result could come from it. Nor is it likely that widespread nuclear attacks on Taiwan would make a new Beijing-imposed government particularly popular in what would be left of Taiwan. Yet without eliminating Taiwan's army, there is no way for China to *enforce* a government of its will upon the island.

Some argue that military force and capabilities do not really matter. What really matters is people's *perception* of the threat. If Taiwanese people *believe* that China is overwhelmingly powerful and might use force to secure reunification (admittedly, such beliefs are commonplace), might they decide to support reunification out of fear? This might be called the "Genghis Khan" strategy of submission through fear. The Mongol conqueror did manage to induce some cities to

open their gates to him by the reputation he developed for massacring the population of cities that resisted. Yet Genghis Khan did have one important advantage over modern China: terror was not his only viable weapon. He could defeat armies as well as terrorize cities. As long as China lacks the capability to defeat Taiwan's military forces, there is no assurance that any amount of terror against civilians would induce submission. If a civilian government were to capitulate to the fear of its citizens and invite in the PLA, would Taiwan's military submit? Or would they simply stage a coup and continue resistance? Nobody can be sure, including Beijing. Military experts in China must realize, however, that if the Taiwanese armed forces were to choose resistance, the PLA might have to fight a real war, for which their forces are ill prepared.

The psychological and political effects of violence are highly varied. Terrorism does breed fear, but it also often breeds resentment, anger, and perhaps a renewed determination to resist and defeat the source of the terror. The Nazi's liberal use of terror in occupied regions did not uniformly secure passive obedience. Many chose to resist, subtly or violently. China's very modest saber rattling in 1996 has not seemed to influence Taiwanese voters in favor of pro-unification candidates. Would a reckless disregard for the lives of Taiwan's inhabitants push voters to a more pro-Beijing politics? Perhaps, but I doubt it.

Why the "China Threat" Looms Larger Than Life

China's export-dependent economy and rapid *demilitarization* since the 1970s bode well for continued peace in Asia, despite occasional resort to hollow saber rattling. The sweeping economic reforms promulgated since Deng's rise to power have transformed China into one of the world's fastest-growing economies. Contrary to the assumptions of most western observers, this growth has actually eroded rather than expanded China's military potential. China's military-industrial complex depended on a Stalinist-style command economy to secure the resources it needed for arms production. Deng's reforms have undermined that command economy and starved the military sector of resources, including skilled personnel. If reform trends continue, the decline of China's

capacity for arms production will also continue. Some arms production capacity will survive, but far less than what is needed to maintain the PLA at anything like its current size. Nor will modernization of the civilian economy increase China's self-sufficiency in military technology. If anything, China will probably need to increase its reliance on imported arms technology to equip the minority of its forces that it can afford to modernize. Foreign exchange constraints on imported technology will, however, severely limit modernization.

Given the existing and likely future military balance, any threats or use of force against Taiwan are likely to be counterproductive to the goal of national reunification, since China is unable to defeat Taiwan without massive use of nuclear weapons, and use of nuclear weapons would almost certainly provoke US military intervention and destruction beyond any imaginable political gain. Indecisive use of military force is unlikely to win sympathy in Taiwan for rule from Beijing, but merely alienate the people (or at least the armed forces) of Taiwan and harden their resolve to resist. Since no military means exist for China to hasten reunification of China and Taiwan, progress in relations can only come from peaceful negotiations based on mutual interest.

If my analysis is correct, why are many Americans still rather fearful and pessimistic about the prospects for in Asia? I think there are two major reasons: First, many Americans still hold an image of China as the communist country where tanks attack peaceful protesters. The television imagery of Tiananmen endures. The Chinese government tends to perpetuate violent images by bellicose actions, such as the missile tests near Taiwan in 1996. Second, Americans have generally been offered an exaggerated picture of "China as emerging superpower," in part because of the corporate self-interest of those who want to sustain high military spending.

Since the breakup of the Soviet Union and the end of the Cold War, it seems that too many US international relations commentators and military pundits cannot bear the good news. The outbreak of peace is intolerable to those who continually prophesy war and security dilemmas. The precipitous decline of the once mighty Soviet armed forces has left the US military establishment without an obvious enemy to justify its own massive expenditure of social resources. During the late 1980s there was a silly attempt to reinvent Japan as a potential military rival of the US. Iraq's

invasion of Kuwait and North Korea's saber rattling appeared to raise the specter of middling "rogue states" as the emerging threat in the post-Cold-War world, but the easy defeat of Iraq and the economic collapse of North Korea bely such fears. Now the primary effort of the theorists of perpetual war is directed toward imagining China as an emerging superpower and potential military rival of the US.

Most of the theorists who contend that China is an emerging superpower rest their arguments on the simple fact of China's huge population and rapid economic growth, which suggest that China might become the world's richest country some time in the first half of the 21st century. Even if China does eventually surpass the US in total output, it will still not be an autonomous military superpower on the order of the contending blocs in the Cold War. It will either be firmly integrated into an internationalist world business empire (which is probably a necessary condition for China to achieve such wealth), and therefore merely a constituent in a vast Kantian "zone of peace," or (less likely) it will be isolated from the global alliance of trading nations. Such isolation would only insure China's relative decline, as it insured the relative decline of the Soviet bloc since the triumph of business internationalism in World War II.

The debates about the significance of China's rapid emergence as a major trading nation have been heavily influenced by so-called "realist" theories of international relations that conceptualize individual states as the only important centers of power and interest in the international system. This is particularly backward looking in a world in which the powers of governments are everywhere under assault and almost everywhere in decline. Today more than ever, relations across national boundaries are organized by business, not by governments. Most governments, with their remaining powers, are in fact doing their utmost to advance the liberal interests of business internationalism. With the worldwide collapse of socialism, the exceptions to this general rule are rapidly dwindling. Realists can only argue about the powers of *states*, e.g., whether *US* hegemony is declining, whether *Japan* is the new rising power . . . or *China*, but what they do not grasp is that the real global hegemon is internationalist business — and it is still expanding its power. *Within* the vast sphere of this internationalist hegemony, peaceful relations are the norm: even *threats* of war

are rare, and war itself is virtually inconceivable.

However, even if we adopt a realist perspective, the relative military power of the US (the foremost *gendarme* of business internationalism) is greater than ever before and greater than any other power in world history. On the other hand, China's military power is weak and *declining* relative both to that of its Asian neighbors and to US power. There are two main reasons why many analysts (realists and non-realists alike) fail to perceive these trends, because they: 1) equate long-run military power with economic output (measured by GDP)²² and 2) often fail to remember that power is relative. This second error is common in analyses of Chinese military modernization despite the fact that all versions of realist theory emphasize the relativity of power.

A surprising number of studies talk as if China's procurement of increasingly modern weapons automatically translates into increased military power without bothering to note that other armed forces in the region are also continually modernizing, and in *relative* terms, China continues to fall further behind. Furthermore, *relative* to the US, it must be remembered that the massive armed forces the US accumulated during the Cold War were dedicated principally to confronting the Soviet bloc. A major reason that the US had to limit its war with China over Korea (1950-53), for example, was the fear of diverting too much force away from the more formidable Soviet foe. Yet now, since the Soviet bloc has collapsed, the US and its allies have huge redundant military establishments, as Saddam Hussein and Slobodan Milosevic belatedly learned. Even if the US makes substantial military cuts in the coming years, that will not erase the enormous gain to America's relative power resulting from the disappearance of the Soviet threat. While the decline of Russian military power also may have eased China's concerns about its northern border, Russia's remaining armed forces are still powerful, and are no longer mostly pinned down along a hostile border with NATO, so China's relative gain from the collapse of Soviet power is less than that of the US and its allies, especially since the US has no other potential adversaries, whereas China is surrounded by them.

²²This tendency has been greatly reinforced by the popularity of Paul Kennedy, *The Rise and Fall of the Great Powers*.

US public statements regarding China have often tended to exaggerate the threat, though they have become more moderate in recent years since President Clinton's visit to China. The US should deal with China with confidence, not with fear. In two decades since relations were normalized, China has gradually liberalized its economy, becoming an outward-looking commercial society with many interests in common with the US. During this period, China has demilitarized to a much greater extent than has the US. If China is to be a superpower, it seems destined to be an economic one more like Japan rather than a military superpower like the USSR was. Although the US might be strong enough to bully China, we should resist that temptation, because in the long run—like the pressure against Weimar Germany in the 1920s—bullying could divert China from its current hopeful path toward a more suspicious and hostile relationship with the outside world.

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