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Dragon or Dinosaur? Nuclear Weapons in a Modernizing China

THOMAS M. KANE

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Few leaders, if any, would make the decision to deploy nuclear weapons casually. Therefore, the fact that a country possesses such arms indicates that it has important uses for them. Nevertheless, analysts of contemporary Chinese foreign policy often dismiss the nuclear arsenal of the People's Republic of China (PRC) as insignificant in size and passively defensive in purpose.[1] Indeed, analysts of contemporary nuclear matters often fail to mention China at all.[2] This article aims to correct these omissions by arguing that Beijing has long-term aspirations to improve its position in world politics, and that nuclear weapons play a fundamental role in its plans.

Whenever one discusses long-term planning in foreign policy, one must proceed with caution. Chance plays such a large role in international politics that it is difficult for any government to plan its foreign affairs in much detail. One must remain aware that a nation's domestic politics can overshadow its external intentions. The lack of reliable information about such basic matters as the Beijing government's defense budget makes it all the more difficult to analyze China's foreign policy.

With those caveats, however, one may observe that there are patterns in China's policies, media attitudes, and military thought. These patterns match those which an observer would expect to see in a country with China's known goals and China's known capabilities. These patterns have remained consistent for decades. Therefore, one may infer that the Chinese government is pursuing a coherent long-term policy, whether or not it has planned its future moves in detail.

This article begins by discussing China's foreign policy aspirations. A second section covers China's ability to achieve those aspirations, and notes that its nuclear arsenal is its only reliable assurance of military supremacy. A third section discusses Chinese official and semi-official statements on nuclear doctrine. Beijing professes to maintain nuclear forces only to deter others from using nuclear weapons against it, but Chinese military writings suggest that the PRC's leadership understands that such arms have more uses than that. A final section discusses the PRC's capabilities. This section notes that, despite American assertions that the strategic environment has changed radically over the past 12 years, Chinese writers tend to stress the continuities in international affairs, and Chinese military developments appear to be following the same pattern they have been following since the 1980s.

China's Military Requirements

The PRC has ambitious foreign policy goals, many of which bring it into conflict with other powers. To begin with, the PRC, like any self-respecting state, treasures its sovereignty. Official spokesmen speak passionately about the humiliation China suffered at the hands of European powers during the 19th century, and about their country's determination never to repeat the experience. Despite the fashion for modifying the principle of national independence to accommodate international organizations and global commerce, Chinese writers define sovereignty rigidly.[3]

Chinese leaders appreciate that their country needs to trade and cooperate with other nations, and that this will often require them to compromise. For this reason, they wish to obtain as much international influence as they can, so as to settle as many disputes as possible on their own terms. In the words of Colonel Peng Guangqian of the People's Liberation Army (PLA), "The development of modern China cannot be separated from the outside world, especially at a time when the world is growing smaller each day."[4] Accordingly, Peng concludes that China's development depends on a favorable international strategic situation.

China's leaders also understand that the dominant powers in the contemporary world are, at best, lukewarm toward their regime. Although many observers suggest that the Chinese are relinquishing their belief in commu-

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nist ideology, China's leaders continue to ground their political discourse in the precepts of Marx, Lenin, and Mao. Chinese political statements warn that the capitalist nations are attempting to reduce China to vassal status. Even if China's leaders have privately abandoned communist ideas, they are certainly aware that, in the words of China scholar Gerald Segal, "On no single strategic issue are China and the West on the same side."[5] This doubtless encourages them to remember Mao's oft-quoted teaching that power grows out of the barrel of a gun.

The PRC also is engaged in a large number of more specific disputes, all of which motivate it to remain militarily strong. Beijing aspires to recover Taiwan. In the South China Sea, Beijing contends with Indonesia, Thailand, Vietnam, Malaysia, the Philippines, and the Republic of China (ROC) for control over various islands. The PRC also has territorial disputes with Japan. PRC media sources sustain the idea that if Japan ever rearmed, Beijing would view it as a rival. Meanwhile, Zhao Nanqi, the director of China's Academy of Military Sciences, has commented, "We are not prepared to let the Indian Ocean become India's ocean."[6]

Beijing also wishes to be in a position to support its Pakistani allies in their disagreements with India. The PRC government undoubtedly prizes its ability to arbitrate in Korean disputes as well. Britain's respected paper the *Daily Telegraph* reports that China has helped to secure Sudanese oilfields during Sudan's civil war, and the Chinese may wish to intervene in future African conflicts as well.[7] By the mid 21st century, China appears likely to face severe shortages of food and energy. The PRC requires the means to secure its access to fisheries and oil reserves. In a worst-case scenario, it may need to do so by force.

The PRC's relationship with the United States is particularly strained. Chinese commentators note that the current Bush Administration has designated their country as a strategic competitor.[8] PRC ships and aircraft have had tense encounters with American armed forces. Chinese military officers have proposed that the PRC needs to project power as far as Taiwan, the Ryukyus, the Philippines, Borneo, the Marianas, Guam, and the Carolines in order to guard its shores against overseas opponents such as America.[9]

China's Military Capabilities

The PRC may not wish to settle these disputes violently, but it needs to maintain the option of doing so, and China's leaders cannot feel confident that their non-nuclear forces are equal to the task. Although the various branches of the PLA are over two million strong, its deficiencies in troop skills, electronics, naval power, and modern aircraft make its numerical strength misleading. Not only is the PRC ill-equipped to fight the United

States, it possesses only marginal advantages over such rivals as Japan, India, and the ROC.

The 1991 Gulf War provides a case study of large-scale combat under contemporary conditions. Chinese military thinkers have investigated it thoroughly. Like many other observers, the Chinese were impressed with the way the Western coalition used information technology to hamstring its Iraqi foes. China's strategists were undoubtedly disturbed by the fact that Iraq's forces had relied on Soviet-designed weapon systems much like the ones in the PRC's own arsenal. Like their counterparts in other countries, Chinese military writers explored the possibility that developments in sensors, communications equipment, and precision-guided munitions (PGMs) had paved the way for a Revolution in Military Affairs (RMA) in which technologically adept armed forces would possess an insuperable advantage over their opponents.

The technological capabilities that RMA theory views as being the most important are precisely the ones that the PRC lacks. The US Department of Defense assessed various countries' ability to produce forms of advanced equipment in its *Militarily Critical Technologies List* (MCTL).[10] This report rated countries' capabilities on a scale of zero to four, with zero equaling no known capability whatsoever, and one indicating the minimum detectable level of proficiency. China received the following ratings:

- Command, Control, Communications, Computers, Information and Intelligence (C^4I^2) Systems: 1.
- High-Performance Computing: 1.
- Intelligent Systems: 1.
- Software: 1.
- Signal Processing (i.e. technologies associated with ensuring the accuracy and reliability of data transmission in environments with high levels of interference, including intentional countermeasures): 1.
- Transmission Systems (i.e. technologies which minimize interception and counter enemy electronic warfare): 1.
- Electronic Components: 1.
- Opto-Electronics: 1.
- Radar: 1.

Japan, by contrast, received a rating of three in all these areas, indicating that it had the "majority" of the capabilities involved. In the fields of high-performance computing, intelligent systems, and networks and switching, Japan received a rating of four, the maximum possible. The Defense Department rated US capabilities as a four in all these categories. India faces similar handicaps to the PRC, but the ROC's access to American-made weapon systems puts it on a par with Japan.

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For any country with an interest in the RMA, the lack of C^4I^2 systems is devastating. The lack of signal processing and transmission equipment capable of resisting enemy electronic warfare is almost equally so. China's deficiencies in optical and electronic systems sharply limit its ability to develop precision-guided munitions as well. Although the PRC has achieved "pockets of excellence" in certain areas, notably cruise and ballistic missiles, its overall technological backwardness hampers its attempts to use its more advanced weapons in concert with its other equipment. This makes it much more difficult for PRC forces to use such weapons to achieve lasting or decisive victories, and also prevents the PLA from obtaining what many theorists believe to be the most essential element of any RMA strategy—an integrated "system of systems."

Although the PRC is attempting to remedy these defects, its scientific and industrial base is poorly equipped for this challenge. "In none of the technologies essential for the manufacture of advanced military equipment does China rank higher than 'some' production capabilities"[11] (a rating of two on the MCTL scale). PRC research and manufacturing facilities are particularly limited in their ability to perform precision measurements, and this will retard their development of both ships and aircraft. The PRC may overcome some of its difficulties by purchasing military equipment abroad. Nevertheless, it is easy to see why the PRC military newspaper *Liberation Army Daily* declared: "The strong momentum of the world's military development undoubtedly represents a grim challenge for our units' quality building and military preparations against war."[12]

Chinese analysts did not attribute the coalition's victory over Iraq in 1991 to technology alone. Western forces also benefitted from the individual proficiency of their soldiers, the cohesion and teamwork displayed by their units, and the tactical abilities of their commanders. Here also, the Chinese appear to have cause for concern. From the 1980s onward, the PRC has been reducing the size of its armed forces in the hope that this will free the resources necessary to provide improved training, better living conditions, and

more plentiful equipment for those who remain. The PLA's performance in large-scale exercises indicates that this process has been at least partly successful, but it remains incomplete, and it must be difficult even for Chinese analysts to be certain how well their troops would perform in actual combat.[13] The fact that approximately one million PLA personnel are conscripts performing two years of mandatory service raises further doubts about their degree of motivation and level of experience.[14]

Also limiting Beijing's military power is the fact that most of the PRC's international disputes are maritime. The PRC is currently attempting to assert its influence in the South China Sea, and may eventually wish to exert a presence in the Persian Gulf. Two of Beijing's most prominent rivals, Japan and the ROC, are islands. Control of the Pacific Ocean would be critical in any contest between China and the United States. Although the PRC has attacked India over the Himalayas before, such operations present obvious logistical difficulties, and Beijing would undoubtedly prefer to challenge its South Asian rival in the Indian Ocean.

For these reasons, the PRC must measure its military power largely in terms of its fleet. The PLA Navy (PLAN) is no longer the mere coastal defense fleet of the 1950s and 1960s. Chinese naval authorities have cultivated a domestic shipbuilding industry and supplemented their own construction with imports. The PLAN appears to have used its resources effectively. Nevertheless, it suffers from glaring limitations.

The PRC has imported four *Kilo*-class submarines from Russia, along with two *Sovremenny*-class destroyers. Beijing expects to receive another two *Sovremennys* in 2005, along with another eight *Kilos* at an unspecified future point.[15] China also appears to be attempting to build the *Kilo* in its own shipyards.[16] Neither type of vessel is at the forefront of maritime technology, but the *Kilo* is quiet enough to challenge Western anti-submarine warfare (ASW) systems, and the *Sovremenny* carries the potent Sunburn anti-ship missile.

The strength of a contemporary fleet, however, lies in the ability of its ships to protect one another with their defensive systems, and to combine their efforts in the attack. China's deficiencies in C^4I^2 systems sharply limit the PLAN's ability to achieve such cooperation. The fact that over half the PRC's major surface combatants lack surface-to-air missiles (SAMs) means that they could not protect themselves or each other against enemy aircraft and missiles even if they acquired the C^4I^2 gear.[17] Moreover, much of naval warfare revolves around attempts to detect the enemy without being detected. China's lack of modern sensors and electronic countermeasures hampers it in this area as well.

Beijing has more ships than many of its opponents, but its numerical advantages are modest. The PRC has 63 major surface combatants of uneven

quality.[18] Japan has 54, most of which are more heavily armed and all of which are technologically up to date. The ROC has 32 vessels, which, again, carry modern equipment. India has 29, mainly equipped with Russian or Soviet systems, but one of India's ships is an aircraft carrier.

Submarines are the traditional weapon of a second-rate naval power, and China has amassed a force of 69 such vessels. The PLAN's underwater fleet is formidable, but it is hardly invincible. China's domestically produced submarines lack the anechoic tiles that give the *Kilo* its stealth.[19] Also, over half of China's submarine forces consist of obsolete *Romeo*-class boats, many of which may be unseaworthy.[20]

The PRC does have a respectable ability to move its ground forces by sea. A study by the US Army War College suggests that the PLA could land a full division of 10,000 to 14,000 troops in the first wave of an amphibious invasion, and analysts believe that the PRC armed forces could move 40,000 personnel onto the beachhead in a follow-up operation.[21] If the PRC used its assets creatively, it might be able to transport even larger numbers. One must, however, weigh the PRC's transport capabilities against the difficulties the PLAN would face in protecting its troopships at sea, the fact that the ROC has prepared extensively to deal with an invasion, the fact that the PRC's more powerful rivals have land armies numbering in the hundreds of thousands, and the inherent difficulties of amphibious operations.

The PRC's combat aircraft are also superannuated, which exacerbates the problems of the PLAN. Again, the PRC is compensating for this weakness by importing up-to-date equipment from Russia, notably the Su-27 and Su-30. The PRC also is developing the ability to produce at least the Su-27 in its own factories.[22] Nevertheless, to quote analysts Bernard D. Cole and Paul H. B. Godwin, "By the time China is capable of producing Su-27s without Russian assistance, it is likely that Harlan Jencks' assessment, made in the late 1970s, that China's J-6/MiG-19 was 'the most highly perfected obsolescent combat aircraft in the world' will yet again apply."[23]

PRC air forces have a poor reputation for maintenance, logistics, and training.[24] The PRC is beginning to develop aerial refueling capabilities, but most of its planes remain tied to their bases in mainland China.[25] Russia has offered to lease the PRC a trio of Airborne Early Warning aircraft and to train Chinese aircrews to operate them.[26] Nevertheless, it seems safe to say that PRC commanders suffer from serious handicaps in both their ability to monitor the skies and their ability to coordinate operations by their own aircraft.

The pilots who fly Beijing's Su-27s and Su-30s tend to have approximately 180 hours of flying time. This exceeds the 150 hours typical in Japan and puts these Chinese pilots on a par with their counterparts in India and the ROC. US fighter pilots typically have 205 hours of experience or more. Chi-

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nese pilots who fly the PRC's older aircraft, however, tend to have only about 130 hours or less.[27]

The PRC currently has 128 Su-27s and Su-30s. The rest of its air armada, totaling more than 2,000 planes, consists of inferior aircraft flown by relatively inexperienced pilots and generally confined to operations within unrefueled flight range of their bases. Japan, by contrast, has 360 combat aircraft, including 130 F-15s. The ROC has 511, including 57 Mirage-2000s and 146 F-16s. India has 736, including 20 Sea Harriers, 28 Su-30s, 228 MiG-29s, and 40 Mirage-2000s.[28] The US Navy deploys 50 modern tactical aircraft on a single aircraft carrier, and typically maintains four such vessels in the Pacific Ocean at any given time.[29]

The PRC is improving all of its forces. PRC defense budgets are difficult for outsiders to analyze, and it is difficult to tell how much of an effort Beijing is making, or how much faster it could modernize its forces if it chose to do so.[30] One must assume, however, that the PRC is spending as much as its leaders consider desirable. From the 1980s onward, the Chinese government has been attempting to reduce the burden that defense spending imposes on its overall economy.

Beijing may hope that should it go to war, it will be able to call on assistance from various allies. Pakistan, for instance, might well support the PRC against India. Beijing is deepening its ties with Moscow, and Russia and the PRC are holding joint exercises, which will make it easier for their armed forces to cooperate.[31]

Despite the PLA's shortcomings, the PRC's forces are formidable, and Beijing is making substantial progress toward improving them. Beijing can and does intimidate the smaller Asian nations. Nevertheless, the PRC could not fight its major Asian rivals with any guarantee of success. In the same vein, the PRC could not refuse an ultimatum from Russia or the United States without taking an enormous gamble. These uncertainties undermine Beijing's ability both to apply and to resist pressure in international politics.

Nuclear weapons allow the PRC to take diplomatic and military positions with a much greater level of confidence. Beijing can be certain that

even the United States will proceed with caution against a nuclear-armed opponent. In the event—however remote the possibility—that PRC leaders should ever find it expedient to use tactical nuclear munitions in combat, such weapons also ensure that the PLA will be able to strike crippling blows against even the strongest opponents. The PRC's nuclear arsenal also helps to prevent other powers from using or threatening to use their own nuclear weapons against China. Moreover, despite the PRC's technological and economic difficulties, Beijing is equipped to build nuclear weapons and delivery systems capable of performing all these functions at relatively little cost.

China's Nuclear Doctrine

In principle, nuclear weapons provide an excellent backstop for the PRC's national strategy. Beijing, however, denies seeing nuclear weapons in those terms. According to the PRC's national defense White Paper of 2002:

> China consistently upholds the policy of no first use of nuclear weapons and adopts an extremely restrained attitude toward the development of nuclear weapons. China has never participated in any nuclear arms race and never deployed nuclear weapons abroad. China's limited nuclear counterattack ability is entirely for deterrence against possible nuclear attacks by other countries.[32]

When Mao Zedong initially called on his people to develop nuclear weapons, he did, indeed, seem to be thinking primarily in terms of countering the nuclear forces of others. "We also need the atom bomb," Mao stated in 1956. "If our nation does not want to be intimidated, we have to have this thing."[33] Mao was not, however, squeamish about what nuclear weapons can do. When the Italian communist leader Palmiro Togliatti confided his fear that the Cold War might end in the nuclear destruction of Europe, Mao responded, "Who said Europe should survive?"[34]

PRC officials continue to hint that their view of nuclear weapons is more pragmatic than documents like the White Paper might imply. According to one report, which may well be apocryphal, a PRC military officer once warned his American counterpart, "In the end you care a lot more about Los Angeles than you do about Taipei."[35] Chinese military writings discuss the role of nuclear arms in deterring foreign threats, but they also portray these weapons as tools which the PRC might use to achieve strategic objectives of its own.

Major General Yang Huan, for instance, advocates research to make nuclear weapons more useful in "actual fighting."[36] One can interpret this remark in a variety of ways. Even a commander who is solely interested in preventing enemy attacks may want to improve his ability to fight a genuine engagement in order to improve the credibility of his deterrent threat. Nevertheless, Yang's choice of words seems significant.

Another PLA officer, Major General Wu Jianguo, has explicitly stated that his country may find nuclear weapons useful in local wars.[37] Wu claims that Britain, America, and the Soviet Union used nuclear weapons to improve their positions in the Korean War, the Vietnam War, the Sino-Soviet dispute, the Falklands War, and the Gulf War:

> These countries threatened to use nuclear weapons in conventional wars because they believed that with nuclear weapons in hand, psychologically they would be able to hold a dominant position which would enhance troop morale and frighten the enemy on the one hand, and restrict the enemy's use of some conventional means on the other, thus changing the direction of the war.[38]

The PRC, Wu suggests, must emulate the other nuclear powers. Throughout the 1990s, Beijing timed test firings of nuclear-capable missiles to signal its displeasure with various American foreign policy decisions and Taiwanese election results.[39] This suggests that the PRC's leaders are willing to take Wu's advice. Wu goes on to argue that if the PRC cannot achieve its objectives through purely psychological means, it must "strive to win a victory through actual combat, so as to remove obstacles to its political, economic, and diplomatic activities. Militarily, the immense effect of nuclear weaponry is that it can serve as a deterrent force and, at the same time, as a means of actual combat."[40]

Wu rejects the idea that any form of combat, including nuclear warfare, is inherently taboo. "We are materialists," he says, "so when we study an issue, we must proceed from objective reality rather than from a subjective wish, and, through investigation and study of objective reality, we derive our principles, policies, and measures."[41]

Capabilities and Continuities

The PRC has been developing the kind of capabilities commanders such as Yang and Wu advocate. By US and Russian standards, Beijing's known nuclear arsenal appears small. Nevertheless, as the bumper sticker would have it, one atomic bomb can ruin your whole day. Although the PRC does not appear to have deployed large numbers of warheads, it has continually developed its capacity to wage nuclear war.

Even before the PRC detonated its first atomic bomb, Chinese engineers were designing intercontinental ballistic missiles (ICBMs).[42] Beijing developed a functioning ICBM in the 1970s and deployed it in 1981. Initial versions of this missile, which was known as the DF-5, were unwieldy. Although the DF-5's 10,000- to 12,000-kilometer range allows it to hit the western United States, the missile uses liquid fuel and cannot be stored in its launch position. Some believe that the Chinese also stored the warheads separately from their launch vehicles.

Analysts estimate that launch crews would have required two hours to prepare early models of the DF-5 for launch. This made the DF-5 vulnerable to a first strike by enemy missiles. The PRC compensated for this vulnerability by concealing its missiles in mountains, beneath forest canopies, and underground.[43] Some of the tunnel complexes housing Chinese ICBM sites extended for thousands of kilometers. Beijing also constructed many dummy missile sites to divert attention from the real ones.

During the 1980s and 1990s, the PRC improved the range, accuracy, and readiness of the DF-5. Analysts believe current models have a range of more than 13,000 kilometers, a Circular Error Probable (CEP) of 500 to 3,500 meters, and can be ready for launch in 30 to 60 minutes. In 1992, Western analysts believed the PRC had four DF-5s on alert.[44] Three years later, the PRC had increased its arsenal to an estimated 8 to 11. As of 2003, at least 20 DF-5s are in service.

Meanwhile, the PRC has developed a solid-fueled missile known as the DF-31, which has a CEP of 300 to 500 meters.[45] Not only can the DF-31 be ready for launch in 15 minutes, it is fully road-mobile, and analysts expect future versions to be able to travel cross-country as well. This missile's only significant handicap appears to be its 3,000- to 8,000-kilometer range, which allows it to hit America's Pacific Northwest, but nothing south or east of that. The International Institute for Strategic Studies indicates that the first DF-31 brigade became operational in 2002-03. Chinese engineers are working actively on an even more advanced design, the DF-41, which should have a longer range and a launch time of three to five minutes.

The Chinese also have developed submarine-launched ballistic missiles (SLBMs) and a nuclear-powered submarine to carry them. This submarine, the *Xia*, was out of service for the latter part of the 1990s, but may now be operational again.[46] The PRC is working on more advanced designs for both submarines and submarine-fired missiles.[47] Western analysts remain uncertain how quickly these projects are progressing. The PRC reportedly plans to build between four and six of the new submarines.[48]

Although a Chinese space launch in the 1970s indicated that the PRC had developed the technology to build Multiple Independently-targeted Reentry Vehicles (MIRVs), no Chinese missiles currently carry more than one warhead. The reason remains open for speculation. Beijing has had difficulty reducing the size of its warheads, and may find it difficult to build MIRV systems that are light enough for its missiles to carry.[49] Alternatively, the PRC may simply prefer not to risk more than one valuable warhead on a single delivery system.

Beijing has attracted useful media attention by threatening to deploy MIRVs if the United States continues to develop its National Missile Defense

(NMD) system, and the PRC's leaders may feel that they currently have more to gain by threatening to MIRV than by actually making good on the threat. The PRC has begun to develop other ways of defeating NMD as well. Chinese engineers have begun work on decoys and maneuverable warheads. Beijing also is investigating the possibility of electronically jamming NMD radar systems, and of using anti-radiation missiles to destroy such radars outright.[50]

In addition to its ICBMs and SLBMs, Beijing has a minimum of several hundred other nuclear devices.[51] Many may be mounted on the PRC's short- and intermediate-range ballistic missiles, which are capable of carrying either nuclear or non-nuclear warheads. The PRC built hundreds of these weapons in the late 1990s, and plans to build hundreds more in the first decade of the 21st century.[52] As they did with their ICBMs, PRC designers have replaced liquid-fueled designs with more accurate, solid-fueled missiles capable of launching on short notice.

Both the PLA Air Force (PLAAF) and PLAN have bombers capable of dropping free-fall nuclear bombs.[53] The US Department of Defense suggests that the PRC will soon deploy nuclear-capable cruise missiles for launch from ships and aircraft.[54] Civilian analysts have reported that the PRC already has such missiles.[55] The PRC also is making progress on radar-absorbent materials to make both cruise missiles and the aircraft that launch them less vulnerable to air defenses.[56]

The PRC could use both short-range missiles and aircraft to support its non-nuclear forces in combat operations. Western observers disagree over the question of whether or not Beijing deploys purpose-built tactical nuclear weapons. More cautious analysts warn that due to Chinese secrecy and deception, it is impossible for outsiders to be certain whether the PRC has such devices.[57] PLA units, however, have rehearsed using tactical nuclear weapons in exercises. Many analysts suggest that the PRC has nuclear artillery shells, nuclear-tipped rockets, and nuclear demolition mines. The authoritative *Jane's* publications indicate that the PRC also has nuclear mines for use at sea, nuclear torpedoes, nuclear depth charges, and nuclear anti-ship missiles.[58]

The PRC, as noted, remains weak in C^4I^2 technology. Nevertheless, it has made the command of its nuclear forces a top priority, and it has used the most advanced capabilities at its disposal to ensure that its military leaders will be able to use their nuclear forces in a timely, flexible, and controlled fashion, even under enemy attack. The PRC has situated its nuclear command posts deep underground. Key bases also benefit from a well-developed air defense system. The PRC's SA-12 surface-to-air missile system has a limited ability to shoot down short- and intermediate-range ballistic missiles.[59]

The PRC's nuclear command posts can communicate over dedicated wire and fiber-optic communications lines.[60] Although nuclear commanders

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would not depend on China's civilian telecommunications network, they would almost certainly be able to use it to supplement their own systems. Commanders also would have access to wireless microwave and satellite communications networks. Although enemy forces could degrade the Chinese high command's communication capabilities, they would find it nearly impossible to shut them down entirely.

The PRC's communications system does, however, depend mainly on commercially available technology. China's network lacks modern automation and is slower than comparable Western systems. The PRC has, however, automated the communications nodes associated with its air and missile defenses. If Beijing has not yet automated the systems that allow national authorities to control ICBM forces, one may safely assume that it will do so soon.

Not only has the PRC been improving its nuclear capabilities for as long as it has had them, its military authorities have declared their intention to continue improvements. In 1993, the PLA General Staff Department (GSD) formally announced its desire to develop new generations of both tactical and strategic nuclear weapons.[61] Although the PRC has made progress, many of the GSD's specific objectives remain to be realized, and therefore it seems safe to assume that the buildup will continue.[62] The PRC has the infrastructure to continue developing its arsenal. US Department of Defense estimates suggest that the PRC can produce between 10 and 12 ICBMs per year, deploy as many as 1,000 new short-range missiles by the end of the decade, and triple its stockpile of nuclear warheads, all without significant new investment.[63]

In March 2003, the Chinese politician Hu Jintao became President of the PRC. Hu already had become General Secretary of China's Communist Party in November 2002. This leadership change appears unlikely to signal any significant changes in the PRC's national strategy. Jiang Zemin, the former President, has retained control of the Central Military Commission, and Jiang's associates hold other key positions in the new government.[64] Hu achieved his position largely by developing a reputation as a political conservative.[65]

Reports indicate that Hu is inclined to follow his predecessors' guidance on international issues. Meanwhile, PRC media sources maintain that

the global political environment remains largely the same as it has been for decades. To writers in *Beijing Review*, even the Bush Administration's National Security Strategy of preventive attack is "just old wine in a new bottle."[66] The PRC's nuclear policy has remained consistent for close to 40 years. If PRC leaders do not feel that their external environment has changed, they have few reasons to change that policy.

Conclusion

Chinese authorities are undoubtedly as sincere as any other world leaders when they call for arms control and disarmament. Nevertheless, as long as nuclear weapons remain a fixture of international politics, one must assume that the PRC will attempt to extract the maximum possible advantage from its nuclear capabilities. Although Beijing may adjust its programs to account for its integration into global economic regimes, America's decision to deploy missile defenses, and similar issues, only an event of epochal proportions is likely to change the overall direction of its policy. Others must make their own plans accordingly.

Not only are Beijing's policies important to East Asian affairs, they invite us to think more creatively about the general significance of nuclear weapons in international relations. The Cold War habituated us to seeing nuclear strategy in terms of perilous standoffs between powerful states. In such standoffs, popular wisdom tells us, both sides have as their primary aim the deterrence of war.[67] Since 1991, it has seemed easy to relegate Mutually Assured Destruction (MAD) to history. This has led observers to focus on the possibility that rogues of one sort or another might use weapons of mass destruction in isolated acts of carnage.

The PRC is not, happily, engaged in any standoff to match the intensity of the Cold War. Nevertheless, it uses its nuclear arsenal to influence its relations with potential opponents in a wide variety of situations. Others have sought to emulate Beijing—India, for instance, began its own nuclear weapons program at least partly to protect itself from Chinese pressure.[68] The nuclear statecraft of contemporary Asia lacks the apocalyptic overtones of MAD, and it is more difficult to isolate from other aspects of international relations. One must conceive of it, to paraphrase Clausewitz, as a continuation of politics with the admixture of other means, and as more countries develop nuclear weapons, this approach to nuclear policy may grow increasingly common.

NOTES

1. Analyst William Burr, for instance, dismisses a less sanguine US government report by observing that while the People's Republic of China has 20 intercontinental ballistic missiles today, the United States has 600.

In 1976, he states, the USSR had over 1,400. "If Beijing is 'bent' on acquiring nuclear forces that will bring it to parity with Washington or with Soviet Cold War forces, it has a tremendous distance to go." William Burr, "The Chinese Nuclear Weapons Program: Problems of Intelligence Collection and Analysis 1964-1972," http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB26/.

2. The Bush Administration's National Security Strategy chapter on Weapons of Mass Destruction, for instance, discusses Russia, Iraq, and North Korea, but not China. *The National Security Strategy of the United States of America* (Washington: The White House, September 2002), pp. 13-16.

3. See, for instance, Zhang Xuebin, "Two 'isms' on the Same Vine," reprinted in *BBC Summary of World Broadcasts*, 8 February 2000.

4. Peng Guangqian, "Deng Xiaoping's Strategic Thought," in *Chinese Views of Future Warfare*, ed. Michael Pillsbury (Washington: National Defense Univ. Press, 1998), p. 9.

5. Gerald Segal, "Does China Matter?" *Foreign Affairs*, 78 (September-October 1999), 31.

6. Mohan Malik, "Burma Slides Under China's Shadow," *Jane's Intelligence Review*, 1 July 1997, p. 4.

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