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Recent Trends in China's Military Modernization

The focus of China's military modernization: Taiwan scenarios. China's military, the People's Liberation Army (PLA), is in the midst of a remarkable surge of modernization of its naval, air, and ballistic missile forces. It should not be considered remarkable that emerging China is modernizing a formerly backward military. China, although facing no imminent threat from the American perspective, has normal (and arguably legitimate) concerns for its national security, protection of its sovereign territory, and security of the sea lanes that are so critical to China's economic growth—the centerpiece of Chinese accomplishment over the last three decades. This ongoing military buildup does not ignore those security needs; however it is primarily, if not exclusively, focused on another mission: what Beijing refers to as the Taiwan problem—a military mission it does not wish to undertake but is determined to accomplish if it must.

A legitimate mission in Chinese eyes. This mission, in essence, is to be able quickly to overwhelm Taiwan's military, cow the Taiwan government, and deter, delay, or complicate effective and timely U.S. intervention. The mission would be undertaken only if Beijing concludes that it has no choice but to employ military forces to stop actions by Taiwan that it considers intolerable. Almost all Mainland Chinese support that mission and, contrary to the views of most Americans and Taiwan citizens, do not see either this military buildup or the use of force if Taiwan moves to independence as reprehensible actions. The Chinese leadership proclaims, as emphasized by the passage last March of the Anti-Secession Law, that it will not be deterred in the use of force in these circumstances by fears of economic harm, loss of foreign trade and investment, damage to international reputation, loss of the 2008 Olympic Games, or the risks to its infrastructure, population, and military forces.

A preference for non-military means. Before examining the features of this PLA modernization surge, it should be noted that I do not see evidence that Beijing will use its forces in expansionist or aggressive ways beyond attempting reunification of Taiwan—which it considers an inalienable part of China. It seems, even with respect to the islands it claims in the South China Sea, to prefer non-military means to assert and consolidate the sovereignty it espouses and to look after its interests in the region. Indeed, China should, it seems to me as a retired navy officer, strive to be better able to protect the ocean commerce essential to China's economy, especially the flow of oil by both sea and pipeline from the Middle East and elsewhere in Asia. China is likely, if it ever becomes satisfied with its ability to deter the U.S. in a Taiwan crisis, to turn to the task of deterring other countries or non-state actors from attempting to interrupt the flow into China of oil, other forms of energy, and commodities to sustain its burgeoning economy and increasingly affluent huge population. For example, China might at that time feel the need to have a navy with a measure of organic air power; so it might then finally build or procure some form of aircraft carrier to provide air cover and reach when operating naval forces beyond the range of aircraft based in China.

What about future intentions as China grows? On the other hand, China, as could other countries, might change its intentions as its military capabilities and economic power grow. I suggest that the U.S. has the opportunity to influence how China's intentions are shaped in the future. Possibly the best way to influence those intentions is for the U.S. to pursue a bilateral relationship that fosters the development of an open, prosperous, and progressive China—the China that, as we have long and repeatedly said, best serves U.S. interests. I rush to say that I do not underestimate the obstacles and even paradoxes to be confronted in pursuing such a complex policy. Nevertheless, because the U.S.-China relationship is arguably the most important in the world today, such effort is appropriate—indeed, even required.

China is not itching for a fight. It must be emphasized with respect to the current impressive modernization program that the Chinese in general and the PLA in particular are not seeking a conflict with Taiwan and certainly not with the United States. There is, in my view, no expectation that the PLA could in the foreseeable future prevail in an all-out, head-to-head war against the U.S. military. The concept is instead to be able very rapidly, in a matter of days, to cause Taiwan to capitulate, with such capitulation abetted by the failure of the U.S. to respond promptly and effectively. As has been said often, Beijing's concept is to be able to present to Washington and the world a *fait accompli* concerning Taiwan.

A clearly articulated concept now being realized. I have spent much of my time since I was the defense and naval attaché at the American Embassy in Beijing in the early 1990s and during the last 13 years since retirement from the Navy dealing with the PLA (first its backwardness and now its modernization), the issue of cross-Strait conflict (preventing it, predicting its form, and coping with the consequences), and broader issues of East Asian security (including China's relations with Japan and the two Koreas). For me, the Chinese concept for the use of force has become increasingly clear and very precisely directed: seeking a way to prevail in an attempt to regain Taiwan. The evidence for this has mounted in the form of both the force structure China has devoted so much money and effort to develop and the clear statements in Chinese policy and strategic and doctrinal writings and statements. For example, the concept of taking on a superior force and defeating it through surprise and with asymmetric means pervades Chinese military publications. The U.S. is the only such force to be contemplated, but, equally significant in my view, is that these methods are contemplated only in the situation where China is faced with U.S. forces aimed specifically at thwarting its essential (in Beijing's view) efforts with respect to Taiwan.

Keeping the China threat in perspective. Such ominous words are often used by those who want to emphasize some sort of broader China threat. However, those who wish to depict China primarily in that context tend to ignore that Beijing has, over the last decade, clearly demonstrated, as alluded to above, its desire to enhance its comprehensive national security by non-military means, even seeming until this recent modernization surge to recognize that its military modernization had proceeded haltingly while its use of diplomacy and growing economic power was succeeding far better comparatively—and without alarming its neighbors. In this regard, a balanced look at even the Taiwan issue should take into account the prospect that economic ties between the Mainland and Taiwan hold at least the promise at some time in the future of resolving the problem and making the current considerations of military force seem a foolish anachronism. In short, China does not seek an opportunity to use force against Taiwan,

the United States, or its neighbors—even despised Japan. Beijing has, nevertheless, developed a *concept* to use force, if it feels it must, to defeat Taiwan, deter or delay U.S. intervention, and at least cause Japan to think twice before introducing overt military assistance in a developing crisis.

A core feature of the concept. Let me turn now to some illustrative details of the concept that I assert has been made unmistakably clear by Beijing's actions and words. We are all familiar with the early features of the concept. China began some years ago deploying inaccurate short-range ballistic missiles (SRBMs) with conventional warheads in provinces opposite Taiwan. Those CSS-6 and CSS-7 (also called Dongfeng or DF-15 and -11, or M-9 and M-11) missiles have grown, and continue to grow, in number and type, and their accuracy has been improved so that these 700 or so SRBMs, although each delivering only the explosive force of a large bomb, are now militarily useful, able through accuracy to place airfields out of commission, disrupt command and control facilities, destroy air defenses, etc.

And now accurate MRBMs with conventional warheads. There has been an important new development with respect to conventional ballistic missiles. China has developed a new conventional-warhead version of the CSS-5 medium-range ballistic (MRBM), previously armed only with nuclear warheads. The new series is called the DF-21C. Being an MRBM with a much higher reentry velocity than SRBMs, the DF-21C is virtually invulnerable to any missile defenses Taiwan might contemplate for the foreseeable future. China's Second Artillery or Strategic Rocket Force could employ these DF-21Cs in an initial wave to neutralize missile defenses and give the hundreds of follow-on SRBMs and new, exceedingly accurate land-attack cruise missiles (LACMs) virtually guaranteed successful impacts on their targets. What I have described is a triple blow, dedicated to Taiwan, composed of very accurate MRBMs, SRBMs, and LACMs.

Handling Taiwan's Navy with a fraction of the available PLAN forces. Taiwan's Navy is no longer even in the same league with the numerous new and modern classes of destroyers and frigates that have been bought from Russia and built in China—with the vigorous construction program continuing. The PLA Navy now has an arsenal of very effective shipborne anti-ship cruise missiles (ASCMs), including a small number of Russian supersonic SS-N-22s and several classes of ships with subsonic indigenous ASCMs. Added to this is the large and growing nuclear and conventional submarine force that I will describe later. The PLA Navy is adding new, very impressive fast missile boats to its already large fleet of these smaller vessels, for use primarily against Taiwan. The PLAN, in the next few years, would be able to subdue Taiwan's naval forces using only a few, if any, of its most capable surface combatant ships and submarines. Ships and craft with less capability than needed to cope with, and inadequate range to reach, approaching U.S. forces would serve well around Taiwan.

Special Forces, IO, air, amphibious, and airborne forces introduced. Along with the initial MRBMs followed by hundreds of very accurate SRBMs and LACMs, China would employ Special Forces, Fifth Column cells, and information warfare to add to the paralysis and chaos in Taiwan. With air defenses largely incapacitated, China could then use to good effect its many new and old aircraft in follow-up attacks. The amphibious and airborne components of the concept, that might have been so risky up to this point, now take the form of an assault against a

demoralized Taiwan with civilian and military command and control badly disrupted. The initial assaults by these ground forces need not be nearly so massive as most have envisioned them. Amphibious forces of the order of magnitude of two divisions, feasible with existing amphibious lift (after the recent surge in such construction), along with airborne forces would secure lodgments at selected beaches, ports, and airfields. These lodgments would permit the rapid essentially unopposed inflow of the additional forces necessary to consolidate the military effort.

Complicating decisions and actions by the U.S. We must assume that the crisis which has caused China to attack Taiwan has certainly not arisen unnoticed. So what is China's concept for dealing with the expected U.S. intervention? To begin, China's choice of ballistic and cruise missiles as the centerpiece of the initial attack on Taiwan makes it difficult for the U.S. to act in any way to directly counter the missiles. Even if major strides had been taken in missile defenses, the Second Artillery is capable, using only SRBMs—and more so if MRBMs and LACMs are added—of saturating any defenses the U.S. and Taiwan could assemble. China, unfortunately, has sought and found a way to be able to intimidate or attack Taiwan that could not be countered effectively—unless one envisions the immediate use of something as dramatic as U.S. ICBMs against China.

More uses of ballistic missiles with conventional warheads to gain temporary advantage against otherwise superior forces. However, China's savvy decision to use ballistic missiles as its weapon of choice to try to overcome the disadvantage of being an inferior force does not stop here. First, there is the threat to U.S. bases in the region—and we cannot ignore that heightened antagonism between China and Japan *could* make it somewhat less difficult for Beijing to make a decision to attack U.S. bases in Japan, particularly if Japan already appears inexorably ready to provide expansive support or even combat forces. The threat of conventional SRBMs and LACMs in greater numbers, with longer range and better accuracy and penetration ability (including decoys, submunitions, etc.), is already placing at risk all U.S. bases in the region except Guam. Remember that these ballistic and cruise missiles are not counted on to destroy these U.S. facilities or place them permanently out of action but are rather the means to suppress air and missile defenses. This, at least conceptually, would permit follow-on attacks, in relative safety, by the several new types of Chinese aircraft using very modern cruise missiles.

The prospect of ballistic missiles to hit ships. There is yet another exceedingly important chapter being written in the ballistic-missile saga. China is trying to move rapidly in developing ballistic missiles that could hit ships at sea at MRBM ranges—in other words, to threaten carriers beyond the range at which they could engage Chinese forces or strike China. Among its other advantages for China, this method of attack avoids altogether the daunting prospect of having to cope with the U.S. Navy submarine force—as anti-submarine warfare is a big Chinese weakness. Along with these efforts to develop ballistic missiles to hit ships, they are, of course, working diligently to perfect the means to locate and target our carrier strike groups (CSGs). In that regard, an imperfect or rudimentary (fishing boats with satellite phones) means of location and targeting might be employed even earlier than the delay of several more years likely needed to perfect more reliable and consistent targeting of ships. Chinese missile specialists are writing openly and convincingly of MaRV'd ballistic missiles (missiles with maneuverable reentry vehicles) that maneuver both to defeat defenses and to follow the commands of seekers that spot

the target ships. There seems little doubt that our naval forces will face this threat long before the Taiwan issue is resolved.

The PLA as an information warfare “wannabe.” Chinese military and strategy authors write openly about the U.S. military’s reliance on advanced technologies and the alleged vulnerability that presents for exploitation by the PLA. These writers include methods as direct as anti-satellite weapons and as murky as computer network attacks, the planting in advance of viruses to be activated in a crisis, and the use of hordes of hackers. It is not clear how effective this effort might be, but the PLA at least will, as the U.S. moves to interpose its forces to blunt an assault on Taiwan, be attempting, as an adjunct to its direct attacks, to disrupt U.S. C4ISR so that its attacks on U.S. forces might be more successful and to introduce complications to delay and make less effective any U.S. intervention. It should be remembered that this action against U.S. forces would be a supremely important undertaking for which the PLA has been planning and preparing for years. There is no reason to believe that the PLA would have qualms in pursuing aggressive information operations, possibly in Japan and even to the U.S. homeland.

Second layer of the concept: submerged-launch, long-range, supersonic ASCMs. Although the ballistic-missile capability against ships lies a few years in the future, the PLA Navy is already receiving from Russia the wherewithal for the second major layer of the concept of being able to deter a U.S. intervention, or failing that, to have a means to confront approaching U.S. Navy forces. Eight new Kilo-class submarines are now being received from Russia with an important capability absent in the four Kilos the PLAN already possesses. These new quiet and capable diesel-electric Kilo-class submarines carry the Russian SS-N-27B Sizzler anti-ship cruise missile. This ASCM is launched while submerged and travels over 100 nautical miles to make a very low-altitude, evasive, supersonic attack intended to defeat the U.S. Aegis defense system.

Add many other modern submarines with submerged-launch ASCMs. With respect to the tactical problem of getting one or more of these new Kilo-class submarines in the general vicinity of closing U.S. Navy strike forces, the PLA Navy now has the capability to make the antisubmarine warfare (ASW) mission very difficult for U.S. forces. With a total of more than 50 operational submarines, and with a substantial number of them new and quiet, China, quite simply, can put to sea more submarines than the U.S. Navy can locate and counter. Its older Ming and Romeo submarines are not only still lethal if ignored but also serve to disperse and dilute the efforts of the ASW forces. In other words, some, or even many, of the already large and diverse, but still rapidly growing, fleet of very capable Shang SSNs, and Kilo, Song, and Yuan SSs can reasonably expect to remain undetected as they seek to interdict the U.S. carrier strike groups. If the “shooting has started,” eventually U.S. ASW forces could take a big toll against the Chinese submarine force, but the delay in sanitizing the area before the entry of carrier strike groups is what the Chinese are counting on as adequate delay to present the world with the aforementioned *fait accompli* with respect to Taiwan.

Air-launched ASCMs once air defenses are degraded. An attack by the Kilo submarines (whether preceded by ballistic missiles or not) using the very dangerous and lethal SS-N-27Bs, said by experts to be part of the best family of ASCMs in the world, would be intended to degrade air defenses (including carrier flight decks). This, if successful, would open the way to the many subsonic, but potent and sea-skimming, ASCMs carried by the described large and

growing fleet of modern nuclear and diesel-electric submarines, with several classes of these submarines being built at a truly surprising rate. These missiles are also launched while submerged and have considerable range. With air defenses degraded, there is also the opportunity for the PLA Navy Air Force at distances from China of several hundred miles (or much more in the case of some aircraft) to carry out air attacks with potent air-launched ASCMs using new aircraft from Russia (the Su-30MK2) and indigenous long-range B-6s (a new version with new missiles) and FB-7 maritime interdiction aircraft, also with new ASCMs.

Surface combatants as a final layer of diverse and redundant options. Ultimately, clean-up attacks might be envisioned using similarly capable ASCMs from the several new and upgraded classes of destroyers and frigates. These new classes of warships are headed in firepower by the Sovremennyys (soon to increase in number from two to four) from Russia with supersonic, very evasive SS-N-22s. With almost equal firepower of the subsonic sort, China has built or is building enough new and modernized destroyers and frigates to form several surface action groups (SAGs), each capable of long-range ASCM attacks and, for the first time for the PLA Navy, good fleet air defenses using surface-to-air missile (SAM) systems—with the best SAM systems coming from Russia. As I have said to many audiences, the Chinese are now building and dramatically upgrading more classes—*classes* of modern destroyers and frigates—than previous rates suggest they might build such *ships* in this decade.

The indirect role of modernized and more numerous nuclear missiles. China is testing a new mobile, solid-fueled ICBM, the DF-31, and building a new Jin-class ballistic-missile submarine (SSBN) to launch a version of that missile. These new missiles will augment the force of about 20 DF-5A ICBMs that already can reach the United States. Most observers believe China will build new forces and improve older forces to whatever degree is necessary to outpace U.S. deployments of national missile defense (NMD). Despite rash statements recently by PLA one-star general Zhu Chenghu, we should not expect China readily to escalate to the use of nuclear weapons. In my view, even with the augmented nuclear arsenal, China's minimal deterrent is useful only when unused. It is the specter of its use that has a deterrent effect. Nevertheless, China's greatly enhanced nuclear force will serve as a backdrop for Chinese decisions to confront U.S. forces that are coming to the defense of Taiwan. Beijing will almost certainly feel a bit more confident that it can act to protect its interests, knowing that the U.S. president always has to keep in mind that he is dealing with a nuclear power—not a Yugoslavia or Iraq. So, unfortunately, China's leaders are likely to be emboldened a bit more by having a much-improved nuclear arsenal atop the conventional forces I have described.

The forces exist or on the way; the open question is the capability to coordinate it all. There is, in my opinion, no question that this is Beijing's concept for overwhelming Taiwan and deterring or confronting U.S. forces. There is no question that China has achieved a remarkable leap in modernization of the forces needed for these missions and that it is urgently continuing on that path. There *is* question about how China is now proceeding to exercise these new assets so as to make them truly operational in a combat environment. There is *considerable question* about China's capability to coordinate all these forces in two major simultaneous operations: (1) to bring Taiwan to its knees and (2) cause the U.S. to be tardy, indecisive, or ineffective in responding. There is, however, in my mind little question about Beijing's resolve to employ this concept if it feels it must act against Taiwan. My guess is that their effort would largely succeed

against Taiwan and fail against the U.S.—simply because the inexperienced Chinese military would not be able to cope with the complexities, unknowns, and countermeasures they would face. However, this is a rather thin reed to count on as we contemplate an intervention in a Taiwan crisis.

This new PLA as analogous to newly nuclear China in 1964. With this new PLA, we face a new situation just as we did when China first became a nuclear-weapons power four decades ago. We are, now as then, facing the prospect that China could give us, or will at least try to give us, considerable pause in determining whether and how to respond to a Chinese attack on Taiwan. China, very precisely and effectively in my opinion, has narrowly focused the modernization of its forces on this essential PLA mission while we have been focused on other missions around the world and particularly on the war on terrorism and the severe Iraq distraction. China will almost certainly beat us in the race between ballistic missiles to hit ships and the missile defenses to directly counter that. If we can react quickly, maybe we will come up with other less direct means to ensure their missile attacks are ineffective. However, the obvious answer, at least over the short term, is to ensure that Beijing fully understands the ultimate consequences of starting such a conflict and to hope that understanding serves as an effective deterrent. Given Beijing's obsession over the Taiwan issue, that prospect is not, however, very reassuring.

The factor of strategic depth. This ongoing PLA modernization surge has put a new face on the specter of cross-Strait conflict, and the solution is surely not the recently reported capability by tiny Taiwan to strike huge China with some sort of offensive counter-strike cruise missiles. To think so ignores the strategic depth of China compared to Taiwan, which may be seen as analogous to our task of reminding or convincing China that, despite China's precisely directed asymmetric developments, the strategic depth of the United States remains a solid reason for China not to seek a military solution with respect to Taiwan.

China's message and our reply. Beijing has now, in this selective modernization of the PLA, sent another very strong message about how serious it is about Taiwan. Chinese leaders think that their arguments for having such a force are compelling and should be readily understood—even accepted—by all. We now, it would seem, have the difficult task of determining the nature of our response to Beijing—or at least our reaction—beyond readying our forces to cope with the specific new threats. We would be mistaken to infer that China is, as a general matter, hostile to the U.S., despite our differences on a number of issues. To do so would ignore many positive overtures and actions by Beijing over recent years, the many interests we have in common, and important areas where we agree. Moreover, as I stated at the outset, we should take fully into account that the U.S.-China relationship is arguably the most important in the world today. Perhaps our response need make only two points: (1) In principle, we persist in our long-held position against the use of military forces against Taiwan. (2) Specifically, we believe it would be highly imprudent and ultimately very harmful for China to use the PLA as described in the concept above. I do not intend to suggest how our reaction should be conveyed and, as you see, have not attempted to come up with an elegant formulation for a formal response. However, this is what I see as the essence of our response. If the day comes when China's leaders are, indeed, making a decision on whether to attack Taiwan, the existence of these new capabilities might be a less persuasive and emboldening argument for the attack if the potential harm to China is fully appreciated.