

Contours of a Possible Indian Riposte to Chinese Aggressiveness

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January 17, 2011

Summary

It is being prophesied that conflict with China is imminent and could come as soon as 2012-2014, and that such a conflict could quickly erupt into an all-out war in which India would be thoroughly outclassed and outnumbered leading to a massive defeat. Such a scenario is, however, unlikely to unfold for several reasons. Firstly, the Chinese are inadequately equipped at this time to gain an asymmetric advantage for prosecuting an all out war. They are also likely to be disinclined to pursue such an option for political and economic reasons, given that their priorities for the foreseeable future is economic development, coping with the effects of the global recession and ensuring the smooth transition to a new generation of leaders in 2012. Further, the Chinese at this point in time are quite vulnerable on several grounds. After assessing the weaknesses and gaps in Chinese capabilities and highlighting the positions of advantage that India enjoys, this essay proposes a strategy for a strong riposte against any Chinese adventurism.

Introduction

Contrary to its self-proclaimed policy of 'peaceful rise', China has become increasingly assertive with countries on its periphery during the last five years. China's growing assertiveness was evident in the territorial dispute in the South China Sea, the conflict over Paracel Islands and the maritime standoff with Japan. Keeping with this trend, China's assertiveness towards India has also increased with persistent territorial claims to Arunachal Pradesh, aggressive patrolling along the border, a visible change in its position on Jammu & Kashmir, the introduction of 'construction' troops in Pakistan-occupied Kashmir in the wake of the 2010 floods in Pakistan, objections to India's economic activity in the South China Sea and to the transit of Indian naval ships in the international waters of the South China Sea.

In the wake of these developments, it is being prophesied that conflict with China is imminent and could come as soon as 2012-2014,¹ and that such a conflict could quickly erupt into an all-out war in which India would be thoroughly outclassed and outnumbered leading to a massive defeat. Such a scenario is, however, unlikely to unfold for several reasons. Firstly, the Chinese are inadequately equipped at this time to gain an asymmetric advantage for prosecuting an all out war. They are also likely to be disinclined to pursue such an option for political and economic reasons, given that their priorities for the foreseeable future is economic development, coping with the effects of the global recession and ensuring the smooth transition to a new generation of leaders in 2012. Further, the Chinese at this point in time are quite vulnerable on several grounds. After assessing the weaknesses and gaps in Chinese capabilities and highlighting the positions of advantage that India enjoys, this essay proposes a strategy for a strong riposte against any Chinese adventurism.

China's Economy and the Sea Lanes of Communication

An all out war between China and India involving land, sea and air is not only a remote possibility but also an impossible one. The Chinese are serious and astute people. Their vision for the next 20 years is to develop their economy to equal or surpass the USA. In 2012, China will have to cope with the problems of internal debt, bursting of the property bubble, declining exports because of the US and European slowdown and the resultant under-utilization of manufacturing capacity and rising unemployment. China will have to concentrate on its domestic economy or face serious social tensions. An all out war will be extremely disruptive to the economy and may set China back (and India as well) by a decade or more.

¹ Bharat Verma, "The Danger from China," *Indian Defence Review*, Vol. 26, No. 1, January-March 2011; *idem.*, "Unmasking China," *Indian Defence Review*, Vol. 24, No. 3, July-September 2009; also see "Expect a Chinese attack by June/July," Rediff.com., January 12, 2012, <http://www.rediff.com/news/slide-show/slide-show-1-china-in-2012-alarm-bells-ought-to-ring-in-new-delhi/20120109.htm>.

International trade contributes more than 30 per cent to the Chinese economy. This includes exports of \$ 1.6 trillion and imports of \$ 1.4 trillion. All this involves a massive amount of shipping! A substantial part of this shipping as well as 60 per cent of China's energy supplies transit the Indian Ocean. And more critically, through choke points like the Malacca Straits. An all out war will bring the Indian Navy into play. Undoubtedly, the Chinese Navy (PLAN) is far bigger than the Indian Navy, but geography favours India and China cannot have an asymmetric advantage. The Indian Navy can bring to bear enough sea and air assets to disrupt Chinese shipping right from the Gulf of Aden and the Cape of Good Hope to the Malacca Straits. The Malacca Straits is particularly well covered from the Andaman & Nicobar Islands and the Bay of Bengal.

Under these circumstances, China will have to protect its Sea Lanes of Communication (SLOC). It is not enough for the PLAN to sneak a few warships through the Malacca Straits and have this task force secure the SLOC. Such a task force will need fuel and supplies, which again have to pass through the same choke point. India commands the entry into the Indian Ocean from the east.

Some analysts counter this argument by stating that the Chinese are building a "string of pearls" to protect their SLOC and project power. The facts on the ground dispel this. If the Chinese implement the alleged "string of pearls" as a part of war fighting strategy, the "string" will soon become a liability.

String of Pearls?

The 'string of pearls'² that China is creating consists of Chittagong, Cocos Island, Hambantota, Maldives, Seychelles and Gwadar and it is supposedly intended to encircle India as well as create basing and power projection assets for the PLAN. Overseas bases are not staging points, they also need to be secured and supplied. Other than Gwadar, all

² "String of Pearls" is not originally a Chinese term but was coined in 2003 by Booz Allen consultants for the Pentagon to describe China's attempts to gain a strategic foothold in the Indian Ocean. Since there is no single or formal definition of "String of Pearls", Maldives and Coco Islands can be considered as "Pearls". According to Pehrson: "Each 'pearl' in the 'String of Pearls' is a nexus of Chinese geopolitical influence or military presence. Hainan Island, with recently upgraded military facilities, is a 'pearl'. An upgraded airstrip on Woody Island, located in the Paracel archipelago 300 nautical miles east of Vietnam, is a 'pearl'. A container shipping facility in Chittagong, Bangladesh, is a 'pearl'. Construction of a deep-water port in Sittwe, Myanmar, is a 'pearl', as is the construction of a navy base in Gwadar, Pakistan.... Port and airfield construction projects, diplomatic ties, and force modernization form the essence of China's 'String of Pearls'. The 'pearls' extend from the coast of mainland China through the littorals of the South China Sea, the Strait of Malacca, across the Indian Ocean, and on to the littorals of the Arabian Sea and Persian Gulf. China is building strategic relationships and developing a capability to establish a forward presence along the sea lines of communication (SLOCs) that connect China to the Middle East." See, Christopher J. Pehrson, "String of Pearls: Meeting The Challenge of China's Rising Power," *The Strategic Studies Institute of US Army War College*, July 2006, p. 9.

other ports have the same vulnerability of relying on sea supplies where the Indian Navy will have a significant disruptive capability arising out of its closer proximity and deployable assets. It can be argued that supplies can be pre-positioned. Yes, but how do you secure them against air and missile attacks from Indian territory? Even if some elements of the PLAN sneak through the Malacca straits they will be too busy protecting themselves, let alone the SLOC and securing their own supplies. If also tasked with protecting the “string of pearls,” such a naval force will be faced with an impossible task. The land route can supply only Gwadar but even in this case supplies have to transit Tibet/Xinjiang, go through the Karakoram Highway and then pass through an extremely unstable Pakistan (Baluchistan).

Geopolitical alignments too are shifting unfavourably for any future ‘string of pearls’. Chittagong no longer looks like a possibility given the improvement in India-Bangladesh relations. Myanmar is becoming more understanding of Indian security sensitivities. Maldives is already being integrated with Indian coastal defence, post the A.K. Antony 2009 visit to that country.³ The Indian Navy has unfettered access to Mauritius⁴ and has listening posts in Madagascar.⁵

Seychelles has recently agreed to provide refuelling arrangements for the PLAN and this has been projected as a Chinese base. Should this worry India? Yes, but it is also true that Seychelles is closer to Diego Garcia than it is to India! The Chinese are unlikely to position serious assets there since that would constitute a threat to the US and is likely to be taken very seriously by it. Chinese offensive assets in Seychelles will bring a ton of diplomatic bricks on Seychelles and a disproportionate counter offensive capability in Diego Garcia which the Chinese would then have to counter. The fact that US think tanks have completely ignored this development suggests that this is no more than refuelling as well as rest and refit (R&R) for the Chinese anti-piracy deployment. The “string of pearls” is neither a reality nor imminent. India’s proximity and skilful diplomacy can keep it like that forever.

³ Sandeep Dikshit, R.K. Radhakrishnan, “In pact, India, Maldives flag security and development,” *The Hindu*, November 12, 2011, <http://www.thehindu.com/news/international/article2621363.ece>; Vivek Raghuvanshi, “India To Install Radars in Maldives,” *Defence News*, August 21, 2009, <http://www.defensenews.com/story.php?i=4245842>; Balaji Chandramohan, “India, Maldives and the Indian Ocean,” *IDS COMMENT*, October 13, 2009, http://www.idsa.in/idsastrategiccomments/IndiaMaldivesandtheIndianOcean_BChandramohan_131009.

⁴ Ravinder Singh Robin (ANI), “India to give offshore vessel to Mauritius,” *Sify News*, July 3, 2010, <http://www.sify.com/news/india-to-give-offshore-vessel-to-mauritius-news-international-khdt4cbhiff.html>; Rajat Guha, “India and Mauritius resume discussions to hand over two islands to India,” *Financial Express*, October 14, 2010, <http://www.financialexpress.com/news/Mauritius-could-hand-over-2-islands-to-India/697292/>.

⁵ “Indian Navy Activates Listening Post, Monitoring Station in Madagascar, Indian Ocean,” *India Defence*, July 18, 2007, <http://www.india-defence.com/reports-3453>.

Chinese Air Warfare Capabilities

The Chinese Air force (PLAAF) is also unlikely to come into serious play. Airfields in the Tibetan plateau are located at heights of 7000 to 9000 feet. In that rarefied atmosphere, aircraft can take off with only very limited fuel and ordnance. If PLAAF does use the Tibetan airfields for fighter operations, the time on station and the ordnance load carried by the fighters will be severely compromised. The IAF, on the other hand, will be taking off from the north Indian plains and be capable of reaching the theatre within 20 to 30 minutes. The PLAAF will be seriously disadvantaged. Besides, the qualitative difference in technology still favours the IAF, J-20 notwithstanding (discussed later). The SU 30 MKK with China is a generation behind the Indian variant – SU 30 MKI. Given that the Active Electronically Scanned Array (AESA) equipped Multi-Role Combat Aircraft (MRCA) likely to be introduced into service, the qualitative gap in favour of the IAF would increase and the quantitative gap will decrease.

It can be argued that the PLAAF can operate out of mainland airfields with air-to-air refuelling to get a full load of fuel and ordnance. Yes, but this will involve long transit times which will curtail the number of sorties. Long flights will also mean fatigue for the Chinese crew resulting in an unequal fight. Besides, the PLAAF does not have enough air refuelling tankers. Its fleet of less than 20 H-6Us has poor transferable fuel capacity. The eight IL-78 tankers ordered in 2005 have run into contractual trouble.⁶ Obtaining the IL-78s would be particularly important because, according to Gabriel Collins, Michael McGauvran and Timothy White, only these aircraft and not the H-6Us can refuel the J-11s.⁷ No more than a quarter of China's combat aircraft can be refuelled in the air. They further note that "China's air-refuelling program today appears primarily geared toward enhancing Beijing's ability to project power into the South China Sea" and that the PLAAF will be unable to maintain any serious sortie rate over Tibet through air-to-air refuelling for several years more.

The airlift capacity of PLAAF is also quite inadequate.⁸ The only large air-lifter in service is the IL-76 and PLAAF has only 10 of these aircraft. 30 IL-76s were ordered by China in

⁶ "The 2005 contract of \$1.5 billion for 34 Il-76 and four Il-78 aerial refueling tankers was refused by Tashkent's Chkalov Aircraft Association, over price. In September 2008 it was reported that Russia will continue negotiations on a contract to deliver 34 transport planes and four aerial tankers to China earlier frozen due to a disagreement over prices." See, *Globalsecurity.org*, <http://www.globalsecurity.org/military/world/china/plaaf-equip.htm>. It was also reported that "It is not planned to resume the fulfillment of the contract on the delivery of many Il-76 cargo planes and Il-78 tanker planes to China. We will sign a new contract." See, *Russia and CIS Defense Policy*, November 22, 2010, <http://www.russiandefenseblog.org/?p=1682>.

⁷ Bradley Perrett, "China Expands Its Military Reach," *Aviation Week and Space Technology*, October 18, 2011, review of "Chinese Aerospace Power" by Gabriel Collins, Michael McGauvran and Timothy White, published July 2011, <http://www.aviationweek.com/aw/generic/story.jsp?channel=defense&id=news/awst/2011/10>.

⁸ Ibid.

2005 but this contract too has run into trouble, and not a single IL-76 has been delivered till date. The Chinese could push their massive civilian fleet into war service but this will cause internal economic disruption, a price that they may not necessarily be unwilling to pay. For regular logistics, the Chinese have no option but to haul them across the massive land expanse of Tibet either by road or rail exposing them to aerial interdiction.

The Chinese Missile Threat

Several sources profess that China has substituted the CSS-2 liquid-fuelled, nuclear-capable missiles in Tibet with “more advanced and survivable solid-fuelled” CSS-5 missile systems and that this multiplies the threat to India several fold.

That the CSS-5 is a serious threat to India is not in doubt but this is not new. Upgrading of equipment is an ongoing process. Missilery is no exception. Upgradation in missilery has four main components: (a) replacement of liquid fuel with solid fuel motors as these are safer to handle and more robust; (b) replacement of maraging steel motor casings with composite casings to make missiles lighter; (c) improvement in warhead manoeuvrability for evasiveness; and, (d) improving the guidance to reduce CEP, thus requiring a smaller warhead to attain the same objective. Graduating from CSS-2 to CSS-5 is routine and is similar to India moving from Agni 2 to Agni 4.

The CSS-5 does not enhance the threat than what has been there for the last two decades. What is however important to note is that Chinese missiles are not in any higher state of alertness. Before being fired, missiles have to undergo the following process: selection of warhead (conventional, nuclear, thermonuclear), mating of warhead, feeding of target coordinates and finally, launching. Chinese missiles are unmated.⁹ Target coordinates are never hard coded, as this will slash flexibility. There is therefore no additional threat. On the other hand, with Agni 2 in deployment and Agni 4 under development, the asymmetry gap is being narrowed.

Strategic missiles, in any case, are more a deterrent than a weapon of war. Both China and India have stated No First Use (NFU) as their doctrine. However, China has also stated that it reserves the right to use nuclear weapons within its own territory. Since China considers Arunachal Pradesh as its “own” territory, it could theoretically employ nuclear

⁹ Mark A. Stokes, “China’s Nuclear Warhead Storage and Handling System,” *Project 2049 Institute*, March 12, 2010, pp. 8, 9, 13, http://project2049.net/documents/chinas_nuclear_warhead_storage_and_handling_system.pdf; also see, “Command and Control,” *Global Security.org*, <http://www.globalsecurity.org/wmd/world/china/c3i.htm>.

weapons there, although this is extremely unlikely.¹⁰ The use of these missiles will result in an all-out war, which, as has been argued, is highly improbable.

Chinese Efforts at Military Modernization

Enough is being written on this subject with Stealth J-20, Aircraft Carrier Killer DF -21D, the Aircraft Carrier ex-Varyag (Shi Lang?) and ASAT leading the pack. This rapid step-up in Chinese military investments in recent years is highlighted as meaning China gaining a strategic advantage over India along the border as well as increasing its footprint in the Indian Ocean. That these represent long-term threats is not in question. But do they represent an imminent threat? Do they give China the ability to strike out at India in the next few years? Probably not.

The Chinese are very impressed with hi-tech US capabilities that have been successively demonstrated over the last 20 years. They are under a weapons embargo since the Tiananmen Square episode in 1989. Their access to military technology is limited to the Russians (who don't give their best), the Ukrainians (who don't have the best) and their own military industrial complex. They are trying to emulate what they can and develop asymmetric responses against what they cannot emulate. The Chinese are trying to emulate the force projection capabilities of a sea borne Carrier Battle Group (CBG) and the 'shock and awe' of a stealth platform. The Chinese aircraft carrier and the J-20 come in this category. The networked battlefield and the combined sea-land-air operations are being countered asymmetrically through anti-satellite weapons (ASAT), the aircraft carrier killer missile the DF-21D and cyber warfare. These are not India specific; nevertheless we have to factor in these Chinese capabilities and not intentions which could change.

Chinese Aircraft Carrier

The recently 'completed' Chinese aircraft carrier is the ex-uncompleted hull of the Soviet ship Varyag. The Chinese have refurbished it, installed its propulsion unit and have now put it to sea trials. No doubt this is a creditable effort but does this mean that the Chinese navy has a CBG? No. That could be 10 years or more away. To start with the Chinese don't have an aircraft for the carrier. They tried to acquire the Su-33 from Russia but the Russians have flatly refused. They have now acquired an unfinished Su-33 that was lying in Ukraine

¹⁰ There cannot be any intent or purpose for using nuclear weapons in Arunachal Pradesh (AP). Nuclear weapons would be wasted in AP because: (i) The population is too sparse and there are no high value infrastructure targets requiring a strategic nuclear strike. All of AP has a population of just 1.2 million. Itanagar and Tawang, the two principal cities, have a population of just 40,000 and 50,000, respectively. Nuclear weapons would be an 'over-kill'. (ii) It would be a political disaster for China's own standing with its ethnic minorities like the Tibetans, inner Mongolians, Uyghurs, etc. (iii) Mountain sides deflect most of the blast pressure waves, thus diminishing the nuclear weapon's destructive power.

and are trying to reverse engineer it as the J-15. The prototype has only just flown,¹¹ which means that the aircraft carrier will not have an aircraft for the next ten years!

The non-availability of aircraft is not the only issue. The Chinese do not have arrestor wires necessary for Short Take-Off But Arrested Recovery (STOBAR) operations. China tried to buy four sets of arrestor wires from the Marine Engineering Research Institute and Proletarsky Zavod plant in Russia but the Russians refused stating that “it is prohibited to export strategic armament systems to China”.¹² There are some old arrestors remaining in Ukraine and China could purchase them. However, even if China really buys them, such arrestors might be used only as presentation samples. The Ukrainian air training centre NITKA is not equipped with a large number of arrestors. Moreover, after buying these Ukrainian arrestors and studying their design China would need some time to develop its own analogues. This is further validated by satellite photographs of the carrier on its first sea trial. The arrestor wires are conspicuously absent from the deck!¹³

This is, at best, a “starter carrier” to validate design concepts and training. It may be used for limited “show the flag” deployments in South China Sea. The Chinese aircraft carrier will not get commissioned before another ten years. And this is not counting the time for the Chinese to then evolve training, operational tactics and integrate all this into the CBG.

J-20 Stealth Fighter

A fifth generation fighter aircraft, per se, has the following elements: (a) airframe, (b) engine, (c) sensors and (d) weapons. The J-20 has just flown, so the airframe works. What is unknown and untested is whether it really is stealth. Just because it looks externally like the F-22 does not mean that it is stealth. Stealth has a lot to do with thermal and airflow imaging, RAM coatings, EM wave cancellations, etc. There is a lot more that goes into it than the mere shape.

The Chinese don't have an engine to power the aircraft. Chinese engine development is woefully inadequate. The Chinese jet engine technology for military application has not even reached the stage that the US was in the early 1970s.¹⁴ The most advanced Chinese

¹¹ David Axe, “The Limits of China's Fighter,” *The Diplomat.com*, July 15, 2011, <http://thediplomat.com/flashpoints-blog/2011/07/15/the-limits-of-chinas-fighter/>.

¹² “Russia refuses to sell arresters for Chinese aircraft carrier,” *Navyrecognition.com*, November 25, 2011, <http://www.navyrecognition.com/index.php/news/year-2011-news/october-2011-navy-naval-news/209-russia-refuses-to-sell-arresters-for-chinese-aircraft-carrier.html>.

¹³ Thomas Harding, “First satellite image of Chinese aircraft carrier reveals absence of key component,” *The Telegraph*, December 30, 2011, <http://www.telegraph.co.uk/news/worldnews/asia/china/8959279/First-satellite-image-of-Chinese-aircraft-carrier-reveals-absence-of-key-component.html>.

¹⁴ Gabe Collins and Andrew Erickson, “Jet Engine Development in China: Indigenous high-performance turbofans are a final step toward fully independent fighter production,” *China SignPost™*, No. 39, June 26, 2011, <http://www.chinasignpost.com/2011/06/jet-engine-development-in-china-indigenous-high-performance-turbofans-are-a-final-step-toward-fully-independent-fighter-production/>.

engine, the WS-10, gets a mean-time-between-failure (MTBF) of 250 hours as against the Western equivalents of 2000 hours and the Russian equivalent of 1200 hours. All mainstay Chinese fighters, the J-10 and J-11, fly with Russian engines. Even the much-touted Sino-Pak fighter, the JF-17 Thunder, flies with a Russian engine - the RD-93. The J-20 has probably flown with a pair of Russian Saturn AL-31s, which the Chinese have procured for the SU-30 MKK.

As for the sensors, the less said the better. With the denial of cutting edge Western and Russian technology, even frontline Chinese fighters like the J-11 still have Pulse Doppler radars, which are a generation or more behind the more modern AESA radars on Western fighters. The Russians are just about flight-testing their AESA radar - the ZHUK-AESA. The Chinese are nowhere in the picture. Finally, weapons are slaved to the sensors. If the sensors are a generation behind, weapons cannot leapfrog it!

The J-20 will not see actual operational deployment in this decade. Being used in ceremonial fly past for domestic audiences is likely but as a serious weapon of war, it is still years away from becoming operational.

DF-21D Aircraft Carrier Killer Missile

This could mark a revolution in naval warfare. The use of ballistic missiles against aircraft carriers has often been theorized but the technical challenges have remained insurmountable. DF-21D is a derivative of the time tested DF-21 (also known as CSS-5) MRBM. DF-21D has been “test flown” successfully over land. However, this flight “testing” success is not a major milestone. Based as it is on an already proven design, the DF-21D’s flight performance cannot be in doubt. Testing, though necessary, only validates that the modifications work and that the vehicle has satisfactory flight characteristics. The challenge has not been the rocket, but it has always been, (a) search,¹⁵ (b) track,¹⁶ and (c) homing.¹⁷ Further, the DF-21D has so far not been tested over water and/or against a manoeuvring target.

¹⁵ Reconnaissance satellites, being low earth orbiting satellites, are not geostationary. They fly along their orbital path. Satellites can map every square metre of an airfield since the airfield is stationary. Multiple passes by a satellite can build a comprehensive picture. Satellites cannot be used for moving and manoeuvring objects as they move along preset paths which are known and predictable by friend and foe alike. The probability of a moving target crossing the orbital path of a satellite exactly when the satellite is overhead is extremely low. Over The Horizon Radar (OTHR) can be used but this is extremely unreliable as it is susceptible to the vagaries of weather.

¹⁶ After spotting the target, how does one predict its future location? The target is moving at 30 knots (55 kmph) and is manoeuvring. Every minute, it covers almost one km in any direction. Let us assume that it takes 10 minutes for C4I to fire the missile and the missile flight time is five minutes. In this time, the target can be 15 kms away in any direction. The probable area is 700 sq kms and the target can be anywhere in it. Real-time information has to come from AWACS like assets.

¹⁷ The DF-21 has a Circular Error Probable (CEP) of 50 metres. This is quite sufficient if it is used as an MRBM with a nuclear warhead. For the DF-21D to be an effective carrier killer, it would need a CEP of 1 metre with an high explosive (HE) warhead. A one metre CEP is attainable only by active homing precision guided weapons. A ballistic missile (as different from a cruise missile) warhead

Targeting information can come from satellites but it is not real time and not actionable. Imagery Satellites have a narrow field of vision and move along pre-programmed paths. Unless the CBG happens to be in the path of the satellite and the probability of that in the vast expanse of the ocean is minimal, the CBG will not get detected. Even if it gets detected by chance, how do you track it? Even the US cannot swing its reconnaissance satellites (a network of about 100 low earth radar/optical satellites) to look at locations of interest in less than four hours. In four hours, a CBG travelling at 30 knots would have moved 100 nautical miles from its last known position. For the PLAN to be able to successfully hit a CBG would require real time targeting with at least a 1m CEP terminally guided missile. This would require a huge dedicated maritime surveillance satellite network, which China does not possess; neither does it possess the large AEW/AWACS or SIGINT assets.¹⁸

Despite the limitation of a narrow field of view, China is currently investing heavily in electro-optics and imaging systems for satellites. This indicates that the DF-21D, when operationally deployed, may be used less as an ocean denial weapon and more tactically on narrow stretches of water, the Taiwan Straits for instance, which in any case is well covered by anti-ship missiles.

Challenges (a), (b), and (c) identified above are each equally formidable. They will need extensive proving trials, without which neither the armed forces will accept them nor will any potential adversary be deterred. Display in May Day parades is possible and is strictly for domestic audiences only. Militarily, the DF-21D has just begun to be tested and therefore its real operational deployment could be some years away.¹⁹

is not in 'powered' flight but in 'free fall' trajectory at terminal velocity. At this velocity, manoeuvring fins on the warhead can generate only very limited 'lift' thus limiting its ability to change direction for 'active' homing. To improve success, a salvo can be fired. With a one ton HE warhead and a blast zone of 100 metres, a warhead would cover three sq kms. A salvo of 25 missiles will give a miniscule 10 per cent probability of success, not taking into account the degrading of success probability through Electronic Counter Measures (ECMs), Anti-Ballistic Missiles (ABMs) and Close-in Weapon Systems (CIWSs). This is for just one single target for one single engagement!!

¹⁸ Dwayne A. Day, "Staring into the eyes of the Dragon," *Secure World Foundation*, November 14, 2011, <http://swfound.org/events/2011/the-dragon%E2%80%99s-new-eyes-china%E2%80%99s-space-based-surveillance-capabilities,-doctrine,-strategy,-and-implications>.

¹⁹ The US Department of Defense (DOD) says that the DF-21D has attained IOC. The US Defense Acquisition University says IOC is "attained when some units and/or organizations in the force structure scheduled to receive a system 1) have received it and 2) have the ability to employ and maintain it." It does not state anything about its effectiveness as a weapon. US Admirals and DOD talk about enemy weapon systems with multiple agendas. In the 1970s the MiG 25 was hyped as a 'wonder' weapon to secure funding for F-16 and F-15 as well as the stealth programme. Only when Victor Belenko defected with his MiG 25 to Japan in September 1976 did the truth get known about the real capability of this aircraft. More recently, the UNSC presentation by Collin Powell on Iraqi WMDs is another case in point. The Chinese speak about the DF-21D whenever a US Navy carrier battle group (CBG) sails close to China. On August 13, 2010, the Chinese state media stated: "China

ASAT, Cyber Warfare

No doubt the Chinese have demonstrated formidable capability in these areas. However, Chinese satellites in space are as vulnerable as any other satellite! Cyber warfare too is not proprietary to the Chinese. Their computers are equally vulnerable. Will the Chinese get these systems right? In the long term, yes, through a combination of R&D and piracy/copying the Chinese will eventually get most of these systems right. But are they a threat to India? No, not in this decade.

Chinese Threat to India in the Immediate Future

In the immediate future, the threat posed by China will be confined to India's land frontiers. The India-China border can be segmented into (a) the Western portion consisting of Himachal Pradesh and Jammu & Kashmir, (b) the Central portion comprising Uttaranchal, and (c) the Eastern portion consisting of Sikkim, Bhutan and Arunachal Pradesh.

The Western portion does not offer any political advantage to China. Conquest of territory in this region cannot be presented as a 'victory' as it is not in the Chinese list of 'Core Interests'. Besides, this region borders Tibet and Xinxiang, both restive provinces and a conflict may present India an opportunity to cut the Karakoram Highway and sever the land link between China and Pakistan.

The Central portion has very high peaks and valleys. Despite the Chinese having better infrastructure, such mountainous terrain eat up divisions and China will need an asymmetry of 9:1 or more. This terrain is not conducive for a quick 'teach India a lesson' campaign and the Chinese will be hard pressed in logistics. Besides, there is nothing here to present as a 'victory'.

The Eastern portion is where the real plum of a 'victory' lies. Arunachal has recently entered China's 'Core Interests' list. Tawang is a tremendous prize. The tri-junction area of Sikkim, Bhutan and India leading down to the Siliguri neck is tempting to sever. If the Chinese get an opportunity to 'teach India a lesson' in the Eastern portion, they may be tempted to give it a shot provided the gains outweigh the costs.

will test its new Dong Feng 21D anti-ship ballistic missile." This was in response to a US Navy CBG with the nuclear powered aircraft carrier USS George Washington sailing to the "West" Sea to participate in naval exercises with South Korea and Japan. The Chinese state media traffic on DF-21D picked up again in the wake of the North Korean bombardment of Yeonpyeong Island on November 23, 2010. Last year, when Hillary Clinton spoke in support of the littoral countries of the South China Sea, the same happened. This is probably done more to 'keep face' with China's own citizens and shake the confidence of smaller South China Sea countries (in keeping with Sun Tzu's philosophy) rather than seriously warn the major navies.

Proposed Indian Riposte

India's foremost priority must be exorcising the ghost of 1962 and recover confidence and morale. Indian troops actually have a very successful track record against the Chinese.

- 1 May 1841: The Dogras under Zorawar Singh routed the Chinese.
- 2 August 1842: The Dogras under Dewan Hari Chand and Wazir Ratnu again beat the Chinese in the Battle of Chusul after which Ladakh officially became a part of India.
- 3 1839-1842: The First Opium War. The East India Company expeditionary forces comprising 7,069 navy personnel, 5,000 British troops and 7,000 Indian troops took on Chinese forces of 200,000 and inflicted 18,000-20,000 casualties for 69 killed 451 wounded. This gave the Punjab Regiment its crest showing a ship and the motto "sthal wa jal", emphasizing their fighting prowess as maritime expeditionary forces.
- 4 1856-1860: The Second Opium War. Again a similar number of Indian soldiers participated with similar results.
- 5 1900: The Boxer Rebellion where Indian troops were the major part of the British contingent and defeated the siege laid by the Imperial Chinese forces.
- 6 1967: the Nathu La and Cho La episodes when the Chinese were given a bloody nose.
- 7 1986/87: Sumdorong Chu, when the Indian Army successfully stared the Chinese down.

1962 was thus an aberration. The reasons for it are manifold. They have been well documented and bear no repetition here. What is noteworthy, however, is that just three years after that debacle, in 1965, the Indian armed forces gave a good account of themselves and six years later, in 1971, they enjoyed their finest hour. India should deal with China with confidence and not adopt a posture of appeasement.

With a more confident posture, an Indian riposte along the following contours could be implemented:

1. State and restate India's desire and intention to be a 'status quo' nation with no aggressive designs on any neighbour.
2. Continue border negotiations with the Chinese on the basis of the 2005 framework agreement.
3. Deny the Chinese asymmetric advantages in force application. The overall size of the Army is secondary, what matters is how much force can be brought to bear at the point of attack and subsequently what logistics train exists in men and material to consolidate the gains. The fact that the Chinese withdrew from Tawang/NEFA was

due to un-sustainability of the logistics train. The border has been peaceful for the last 50 years because a surprise asymmetrical force level build-up cannot be achieved by China. In two instances, 1967 and 1987, when the border livened up in the east, India rapidly moved sufficient forces and occupied advantageous positions, thus denying the Chinese an asymmetric force advantage and forcing the Chinese to blink. For a serious war in the mountains, the attacker needs to apply force in a 9 to 1 ratio.²⁰ China will therefore need to position at least 30 combat²¹ divisions against India. The build-up for this and the logistical train would require at least two months of preparation as demonstrated by the PLA in an exercise in 2011. Such a build-up cannot escape attention and the element of surprise would be lost, thus giving India enough time to organize its defences. Ultimately, if India can ensure even a stalemate, it wins!

4. Strengthen surveillance capability, remote sensing, SIGINT and HUMINT so as to spot any unusual troop/material movement and/or change in the order of battle. Denial of surprise to the Chinese is crucial.
5. Deny the Chinese the advantage of their superior infrastructure. The Chinese infrastructure can be used for replenishment of supplies and quick rotation of troops to exploit breakthroughs. India's raising of two additional regiments of BrahMos and positioning them in the northeast will neutralize this Chinese advantage. BrahMos employed in the steep diving mode and with a 290 km range can degrade the Chinese infrastructure advantage in the opening hours of the conflict.
6. Expedite the deployment of 'Nirbhay' – the 700 km range, terrain following, cruise missile under development – must be given high priority and brought under deployment as soon as possible. This range can bring Chinese infrastructure even deep within Tibet including the Qinghai-Tibet Railway into attack range. Such an enlargement of the attack bubble will nullify a large part of the infrastructural advantage that the Chinese have built up.
7. Match the Chinese capability of logistics through airlift capability till India's own ground infrastructure is developed. The quick switching of troops from one sector to another

²⁰ Vinod Anand wrote: "To launch a deliberate attack against well prepared defences in the mountains, the attacker needs a favourable force ratio of almost 9:1 as against 3:1 in the plains." See his "India's Military Response to the Kargil Aggression," <http://www.idsa-india.org/an-oct9-1.html>, p. 5. In the same vein, Acosta noted that "Indian Army doctrine that set a 9:1 force ratio against defensive positions at high altitude proved to be accurate." See, Marcus P. Acosta *High Altitude Warfare: The Kargil Conflict and The Future* (Naval Postgraduate School, Monterey, California), June 2003, p. 72.

²¹ In the normal course, the 10 Mountain Divisions comprising of two Strike Divisions and eight Holding Divisions should hold 30 Chinese divisions at bay, but these divisions are presently under strength with some brigades moved out for counter-insurgency (COIN) operations in Jammu and Kashmir, North East and elsewhere. These COIN operations are not about to cease. Therefore, the raising of additional divisions become necessary.

on the Chinese side can be neutralized by India's Advanced Landing Grounds (ALGs) using AN 32s and C 130s for bulk transport. Sufficient helicopter assets should be inducted to achieve quick transport of troops to frustrate PLA breakthroughs as also to neutralize soft targets and fortifications.

8. Strengthen the armoured and mechanized capability in Aksai Chin and the tri-junction area of Sikkim. Both these theatres could have an independent armoured brigade with mechanized infantry and integral anti-air assets.
9. Enlarge the scope of Indian asymmetry by doubling the strength of SF 22. These troops gave a good account of themselves in 1971, a war that was moreover not theirs. Against the Chinese, they will come into their own and would be a tremendous force multiplier.
10. Create additional options vis a vis Tibet without overtly questioning the 'One China' policy. Reduce and eventually cease the 'apologetic' posture adopted on the Dalai Lama. This will enlarge the manoeuvring envelope in negotiations.
11. The Malacca Straits along with other choke points like Lumbok and Sunda should be brought under enhanced surveillance and force application capability. The further development of air and sea infrastructure in the Andaman and Nicobar islands is critical as these are closest to this theatre. Basing of extensive air, sea and under-sea assets there will give India an advantageous position. The Chinese cannot ignore this and will have to take this into their calculations while planning any adventurous move.
12. Gain, retain and strengthen diplomatic engagement with the island nations of the Indian Ocean. Lately, India has shown its deftness at 'cheque-book diplomacy' with Afghanistan, Bangladesh and Sri Lanka with excellent results. The island nations would require far lesser sums. A separate MEA desk dealing only with these island nations will bring sharper focus to policy and its implementation.

Conclusion

The attempt here has not been to trivialize in anyway the threat that China poses to India. It is not meant to instil a sense of complacency. Instead, the aim has been to quantify the threat and place it in the proper perspective. We should neither assume that 'all is well' nor should we get frozen into appeasement, or, worse, into submission out of fear and/or lack of confidence. The Chinese are students of Sun Tzu and players of 'Go'. Nothing comes to their geopolitical strategic thinking more naturally than 'feint and deception' and making the opponent surrender without a fight. Equally, they are also alert to signals of change in action/posture of the opponent and often communicate their own reactions and intentions through similar media.

Overwhelming force projection in-theatre is a must for countering the Chinese and this is NOT beyond India's reach. The Chinese are steeped in the maxim "power grows out of a barrel of a gun". A strong Indian deterrent posture is therefore a must. As long as India denies China the opportunity of "teaching a lesson" through a short, highly visible and publicized military operation, peace will prevail. The Chinese will never enter a war without a clear political objective and unless the achievement of that political objective is a certainty, they will not risk "losing face".

India's reported plan to carry out a \$13-billion military modernization – the biggest expansion since 1962 – is a timely step and in the right direction. By raising the Mountain Strike Corps and the additional independent brigades, India is positioning a force of six divisions. Under optimum conditions, they should be able to hold off at least 30 attacking divisions, which the PLA may bring into battle. The Chinese are already reading the correct signals as indicated in a recent publication in the PLA's official newspaper, *PLA Daily*, stating that India's bold military moves in the eastern sector are motivated by a desire to "contain China".

It is important that this be speedily followed through. The Mountain Strike Corps must get operational at the earliest, complete with men and equipment including its mountain artillery, mechanized and armoured elements, air mobility and anti-air assets. This will require a degree of urgency in India's evaluation and procurement procedures. Of particular importance are the M 777 (or equivalent) mountain guns, armed Dhruvs and Project 75 and 75 I for sea denial. Infrastructure building needs to be intensely focused upon. The funds are there but project management skills and a sense of urgency appears lacking. The minimum requirement of 27 roads totalling 804 km must be built without any further let up.

Simultaneously, the Chinese must be regularly invited in a warm and friendly manner to military establishments and exercises, particularly of the mountain divisions, and demonstrated in a non-threatening manner India's capability to neutralize the threat of force at relevant geographical positions. This effort can be further supplemented through public diplomacy. In time, all this will change the Chinese posture and give our negotiators additional options and confidence.