

China's Global Military Power Projection Challenge to the United States
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Mr. Chairman and Distinguished Members of this Committee:

Thank you for the privilege of offering testimony before this Committee regarding China's global military power projection ambitions and the challenge it poses to the United States, its Allies, and its friends. I also offer my gratitude for this Committee's leadership and deliberations concerning the growing challenge from the People's Republic of China (PRC) to the freedom and security of the United States.

It is also encouraging that our military and IC leaders are noting China's troubling intentions, actions, and capabilities. In his recent Senate confirmation hearing Pacific Command (PACOM) Commander, Admiral Davidson stated that China's is 'the most ambitious military modernization in the world;' and that along with improving its ballistic missiles, "China is pursuing advanced capabilities which the United States has no current defense against;" adding, "...it is increasingly clear that China wants to shape a world aligned with its own authoritarian model..." His predecessor, Admiral Harris, told the House Armed Services Committee in February that China's military buildup "could soon challenge the United States across almost every domain" adding that, "China's intent is crystal clear. We ignore it at our peril." Joint Chiefs of Staff (JCS) Chairman General Dunford has stated that China is likely to pose "the greatest threat to our nation by about 2025" as it focuses, "on limiting our ability to project power and weakening our alliances in the Pacific." These concerns are echoed by the Intelligence Community leadership, especially as relates to cyber, information, influence and technology theft activities.

Historically, China's Communist Party (CCP) leadership would hide military goals such as becoming the world's dominant power in any or all domains. It would not announce such goals in press conferences or White Papers. Instead it would ritually deny such goals so as to discourage the United States and its Allies from preparing sufficiently to defend themselves. However, China recently has begun to acknowledge in its official statements that it plans to project military power beyond Asia. But the Chinese leadership continues to ritually deny that it seeks "hegemony" or "world domination."

How China's denials are undermined by China's actions will be the focus of this testimony. While some analysts suggest China's projection of power will be more modest and stress protection of economic interests, Chinese actions suggesting larger goals include: budding Chinese strategic cooperation with Russia; China's building of alternate institutions that challenge U.S. leadership; China's ongoing attempt to change the Latin American balance of

power by encouraging a second war over the Falklands Islands; and indications China will militarize the Moon.

Furthermore, China's two decades average of near double-digit growth in defense spending, growing PLA power projection forces, and China's drive to create or obtain greater overseas military access combine to suggest the trajectory of China's development toward global military power. China's creation of new military bases in the Spratly Island group -- and its potential creation of nuclear, naval and air bases on Taiwan, should that island democracy be conquered -- point to an early objective of isolating and coercing Asian democracies such as Japan and the Philippines, leading to great pressure to end their alliances with the United States. China will also seek greater military access in the Indian Ocean to further contain India, while political influence, military engagement, and debt default acquisitions will accelerate PLA access in Latin America and Africa

It can be expected that the actions of a globally powerful China toward the world's free societies will be informed by the CCP's pervasive domestic suppression of democratic impulses, freedom of expression, religion, and domestic dissent. A Chinese conquest of Taiwan could provide a stark demonstration of the CCP's organized and brutal suppression of democracy. Today, China's loud criticism of democracy, and its potential to promote a rebranded Marxism, suggest that overarching anti-democratic and anti-American ideological campaigns could underscore China's drive for global power projection.

The good news is that the United States and its allies have seen and met a similar challenge from the Communist Party of the Soviet Union (CPSU). Though the CCP is better equipped and determined to avoid the fate of the CPSU, it controls a fragile empire dependent on internal repression, economic growth, and external coercion. Nevertheless, the United States and its Allies may have only about a decade to invest in militarily preparedness, and to bolster their political and economic cooperation viz the Chinese threat. That said, it is within our ability to sustain a margin of technological and military superiority; obtain strategic advantages such as the Moon and space; help Taiwan to defend its freedom; and mobilize our Allies and friends to engage in much higher levels of military, political, and economic defense.

Abjuring Hegemony While Seeking Hegemony

CCP leaders ritually deny that China has ambitions for global leadership, usually in denials that China seeks "hegemony" or "world domination." In a 15 May 2014 speech Xi Jinping stated, "The Chinese people don't have the gene for invasion and hegemony in their blood. The Chinese reject the argument that a country is bound to seek hegemony once it becomes powerful." Xi makes similar oaths in most of his major speeches before major CCP events or on the world stage. However, China has gradually hinted at its global ambitions, starting with former leader Hu Jintao's December 2004 outlining of "New Historic Missions" for the PLA, which hinted at responsibilities to defend CCP interests abroad. Then in the May 2015 white paper on *China's Military Strategy*, a new "strategic task" was, "To safeguard the security of China's overseas interests." The PLA Navy (PLAN) was to add "open seas protection" to its tasks, and to "protect the security of strategic SLOCs and overseas interests, and participate in international maritime cooperation." A new task for the PLA Air Force (PLAAF) was "strategic projection."

An argument is offered, most recently in a May 2018 Rand Corporation paper, *China's Pursuit of Overseas Security*, by Timothy R. Heath, that China is unlikely to follow the example the former Soviet Union or the United States in deploying significant military forces to protect overseas interests. It will instead focus on more limited objectives of trying to protect its overseas citizens and participating in Peacekeeping Operations. Heath concludes:

“Because China lacks allies and the ability to fund a massive expansion in forward-deployed forces, it is unlikely to follow the path of the United States and the Soviet Union... China’s approach is likely to contrast with both the colonial approach and that of the Cold War super powers in several ways. First, the military will likely play a smaller role in the overall set of forces involved with overseas security. Second, China will rely heavily on non-PLA assets, such as funding for host-nation security efforts and commercial security contractors. Third, due to its limited investment in military power projection capabilities, China may have to accept a higher degree of disorder and risk in some of the countries in which it is expanding its economic presence.” (page 39)

An alternate case will be made in the remainder of this testimony that China is assembling a military force that could rival the power projection capabilities of the United States by the 2040s, and perhaps achieve decisive levels of strategic superiority. If China succeeds in conquering Taiwan, for which by the mid-2020s the PLA may have an assured level of military capability combined with organizational and strategy reforms, then China could embark on a much more vigorous pursuit of global strategic positioning to achieve global power projection. The following are five indications of China’s global power ambitions as well as its hostility to democracy and the United States; there are many others.

1. Developing Strategic Cooperation with Russia. China’s global power ambitions and its hostility toward the West are demonstrated in its gathering strategic embrace of Russia. Though Russia likely remains wary of China’s ability to threaten its vulnerable Far East and to gather strategic influence in Central Asia, Russia and China have pursued strategic and military cooperation which is taking on the appearance of an alliance against the United States. December 2017 saw the second Russian-Chinese missile defense command-post exercise, raising the question of whether Russia and China are pursuing “missile offense” cooperation against the United States. Since 2005 they have held over 20 joint military exercises. China and Russia also jointly advance arms control proposals intended to limit the capabilities of the United States. The democracies should be wary that Russia would support China in the event of a war on the Korean Peninsula or on the Taiwan Strait.

2. Ongoing Missile Technology and Nuclear Proliferation. The 2017 U.S. National Air and Space Intelligence Center (NASIC) report states that, “China continues to have the most active and diverse ballistic missile development program in the world.” This provides context for both China’s WMD and missile program, and its proliferation activities. China’s profound hostility to competitive democracies has been demonstrated by its enabling of nuclear missile threats from North Korea and Pakistan. These give China an ability to mount a “deniable” nuclear threat to the United States, India, Japan and South Korea, and an ability to instigate diversionary nuclear crises. A June summit between President Donald Trump and North Korean leader Kim Jong Un

could start (or fail) to begin a complete and verifiable elimination of North Korea's nuclear missile threat. But it is important to remember that China has played a crucial role in enabling North Korea's imminent nuclear missiles to destroy American cities. All of North Korea's nuclear intercontinental ballistic missiles (ICBMs) ride on large transporter erector launchers (TELs) made or designed in China, despite UN sanctions. These Chinese TELs make it possible for North Korea to achieve surprise strikes. Similarly, the China Aerospace Science and Industry Corporation (CASIC) has transferred both solid fuel missiles and TELs to Pakistan; its Shaheen III medium range nuclear missile and North Korea's Hwasong 14 and 15 ICBMs use TELs made by CASIC. It must be noted that for decades China has aided Iran's nuclear and missile programs in a variety of ways, often in a deniable manner designed to evade international, UN, and US sanctions.

3. Building Institutions that Challenge U.S. Leadership. China played a leading role in the creation of the 2001 Shanghai Cooperation Organization (SCO), with its formal headquarters in Shanghai, and whose eight members comprise half the world's population and four nuclear-armed states. The SCO Charter opposes "extremism," a code word for democracy, and in 2005 the U.S. was denied observer status. The SCO's most significant accomplishment is its regular Peace Mission multilateral military exercises which have allowed China to showcase its increasingly sophisticated ground, air and naval forces. In 2013 China complimented its push for Central Asian influence via the SCO and with the "One Belt, One Road Initiative" or 'Belt and Road Initiative' (BRI), a \$1-3 trillion program of economic investment and development programs that now encompasses 60 countries in Europe, Asia, Africa, and Latin America. It is turning out to be a means to advance Chinese economic power and create new levels of economic dependence that China can exploit for political or military advantage. The U.S. is welcome to join or endorse, but it will have no leadership role.

4. Instigating a Second Falklands War. China's global ambitions were recently demonstrated in its attempt to instigate a second war over the Falklands Islands. China has long viewed the Falklands Islands as challenge like Taiwan, territory occupied by hostile forces. From about 2008 to 2015 China almost started a process of rearming Argentina, by late 2014 lining up deals to sell 24 Chengdu FC-1/JF-17 4th generation fighters, up to five 1,800 ton corvettes and about 100 Norinco VN-1 amphibious 8x8 assault vehicles. Had these deals succeeded more Chinese weapons would have followed, enabling Argentina to intimidate Britain or even gather neighboring military support, potentially forcing Washington to choose between its old Ally and friends in Latin America. Any faltering by London would also have been a victory for Beijing, making it a new power player in the Western Hemisphere and possibly leading to military access near the strategic Cape Horn, much closer to Antarctica. There were also visits and talks involving ongoing cooperation with Argentina's specialized nuclear and satellite facilities, Centro Atomico Bariloche and the Instituto Balseiro, the latter a NASA partner in satellite development. Washington was spared by the December 2015 Argentine elections that swept away the corrupt administration of Cristina Fernandez de Kirchner and the Chinese weapons deals.

5. Militarization of the Moon. China's power ambitions beyond the Earth are demonstrated by its PLA-controlled dual-use space program that likely includes longstanding plans to place weapons on the Moon to eventually control the Earth-Moon System. On 31 January 2015 on the

website of the CCP Central Committee's journal *Quishi* (Seeking Truth), the former Chairman and CCP Party Secretary of the China Aerospace Science and Technology Corporation (CASC), Lei Fanpei, stressed that **"We will adhere to the path of developing military-civil integration** in our coming demonstration of deep space exploration, **manned moon landing** [bold added], heavy-launch vehicle and other major programs, of major significance both to the nation's long-term development and to the task of building the nation into a strong space power." The May 2018 issue of *Kanwa Asian Defence* reports that a "source in the United States" disclosed that the PLA recently held a "high profile symposium internally discussing the issues related to militarization of the moon base." As former PACOM Admiral Harris observed, "...they view space as the ultimate highground. They are preparing for battle in space."

China Builds Naval and Air Mobile Power Projection

While it is generally agreed that preparing for a potential campaign to conquer Taiwan has been and remains the main mission driving PLA modernization and reform, since at least the late 1990s another modernization driver of growing importance has been the mission to assert or protect the CCP's growing foreign interests. The PLA is now building or developing most of the new weapons systems necessary to carry out the power projection mission, and they may be able to support a distant medium-size conflict by the early 2030s. Under the leadership of the Central Military Commission and its General Staff Department, naval combat and amphibious troop projection forces will likely be drawn from the Northern, Eastern and Southern Joint Theater Commands. Should Taiwan be conquered, it is possible that an additional Joint Theater Command with an "expeditionary" focus will be stationed on that island. Growing numbers of large transport aircraft and large refuelers will support distant projection of lightly armored Airborne Troops in the Eastern Joint Theater Command, and new medium-weight armored units deployed to all Joint Theater Commands. Critical to their success will be the new Strategic Support Force's (SFF) ability to provide communication, intelligence, cyber warfare, and space warfare support.

However, success in achieving a dominant global military force will require China to be superior to proficient in three technology realms. First, China must be master in gathering information, exploiting and protecting information. China must relentlessly target Western data sources, but also be early to develop Artificial Intelligence and quantum technologies for exploitation operations, enabling combat systems, and protecting information.

Second, China must remain ahead or at parity in the competition to develop 6th generation warfare systems. The 2015 People's Liberation Army Press book *Light War* identifies exploitation of big data, energy weapons, and space combat as crucial to this next era of warfare. The PLA's new Strategic Support Force will likely be the lead service for developing this next generation of warfare, as its responsibilities include cyber and electronic warfare, space warfare and use of energy weapons.

Third, the PLA must master modern turbofan engines, already a 32-year pursuit. Although started in 1986, the 12-13 ton thrust Shenyang-Liming WS-10 turbofan has only recently reached a level of power and reliability to support Shenyang J-11B and J-16 strike fighter production. Both 10-11 ton medium power turbofans, and more powerful 15 to 18 ton thrust turbofans,

remain in development. After encouraging competing high-bypass turbofan programs, China in 2016 created the Aero Engine Corporation of China to seek efficiencies and accelerate high-bypass turbofan development. Success will be crucial for the development of airmobile power projection and competitive civil airliners.

All Nuclear-powered Carrier Battle Groups. Regarding global maritime power projection, China's key weapons priority is the development of aircraft carrier battle groups. In the 2002 and 2003 issues of the U.S. Department of Defense's annual *China Military Power Report*, there is the following assessment: "While continuing to research and discuss possibilities, China appears to have set aside indefinitely plans to acquire an aircraft carrier." While China's aircraft carrier ambitions were beginning to become apparent in the 1980s, it is now clear that PLA has had a major program to develop short take-off but arrested recovery (STOBAR), conventional take-off and landing (CTOL) and nuclear-powered aircraft carriers. Launched in April 2017, the PLAN's first indigenous STOBAR carrier started sea trials on 13 May, and the PLAN may acquire its first CTOL carrier by the early 2020s. On 27 February of this year the web page of the China Shipbuilding Industries Corporation (CSIC) briefly posted an announcement indicating that a nuclear-powered aircraft carrier could emerge by 2025. Informal Chinese sources suggest that future versions of the 10,000+ ton and 112 vertical-launched missile armed Type 055 large destroyer could be nuclear-powered.

Then in early December 2017, at a Shanghai maritime exhibition CSIC displayed a model of a nuclear-powered large underway replenishment ships—the world's first such ship. Such a ship could just as large as, or larger than, the 45,000 ton Type 901 fast combat support ship, two of which were launched by 2017. The Type 901 is very similar to the U.S. Navy's 49,000 ton Supply class, the only U.S. fast combat support ship able to keep up with U.S. Navy carrier battle groups.

By the early 2030s China could be deploying the world's first completely nuclear-powered aircraft carrier battle group: nuclear carrier; nuclear escort cruiser; escort nuclear attack submarine; and nuclear underway replenishment ship. Such a naval force will give the CCP leadership options for rapid deployment with far less reliance on a network of bases. A large model unveiled in July 2017 at the Beijing Military Museum of the People's Revolution indicated that future nuclear-powered carriers may have a PLA Naval Air Force (PLANAF) air wing equipped with 5th generation combat aircraft, unmanned combat aerial vehicles (UCAVs) and a family of support aircraft for airborne warning and control (AWACS), anti-submarine (ASW) and carrier onboard delivery (COD) logistic missions.

Along with its aircraft carrier battle groups it is likely that the PLAN will also deploy new medium and intermediate range ship-based missiles, for land-attack, anti-ship and even anti-satellite missions. In August 2017 Chinese web pages featured the university lecture slides of retired PLAN Admiral Zhao Dengping, who may remain involved in PLAN modernization decisions. Admiral Zhao indicated that a ship-launched anti-ship ballistic missile (ASBM) with a hypersonic maneuvering warhead may be in development. As such ship-launched ballistic missiles could also be nuclear armed, PLAN carrier battle groups in the future could also deploy with a nuclear missile strike capability.

Regarding underwater projection, Admiral Zhao's slides also indicated how the PLAN may transition to an all "nuclear powered" submarine force. Zhao indicated that the PLA may be developing an Air Independent Propulsion (AIP) system based on a small nuclear reactor enabling far greater endurance than existing AIP systems. This may provide a less expensive means to develop small platforms like the 3,600 ton Type 039A or Yuan class AIP powered submarines or the 6,000 ton Type 032 missile testing submarine into "nuclear" submarines. Also important is the PLAN's development of its 'Underwater Great Wall' of sea-bed sensors tied to land-based supercomputers to better target U.S. and Allied submarines with sea and land-based weapons.

Marine Amphibious Projection. Based on Chinese sources, in July 2007 then Malaysian-based analyst Prasun Sengupta wrote that the PLA Navy would produce up to six of its 25,000 ton Type 071 landing platform dock (LPD) amphibious assault ships. The Type 071 can transport about 800 troops and close to 20 ZBD-05 family of fast amphibious assault vehicles. The first was launched in December 2006, and the 6th Type 071 was launched on 20 January 2018. Sengupta also reported that the PLA would then build six landing helicopter dock (LHD) amphibious assault ships, which he called the Type 081. A 23,000 ton LHD design for export emerged in 2013 though the PLA may also be designing a larger 40,000+ ton LHD, sometimes called the Type 075 that could emerge by the early 2020s.

One result of the early 2016 PLA reorganization has been a decision to increase the PLA Marines from 10,000 troops to about 100,000 by incorporating former PLA Ground Force amphibious divisions and smaller units. Both PLA Marine and Ground Force amphibious units use the third generation ZBD-05 family of fast tracked amphibious assault vehicles, which informal sources suggest may be succeeded by an even faster fourth generation of vehicles. In the last year PLA Marines units have also started gaining the Norinco 8x8 wheeled armored vehicle family, including the 105mm gun armed ZTD-11, the 122mm artillery cannon armed PLL-05 and ZBD-07 infantry fighting vehicle. These will allow for rapid exploitation of landing areas secured by the slower tracked vehicles.

It is possible that the PLA is developing both twin-engine and quad-engine tilt-rotor fast vertical-lift aircraft. In August 2013 the China Helicopter Research Institute (CHRDI) revealed its 20-ton payload Blue Whale quad-tilt rotor concept. However, it is not clear when this design will be realized. In 2005 a top engineer with the Chengdu Aircraft Corporation told this analyst they were considering "a F-35 like design." This might include a short take-off version that could operate from a LHD, but little has been revealed regarding Chengdu's progress toward such an aircraft.

Airmobile Projection. A longstanding PLA Air Force (PLAAF) ambition has been to develop very large transport aircraft. While Chinese attempts to purchase the 120-ton capacity Antonov An-124 transport were rebuffed in the 1990s, a 2016 deal may now allow China to co-produce the larger six-engine 200 ton capacity An-226 transport. Greater access to Antonov's design capabilities may help inform future Chinese very large transport designs, most likely those of the Xian Aircraft Corporation. Today China is now increasing production of its 50-60+ton capacity Y-20 four-engine transport that first flew in January 2013. Expected production of indigenous high-bypass turbofans to replace its Russian Soloviev D-30KP turbofans may allow for higher

cargo capacity. In 2014 the PLA's National Defense University recommended the purchase of 400 Y-20 transports but the final number to be acquired has not been revealed.

Today the PLA Air Force administers two mechanized divisions of Airborne Troops, that since 2004 have been equipped with the 8-ton, 30mm cannon armed ZBD-03 airborne infantry fighting vehicle. These are soon to be complimented by a new wave of light armored equipment, to include a flatbed logistic or gun carrying derivative of the ZBD-03 and new wheeled 120 or 122mm airborne artillery systems. But as more heavy-lift aircraft enter PLAAF service, the PLA may also designate new wheeled mechanized brigades to form airmobile medium weight armored units, utilizing Norinco's 8x8 family. With adequate logistic support, airmobile medium-weight mechanized forces will be able operate faster and at longer ranges from their objectives, allowing greater flexibility in choosing air assault bridgeheads.

Future Expeditionary Airpower. With the acquisition of adequate refueling aircraft, the PLAAF and PLA Naval Air Force may soon be able to form "expeditionary" airpower packages able to deploy in support of global objectives. The PLA is developing 5th and 6th generation combat aircraft to gain air superiority. As PLAAF General He Weirong predicted in 2009, their first 5th generation fighter entered service in 2017. Recent informal sources suggest the PLA may acquire up to 500 of the Chengdu J-20 fifth generation fighter, which will be developed into multiple versions. J-20 chief designer Yang Wei may now be leading China's 6th generation combat aircraft program, which he stated in 2017 would exploit new artificial intelligence technology.

Large numbers of 4th and 4+ generation multirole Chengdu J-10 and 4+ generation Shenyang Aircraft Corporation J-16 strike fighters armed with 5th generation PL-10 short range and PL-15 long range air-to-air missiles, plus a variety of short and medium-range precision guided ground-attack weapons, can conduct offensive interdiction missions. In addition, Asian military sources estimate the PLA may acquire up to 140 of the modern Xian H-6K bomber, that can fire nuclear and non-nuclear 1,500km range CJ-10K land attack cruise missiles or carry up to 36 precision guided bombs. These could be equipped with aerial refueling systems to further extend range, and a naval strike version of the H-6K may soon enter PLANAF service. By the mid-2020s the PLAAF could have its next generation long-range strategic bomber, expected to be a stealthy flying wing design that could perform long-range surveillance and control missions in addition to nuclear and conventional strike missions.

China's development of unmanned aerial vehicles (UAVs) and UCAVs is now approaching the level of the United States. China's MQ-1 and MQ-9 class UCAVs produced by the Chengdu Aircraft Corporation and the China Aerospace Science and Technology Corporation are selling well in the Middle East and are marketed in Latin America. Stealthy turbojet-powered UCAVs could enter PLAAF and PLANAF by early in the next decade, long-range turboprop powered surveillance UAVs are in PLAAF service and the PLA is developing very high altitude long endurance UAVs and both UAV and airship platforms for Near Space surveillance and electronic missions.

China's development of two systems will be critical to its successful development of intercontinental airmobile projection. The first will be the development of large aerial refueling

aircraft. While the PLA today may have less than 20 HU-6 and Il-78 large tankers, which rely on slower hose-and-drogue refueling systems. It appears that the Y-20 will be developed into a large aerial refueling platform with a new remote-control long “boom” refueling system, which can transfer fuel faster. It can also be expected that the Chinese-Russian program to develop a new large wide-body airliner, if it is successful, will be developed into a refueling aircraft.

A second requirement will be the creation of a survivable space-based surveillance, communication and navigation satellite systems to meet future warfare needs. China likely now has more than 50 optical, radar and electronic intelligence satellites. But Chinese provinces and private companies are lofting new constellations of microsatellites that could exceed 400 in number by the early 2020s. Currently about 15 Beidou/Compass navigation satellites are operational out of a planned constellation of 35. But in January 2018 China launched its first communication satellite to test a laser data downlink to Earth, meaning it can proceed with plans to loft the first laser-based data relay satellite network. This will give China the ability to transmit much more data, and conceivably the ability to support multiple conflicts on Earth.

Space Control. China’s space control ambitions extend to achieving eventual control of the Earth-Moon System. This would be necessary for the PLA to be able to dominate warfare on Earth. In late 2015, informal Chinese sources suggested that under the aegis of the new Strategic Support Force (SSF) there would be established a formal “Space Force,” the existence of which has not yet been acknowledged publicly by China. This Space Force would be lead element in the conduct of space warfare, having taken control of the space assets of the former General Armaments Department, including ground-based laser and ASAT interceptors, space launch, tracking and control, satellites, manned- and deep-space programs. In addition to the SSF’s ground-based ASAT missiles, in the future the PLAAF may control air-launched ASATs, while the PLAN may control ship-launched ASATs.

The SSF or the PLAAF may control future space planes, while the SSF will control China’s dual-use Space Station. Like the Soviet era Energia MIR space station on which it is based, the 180-ton Chinese Space Station consists of civil modules which could be replaced with surveillance or weapons modules. The SSF will also likely control PLA combat satellites. In 2013 the Changchun Institute for Optics and Fine Mechanics proposed a 5-ton chemical laser-armed combat satellite. Other Chinese academic articles have described Earth-bombing platforms in Low Earth Orbit (LEO).

In late 2017, the China Academy of Space Technology (CAST) revealed the latest concepts for a Chinese manned Moon Base to be built in the 2030s. The SSF will control the Moon base and could use it for dual-use military missions. However, China need not wait until the 2030s, the reported time for completing the new 130-ton capacity Long March-9 SLV. Chinese experts have previously considered using multiple 25-ton capacity Long March-5 missions to achieve a manned Moon presence. The PLA could build an unmanned dual-use Moon presence before 2030.

Nuclear Parity or Superiority? In 2007, in one of the most frank and authoritative explanations of Chinese nuclear weapons strategies and policies, then-PLA Senior Colonel, now retired Major General, Yao Yunzhu, wrote that China seeks a “minimum deterrent,” or

“minimum but assured capabilities for a retaliatory second strike,” but not for “winning against nuclear weapons.” Neither Yao in 2007, nor the Chinese government since, has indicated how many missiles or nuclear warheads China will require.

The 2017 annual *China Military Power Report* to Congress stated the PLA has 75 to 100 intercontinental ballistic missiles (ICBMs). There was no indication in the DoD report regarding the number of new multiple warhead ICBMs in service, including the DF-5B, DF-5C, DF-41, and possibly the DF-31AG. But if one considers the potential number of warheads for one unit each of the PLA Rocket Force’s single and multiple warhead ICBMs and submarine launched ballistic missiles, that number is almost 300. Add a possible reload for the ICBM units and the warhead number exceeds 500. Simply adding new units of multiple warhead ICBMs and SLBMs can rapidly increase warhead numbers. But the China Aerospace Science and Industry Corporation (CASC), the China Aerospace Science and Industry Corporation (CASIC), and new “private” space launch companies, are developing new solid fuel space launch vehicles (SLVs) which could also be used to quickly increase ICBM numbers. CASIC’s new 4.5 meter diameter solid fuel Kuaizhou KZ-21SLV, now under development, can lift 20 tons into LEO; if developed into an ICBM, the KZ-21 could carry up to 100 new small nuclear warheads.

In Asia, China already has superiority regarding theater nuclear and non-nuclear armed medium and intermediate range ballistic missiles. Russian sources assess that some number of PLA Rocket Force short range ballistic missiles carry tactical nuclear warheads. Within a decade the Rocket Force could introduce a smaller successor to the DF-21 medium range ballistic missile family. To the DF-26 nuclear strike and anti-ship 4,000km intermediate range missile system will be added a new intermediate range, nuclear and non-nuclear armed air-launched ballistic missile (ALBM), with added range provided by the new H-6N launch platform. Ship-launched ballistic missiles will likely come in medium and intermediate ranges, with nuclear and non-nuclear warheads.

After spending decades loudly opposing U.S. missile defense initiatives, and more recently mounting a political and economic campaign to pressure South Korea to reject U.S. Theater High Altitude Area Defense (THAAD) missile defenses, China is now developing its own theater missile defenses. The 2017 *China Military Power Report* says the HQ-19 anti-ballistic missile interceptor has been tested, and at the 2017 Paris Airshow the China Electronic Technology Group (CETC) revealed a theater-range phased array radar which could guide this interceptor. It is conceivable that the PLA will also develop a national missile defense system.

China Exploits Debt to Gain Military Access

China’s development of military forces capable of global power projection will require access to foreign ports and airfields. For future military access, it is becoming apparent that China has settled on a new strategy for gaining military access around the world: use a country’s indebtedness to China as leverage to gain ownership or access that could lead to military access. As China proceeds with its \$1-3 trillion Belt and Road Initiative (BRI) to invest in infrastructure and other development projects in 60 countries from Central and South Asia to Latin America and Africa, and as it dominates trade with more countries, it can be expected to reap many more “debt trap” opportunities to gain eventual military access.

To date, China has established its first official foreign base in July 2017 in the small African country of Djibouti, reportedly paying about \$20 million a year for access. This base will enable China to resupply PLAN ships deployed for nearby anti-piracy patrols off of Somalia. This base features a naval dock and a heavily protected compound, but not an airfield. Troops deployed to this base are protected by Norinco 8x8 ZBD-09 infantry fighting vehicles and ZTL-11 wheeled tanks. On 3 May the Pentagon stated that U.S. pilots had been injured from Chinese lasers employed from this base; a U.S. base at Camp Lemonnier is about 10km away.

Reports from early March 2018 indicate that U.S. officials are worried that China may use debt pressure on Djibouti to gain control of the Doraleh Container Facility, which is used by the U.S. Navy. Djibouti's debt to China is reported to be \$1.2 billion, or about equal to Djibouti's annual GDP. One might speculate that China use of lasers against U.S. aircraft was intended to spark a U.S. response that China could then use to further pressure Djibouti to reduce the U.S. presence. U.S. access to Djibouti air and naval facilities enables support for anti-piracy operations and for countering Islamist terrorist efforts in Yemen. If China controlled all naval facilities in Djibouti, it could then exercise greater control over the vital Bab al-Mandeb Strait between the Indian Ocean and the Red Sea.

In December 2017 China gained ownership and a 99-year lease on the Sri Lankan port of Hambatota, following a series of decisions that left Colombo unable to repay Chinese loans to develop a port that was economically unviable. Sri Lanka owes China a reported \$8 billion from previous loans and the Hambatota deal was reportedly worth \$1.1 billion. While Sri Lankan officials have tried to calm fears that the PLAN could gain access to Hambatota, India and other countries will likely not be assured as long as China has heavy debt leverage. In 2014 the port of Colombo hosted a visit by a PLAN Yuan-class submarine, and Hambatota offers a more secluded port for potential PLAN use to add strategic pressure against India.

Additional countries reportedly vulnerable to "debt trap" pressure for access from China include Vanuatu, Pakistan, Cambodia, the Philippines, Thailand, Malaysia, Tonga and Micronesia. All afford potential access to oceans and seas of interest to a power-projecting China. On 9 April 2018, Australia's Fairfax Media reported that China and Vanuatu have held "preliminary discussions" about building a permanent base on the South Pacific island nation, 2,000km from Australia. Vanuatu quickly denied the report, but China accounts for about half of Vanuatu's \$440 million foreign debt, meaning the issue of military access will continue. China's plans for over \$60 billion in investments in the China-Pakistan Economic Corridor (CPEC), which could add \$14 billion to the \$19 billion in Pakistani debt already owed to China, could result in additional political pressure to extend China's 40-year lease on the port of Gwadar, or allow the PLA to have access for its ships and aircraft, putting more strategic pressure on India.

An early preview of China's "debt trap" tactic intentions may have occurred in late 2014. On 3 December 2014, the Hong Kong daily *Ta Kung Pao*, in an article on China-Venezuela economic relations, stated, "there are rumors that Venezuela intends to use a small island to pay the Chinese debt." The island was not named in this report. But the following day *Xinhua* reported the name, Blanquilla Island, and that Foreign Ministry spokeswoman Hua Chunying had denied such a deal. With an area of about 64 square kilometers, Blanquilla Island, which is 650km from

Puerto Rico, could accommodate a larger military base than Mischief Reef, which has 5.5 square kilometers. Today Venezuela owes China about \$20 billion out of \$60 billion loaned previously, giving China leverage to pursue facility ownership for future military access arrangements. Chinese companies are upgrading the Port of Cabello, Venezuela's largest port.

Debt due to China, along with its economic leverage, is accumulating in Latin America while China also invests in potentially strategic wet/land canal projects and port projects. Cuba has received \$6.7 billion in economic aid and may host Chinese intelligence gathering facilities. Brazil carries \$8.5 billion in Chinese debt and China is its largest trading partner. Chinese investment is supporting a long Brazil-to-Peru land canal project. Ecuador carries \$9.7 billion in Chinese debt while China is its 4th largest trading partner, and China is investing in the Pacific Coast Port of Machala. China is also investing in a \$50 billion wet canal project in Nicaragua, though it is proceeding slowly. China is investing in a \$10 billion land canal project in Guatemala, is a potential investor in a \$400 million land canal project in Costa Rica, and is investing in land canal projects in Colombia and Honduras. China is investing in four port projects in Mexico, a container port and an airport in the Bahamas, two ports in Panama, and single ports in Chile, Suriname and Uruguay.

China is also investing in resorts, construction, and telecom provision in the Caribbean. U.S. Southern Command (SOUTHCOM) Commander Admiral Tidd testified in February that China, the region's second-largest trading partner, has pledged \$750 billion in trade funds and direct investment in Latin American for the next 10 years. China has taken a similar approach in Africa: primarily extracting natural resources such as oil and metals; selling telecoms and construction services; developing markets and establishing loan leverage; alternately subverting or co-opting local and state authorities; and reinforcing its presence with substantial paramilitary security forces and apparatus.

Power Projection Mission One: Preparing to Invade Taiwan

We are reminded by the Project 2049 Institute's Ian Easton's 2017 book, *The Chinese Invasion Threat, Taiwan's Defense and American Strategy in Asia*, that since 1949 China has never abandoned its goal of conquering Taiwan. For the CCP, the conquest of Taiwan means much more than concluding the final chapter of its Civil War or reestablishing the mythic "unity" of China. Conquering Taiwan is required to ensure the survival of the CCP dictatorship because Taiwan's daily existence as a vibrant democracy undermines the legitimacy of the CCP regime, proving to Chinese people that they can have both political and economic freedoms. This prompts CCP's vicious campaign to isolate Taiwan politically, its United Front campaigns to undermine Taiwan's political and economic stability, and its relentless pressure on Washington to end arms sales and military cooperation with Taiwan.

Today the PLA has the means to reach Taiwan via thousands of Landing Ship Tank (LST) size Roll-On-Roll-Off (RO-RO) barges that ply China's rivers, and the 3,000 or so Airbus and Boeing airliners in China's airlines. Using barges, large civilian ferries and airliners, however, requires that the PLA first capture Taiwanese ports and airfields largely intact, a difficult task for its Marine and Airborne forces. The PLAAF has 600 to 700 4th and 4+ generation fighters that could dominate Taiwan's air force. A second generation of short-range ballistic missiles from

CASC, CASIC and Norinco could allow the PLA Rocket Force to increase ballistic missiles aimed at Taiwan from 1,200 to 4,000. In the last two years, China has also begun a campaign of regular military intimidation of the island, flying Xian H-6K bomber formations around it, and undertaking increased naval and combined-arms exercises such as recently took place near Fujian Province on 18 April 2018.

Today Taiwan remains protected by the challenge China faces in quickly and decisively crossing the difficult Taiwan Strait, and the fact that China's forces will have to overcome decades of Taiwanese preparations for such an invasion. When the PLA completes early phases of its reorganization and strategy reforms, and incorporates more 4th and 5th generation weapon systems, possibly by the mid-2020s, Taiwan will have required more modern weapons and defense investments in order to have sustained its deterrence of the PLA. But should Taiwan fall, beyond the political and humanitarian tragedy for the people of Taiwan, the PLA would gain a strategic windfall. It would likely create a new expeditionary Joint Theater Command on the island. In addition, remaining forces that had been allocated to the Taiwan theater contingency can then be redirected to India, Russia, Northeast Asia, and for increasing deployments in defense of Chinese global interests.

Taiwan as a Fulcrum for Chinese Power Projection

In addition to eliminating the “existential” challenge to the CCP's legitimacy posed by Taiwan's evolution into a vibrant democracy, the CCP covets Taiwan in order to exploit its strategic position. PLA forces based in Taiwan can avoid the Japanese-controlled Miyako Strait to have direct access to the Pacific, and would be ideally placed to blockade the Philippine Straits from the East and Western approaches. Control of Taiwan allows China to divide the Pacific; to sever the sea lines of communication vital to the survival of Japan and South Korea and separating these economies from those of Southeast Asia and the World. From Taiwanese bases the PLA will likely begin a campaign to control the Pacific out the “Second Island Chain.”

The PLA can be expected to quickly turn Taiwan into a base for nuclear and conventional forces. From potential bases on Taiwan's East Coast, PLAN SSBNs can immediately reach some of the deepest waters in the Pacific for nuclear patrols. The PLA may also seek to place ‘Underwater Great Wall’ seabed sensors and weapons in the shallow waters around Taiwan to blockade U.S. and Allied submarines. The PLA can also be expected to base on Taiwan its nuclear-armed medium, intermediate and intercontinental ballistic missiles, in addition to PLA Air Force nuclear-armed bombers. Access to Taiwan naval bases might spur the PLA to build a new Fourth Fleet, allowing the PLA Navy to increase its numbers of aircraft carriers, amphibious assault ships, and escort ships. This forth fleet will be used to impose control over the “Second Island Chain” and to undertake global power projection missions.

After gaining control of Taiwan, it is likely that China would focus on gaining new territories to the North, and to consolidate its control of the South China Sea. From its new Taiwan bases China can accelerate its already ongoing campaign of pressure against Japan. From Taiwan, PLA Navy and Marine assault forces have a short 180 km journey to the disputed Senkaku Islands, and a shorter 250-350 km path to Japan's Yaeyama, Ishigaki-shima or Miyako-jima Islands, which Tokyo now plans to fortify. Taking these islands, collectively known as the

Sakashima Islands, would present the PLA a new Southern Axis from which to threaten Japanese and U.S. forces on Okinawa. Beijing would then pressure Tokyo to make U.S. forces leave Okinawa as a first step toward the abrogation of the 1960 U.S.-Japan Treaty of Mutual Cooperation and Security. Japan has a longer history of choosing to bandwagon with the dominant world power, which it could decide will be China following its successful conquest of Taiwan. Or, Japan could undertake the much harder path of becoming a nuclear power and trying to implement very ambitious rearmament, which may require even greater short-term reliance on the United States. A more intense confrontation with Tokyo may give Beijing more opportunities to appeal to South Korea to help isolate its historic enemy, Japan.

PLA access to Taiwanese bases will also ease its ability to increase military pressure on the Philippines and to blockade the Philippine Straits from allowing access by U.S. forces to the South China Sea. Taiwanese-based forces are also well placed to manage Japan's and South Korea's access to efficient sea lanes at the top of the South China Sea. Conquest of Taiwan will greatly enhance China's ability to impose control over the South China Sea.

Power Projection into the South China Sea

China's aggression in the South China Sea has been justified by the Chinese government on the basis of longstanding territorial and historic claims, but in reality, its actions constitute early exercises in PLA power projection. Chinese claims to most of the territory of the South China Sea, the area within the Nine-Dash-Line, is justified based on previous claims made by the Chinese Nationalist Government of Chiang Kai Shek. But the strategic reality is that China requires control the South China Sea to create additional military pressures on Taiwan, but also to assure its nuclear and non-nuclear power projection into Southeast Asia and the Indian Ocean, and to assure its space power projection. Control over the South China Sea also gives Beijing the means to deny vital maritime and air commerce to the economies of Northeast Asia and Southeast Asia.

China exploited chaos at the end of the U.S. involvement in Vietnam in January 1974 to attack and capture the Paracel Islands. Then in March 1988 China defeated Vietnam in a brief skirmish over the Johnson Atoll in the Spratly Island Group and by the end of that year occupied six reefs in the Spratly Group. In January 1995 China was discovered to have occupied Mischief Reef, about 200km West of the Philippine island of Palawan. Then in April 2012 Beijing reneged on a U.S. Obama Administration-brokered deal for a mutual Philippine and Chinese withdrawal from Scarborough Shoal, about 260km from the former U.S. Navy facility at Subic Bay. For more than 25 years the members of the Association of Southeast Asian Nations (ASEAN) have engaged China over means to avoid greater conflict. However, Beijing has refused to participate in multilateral negotiations over the South China Sea and has prevented attempts to create a "Code of Conduct" that would impede its actions.

By 2001 or so, Asian governments were aware that China was building a new PLA Navy base at Sanya/Yalong Bay, a period that marks the beginning of the latest phase in China consolidation of control over the South China Sea. This new base contained a new underground protection facility for PLA Navy nuclear ballistic missile submarines (SSBNs), signaling the PLA's intention to deploy a major portion of its sea-based nuclear missile forces, thus making necessary

ever greater control over the South China Sea. China's air and naval base on Woody Island in the Paracel Group had an airstrip by the late 1990s, and has been upgraded with new docks and an expanded forces storage area. Beginning in 2014, China had by 2017 largely completed construction of new large naval, air and missile bases on Fiery Cross Reef, Subi Reef and Mischief Reef. This construction campaign saw the mobilization of hundreds of river-based Roll-On-Roll-Off barges to haul construction materials, giving an indication of how such ships could be mobilized to support an invasion of Taiwan.

The PLA's three new "stationary aircraft carriers" could eventually deploy about 70 combat aircraft and each could support two to four large amphibious assault ship, and smaller amphibious and combat ships. Recent reports in May 2018 suggest the PLA has deployed 400km range YJ-12 supersonic anti-ship missiles and 200km range HQ-9B 4th generation surface-to-air-missiles (SAMs) which would allow the PLA to deny access to most military and commercial shipping and airline traffic. Next the PLA will likely deploy combat aircraft to these bases and then may assess it is in a better position to declare an Air Defense Identification Zone (ADIZ) over the South China Sea, which China could then use to constrain U.S. and Allied military air traffic.

The PLA will also likely extend its 'Underwater Great Wall' networks of seabed-based sensors and weapons from its Spratly and Paracel Island bases, to better find and attack U.S. and Allied submarines. Successful operations of 'Underwater Great Wall' systems may require new large "Sea Base" platforms already being developed by some Chinese shipbuilding companies.

Having deployed air, missile, and naval forces to its initial series of new extended bases in the Spratly Island region, informal Chinese sources indicate that much greater island building efforts could be planned for the Paracel Group and around some of the new Spratly bases like Fiery Cross. When this happens, the PLA could also begin to deal with the nearby islands held by Vietnam, the Philippines and Taiwan. China may also seek to contain or target the larger Philippine island of Palawan which straddles a key sea route and can be used to threaten China's new bases. Barring their acquisition of large numbers of medium range ballistic or cruise missiles, the military forces of the ASEAN countries are not sufficient to deter aggression by China.

Dominating the South China Sea and protecting Hainan Island also assures the PLA's ambitions for space control. These ambitions cannot be achieved without the SSF's latest space launch facility, the Wenchang Spacecraft Launch Site on Hainan Island. Wenchang is the only SSF launch site that can handle the latest large SLVs such as the Long March-5 and the future Long March-9. These SLVs are essential for reaching the Moon, Mars, and Deep Space. Wenchang will also likely launch new large space planes that may use the Long March-5 as a first-stage booster.

Projection into the Indian Ocean and the South Pacific

As China secures more of the South China Sea and forces a neutral to Pro-China cast on ASEAN, it will have a freer hand to project more power into the Indian Ocean. Such maritime pressure will complement the already significant strategic pressure from the North that China is

placing on India by modernizing its forces in the Western and Southern Joint Theater Commands, its instigation of tense confrontations like that at Doklam, and its all-around support for Pakistan. Indian planning already assumes that a major conflict with China could see coordinated military action from Pakistan. During the 2017 Doklam confrontation with China, India was ready for conflict with Pakistan as well. Recently India has decided to upgrade its military facilities on the Nicobar Islands, which could restrict PLAN access to the Indian Ocean.

Chinese economic and “debt trap” pressures will likely result in China gaining greater access to bases in Sri Lanka, Pakistan, Bangladesh and perhaps the Maldives. Bangladesh carries about \$8 billion in Chinese debt but has a close military relationship, purchasing many of its latest weapons systems from China.

In February-March 2018, a government crisis in the Maldives, 400km South of India, combined with simmering Indian concern over growing Chinese influence, saw both India and China deploy forces for signaling. India deployed air assault forces to bases closer to the Maldives, while China sent into the Eastern Indian Ocean a PLAN group centered around a Type 071 amphibious assault ship to assure its friends in the Maldives government. It is instructive that even though its amphibious projection forces are small, China was bold enough to employ them to deter India. China will likely show greater activism in support of its friends when it has aircraft carrier battle groups to deploy and obtains greater military access to Indian Ocean bases.

One looming question is whether China and Iran’s military relationship will come to include Chinese access to Iranian bases. China has provided defensive advice to Iran, provided early assistance with Iran’s nuclear and missile program, and has provided weapons and technology for its indigenous military sector. Chinese systems have upgraded Iran’s U.S.-made F-4 Phantom fighters. Chinese anti-ship missiles sold to Iran have been given to Hezbollah and to Yemen’s Houthi rebels. Under the aegis of the Shanghai Cooperation Organization, should Iran become a full member, would the PLA send forces to multinational SCO exercises hosted by Iran? Would PLA forces placed in other Indian Ocean bases be used to assist Iran in the event of a future crisis?

In the South Pacific, China’s longstanding objective has been to weaken and diminish the U.S.-Australian alliance, and in the last two decades to exploit Australia’s increasing dependence on trade with China for political gain. China regularly tells Australians that their alliance with the U.S. is an unnecessary vestige of the “Cold War,” and is always ready to criticize Australia’s support for U.S. policy objectives, or Canberra’s agreement with U.S. opposition to Chinese actions or policies. China was very critical of Australia’s decision to accept U.S. forces in Darwin as part of the Obama Administration’s 2011 Pivot and Rebalance policies toward Asia. Likewise, China is critical of the Japanese proposal, more recently boosted by the Trump Administration, for Australia, Japan, India and the U.S. to form a “Quad,” for the purpose of increasing coordination and eventual strategic cooperation.

However, as the PLA’s power projection capabilities increase, it is likely that China will seek geographic advantages that can add military pressure to its political and economic pressure to force Canberra to diminish strategic relations with Washington. China’s bold initiative to seek a

base in Vanuatu, much closer to Australia, would have been shocking to Canberra. But China's generosity with aid and loans to Fiji, Tonga and Micronesia also make them vulnerable to future Chinese appeals for eventual military access.

Eventual Power Projection to Latin America

China's recent attempt to encourage a second Falklands War and its aggressive arms marketing in Latin America points to eventual Chinese power projection ambitions in the Western Hemisphere. In addition to possible intelligence facilities in Cuba, China also has control over a space tracking and control facility in Neuquen Province in Argentina. According to one source, in exchange for hosting this base, Argentina gets access to data from China's space surveillance network.

In Latin America, China already provides economic support and weapons to Socialist and strongly anti-U.S. Venezuela, and economic support to Communist Cuba. Norinco VN-4 armored cars employed by Venezuela's police and military are to the people of Venezuela what the T-59 tank was to the protesters in Tiananmen Square. China was very pleased with the 2001 formation of the U.S.-excluding Community of Caribbean and Latin American States (CELAC). Like the Falklands conflict, there are other latent territorial disputes and possible new arms competitions Latin America which China could use to advance arms sales. For example, by the early 2020s Brazil plans to introduce a 300km range land-attack cruise missile. This could prompt some neighboring countries to consider purchasing Chinese short range ballistic missiles.

Should a future Argentine government decide again to pursue a new Falklands conflict, it is likely that China will become again a principle source for inexpensive but effective weapons, and for intelligence and political support. At that time, if China has naval and air forces that it can send to support Argentina it may do so, especially if there is a larger supporting coalition of neighboring Latin countries.

Conclusions

China's power projection trajectory over the next two decades to 2040 means that it will have increasingly powerful maritime, air, cyber, and space power projection capabilities, which will likely benefit from an aggressive Chinese effort to use ideological, political, financial, and debt trap appeals to gain PLA access to a global network of bases. Equipped with robust deployable expeditionary forces and access, it cannot be expected that China will pursue an agenda merely aimed at limited foreign interests such as protecting citizens. Instead, China will pursue an active political-military agenda of asserting interests, acquiring and defending resource access and friends, and undermining democracies which engage in criticism of the CCP dictatorship or join the United States in defense coalitions. As early as the 2020s, in addition to a major focus on Taiwan, China can be expected to exploit its ability to wield its military superiority to advance its interests and undermine its enemies.

It is obvious that China's strategy for global power status does not allow the United States to shrink from its own global power status and historical role both as guarantor of free seelanes, as an ally to Asia's democracies and as a beacon for those willing to push against their own

oppressive regimes in search of greater freedom. It would be wise for the United States to revisit its experience with the Soviet Union, the other Communist Eurasian nuclear state with regional and global strategies of aggression. Lessons learned, lessons learned too late, and lessons not learned, all bear review.

Among the latter two are: denying ‘the otherness of the other’ when considering historical cultural elements underpinning the opponent’s ‘strategic culture’ and ‘ways of war’; persistent mistakes in analysis arising variously from inadequate language capabilities and human sources, mirror-imaging, inadequacy of conception and imagination in considering opponent strategy -- and hubristically ignoring the pervasive use of Denial & Deception, central to both Russian/Soviet and Chinese statecraft, as is political warfare and propaganda.

At the same time, there are substantial differences in the Soviet and PRC cases and timeframes. These include: the nearly total openness of the U.S. and its allies to the Chinese, vice the closed nature in the Soviet case; the vast trade, wealth, scientific collaboration and interdependencies in the Chinese case which can be a lever for or against serious assessment and action; the asymmetrical challenges faced by an open constitutional republic being targeted by agents of a counterintelligence state, any number of whom may be US citizens; the networked age of Internet connectivity, unguarded cyber lanes of communication, and ubiquitous information flows; weakened alliance cohesion and military commitment in post-Cold War West, and the eclipse of the bi-polar and uni-polar concept. All of these things and many more need to be carefully considered and ‘netted out’ in an effort to better consider perceptions, assumptions, options, opportunities, strengths, weaknesses, vulnerabilities, and requirements – all in the service of a new, comprehensive, long-term strategy and to guide subsequent investments.

But specifically, the United States and other democracies require a comprehensive long-term national strategy aimed at reducing the Chinese threat as represented by the CCP/PLA rulership’s strategy of aggression, and its all-pervading military buildup. Such a strategy must include a military, economic and ally focus, and a diplomatic, political and informational focus. The latter includes being willing to call out China’s actions which threaten abroad and suppress domestically. The Chinese people must understand that in opposing such actions of the CCP/PLA dictatorship we are not opposing the Chinese people. We appreciate the Chinese citizenry and all the considerable ethnic, regional, cultural and demographic diversity accreted over time by the various “China’s” prior to, and since, 1949. We understand their desire for economic and political freedom and national stability, and we believe these can best be enjoyed in peace and freedom.

Second, the democracies must establish greater levels of economic and security coordination regarding China. This means advancing informal cooperation under the Quad while setting a common agenda regarding China for existing ally networks and reviving protective institutions like Coordinating Committee for Multilateral Export Controls (COCOM). Protecting our military and technology secrets and advantages requires priority be placed on improving intelligence and counterintelligence, as well as education and cooperation with the private sector regarding espionage, security protocols, and intellectual property -- the latter to staunch what the

U.S. Trade Representative's March 2018 report estimated as \$225-600 billion in stolen information, per year!

Third, the U.S. and its Allies and friends must not continue to lose technological and military superiority to China. This demands greater investment both in Research & Development and defense. Consider two statistics from *Asia Times* global finance and China expert David Goldman: "China's share of high-tech exports has risen from about 5% in 1999, to about 25% at present. America's has plummeted from about 20% to about 7%. What this means in practical terms is that American can't build a military aircraft without Chinese chips." Relatedly, he points out that 30-40% of Chinese students major in engineering a sharp contrast with the 6-7% of U.S. students. While the manufacturing base is important, so is the technology base and its educational feedstock. Moreover, investments in technology and defense secure our freedom while also resulting in new applications, lines of business, competitive jobs, and wealth -- all vital to our economy. The U.S. must increase efforts to excel in 6th generation warfare technologies and be ready to share new decisive technologies with Allies and friends, before China captures them. The U.S. also must increase support for securing early positions on the Moon and the Lagrangian Points to deter military moves by China, and others.

Finally, the U.S. must become more serious about its obligations under the Taiwan Relations Act and the Six Assurances, to equip Taiwan so that it can continue to deter Chinese attack and maintain its security, its social and economic system and its life as a vibrant democracy. The loss of Taiwan would remove all pretense about China becoming a "responsible stakeholder" in an imagined global order. It would also become the trigger for a more rapidly aggressive stage in China's strategy for moving beyond regional power to global reach.

China's CASIC and Sinotruk Assisting North Korean nuclear missiles

Richard D. Fisher, 17 May 2018

China Aerospace Science and Industry Corporation (CASIC), since 2011, has supplied 16 wheel TELs for the Hwasong-13 and Hwasong-14 ICBMs. It has most likely supplied 18 wheel TELs for the Hwasong-15 ICBM.

China National Heavy Duty Truck Group (Sinotruk) has since 2013 had a joint venture in North Korea, making TELs for a new 300mm guided artillery rocket, then for a new tube-launched MRBM and then for the Hwasong-14 ICBM.



PLA Global Power Projection

Richard D. Fisher, 17 May 2018

Xi Jinping at 19th CCP Congress: China must build a "world-class military by 2050 that can fight and win wars across all theaters." This means the PLA must have the ability to defeat U.S. military forces globally by 2050.

Nuclear Projection by 2030: Parity with current US/Russia warhead numbers or ability to "leap" to parity; robust protected road-mobile, rail-mobile and submarine-based MIRV ICBM force; National Ballistic Missile Defense underway; potential for robust strategic cooperation with Russia in strategic defense and offense capabilities. CASIC KZ-21 solid fuel space launch vehicle could yield 20 ton payload solid fuel ICBM with up to 100 warheads.

Maritime Projection by 2030: 4 carrier battle groups, 2 CATOBAR w/ 5th gen carrier air wings; 12 large LHD/LPD based amphibious projection force; reformed PLA Marines of 6+ Brigades or 100,000 troops; 4th generation of 50kt capable EFV, tilt-rotor aircraft and STOVL strike fighter. Global basing structure: Djibouti, then possibly: Sri Lanka; Gwadar Pakistan; Espiritu Santo, Vanuatu; Venezuela ?

Airmobile Projection by 2030: @ 200 Xian Y-20, 60 ton transports; new 100+ ton transport based on An-124; large aerial refueling tankers; @ 300 Chengdu J-20 5th Gen fighters; air deployable units of medium weight armor/AAA in addition to more capable lightweight Airborne troops.

Space Projection by 2030: Many 100+ ISR sat constellations; Mobile ground-based interceptors to High Earth Orbits; Rapid lofting of dedicated manned and unmanned LEO space combat platforms; 2nd Generation Dual Use Space Station; early militarization of Lagrangian Points and the Moon.

