Wargaming Scenario

At some point in the not to distant future, you are working as an analyst within the U.S. government. Two items have come across your desk. The first is a report that details how, three times in the past year, Chinese attack submarines have successfully tracked and intercepted U.S. ballistic missile submarines without warning, suggesting that the Chinese may have a means to detect and track these submarines. The second is an assessment of an apparent ground and satellite network that appears to be the foundation of an anti-ballistic missile system. Based on the construction of ground facilities and the launch and positioning of satellites, it is estimated that China, within two years, may have a basic anti-ballistic missile defence system operational. For purposes of this scenario, you will assume:

1. The U.S. is still maintaining its arms control limits on missiles, delivery systems and warheads

2. The U.S. is approximately five years behind any Chinese anti-ballistic missile program, meaning that the U.S. would need a much longer lead time to begin to develop a counter

3. The U.S. does not have a practical tracking system for ballistic missile submarines in development

4. U.S. defence and research and development budgets are frozen (in other words, you cannot mandate a massive increase in spending)

For the sake of simplicity, the UK National Threat Levels system is applied in the Memorandum:[1]

LOW - an attack is highly unlikely

MODERATE - an attack is possible, but not likely

SUBSTANTIAL - an attack is likely

SEVERE - an attack is highly likely

CRITICAL - an attack is highly likely in the near future

[1] https://www.gov.uk/terrorism-national-emergency

MEMORANDUM

Subject: China Threat Assessment **Date: December 11, 2024**

Threat Level – MODERATE

China's growing ABM system, combined with its ability to detect and track ballistic missile submarines, reflects both operational and strategic preparedness as well as significant technological advancement. However, an attack on the US within the next two years remains unlikely as no act of aggression took place.

- China is outpacing the US in key areas, displaying assertiveness without physical aggression, while the US needs to establish strategic dialogue.
- The current US nuclear deterrent is nearing obsolescence, highlighting the need to reformulate technological priorities.
- Emphasise the importance of arms control agreements and implement strategies to create economic constraints for China.

<u>Short term recommendations:</u>

1. Redesign the strategy for engaging with China, emphasising mutual respect
2. Launch an initiative at the IAEA to encourage India and Pakistan to sign the NPT and CTBT
3. Seek to bring China into binding arms control agreements
4. Evaluate the necessity and role of SSBNs and redirect funds to non-nuclear technologies like cybersecurity or anti-satellite weapons programmes

<u>Long term recommendations:</u>

1. Maintain engagement with China, emphasising strategic stability with the US
2. Increase funding for Research and Development
3. Sustain arms control initiatives

4. Create economic constraints on China’s military programmes

RECOMMENDATIONS

I. Alleviate China's threat perceptions

China is just two years away from completing its anti-ballistic missile (ABM) system, while the United States lags five years behind in its own programme. This places the US at a disadvantage, requiring significantly more time to develop an effective countermeasure. If the US cannot accelerate its progress, it may need to focus on slowing China’s advancements. However, any acceleration by the US is likely to prompt China to intensify its own efforts. Thus, the US must reassure China that it does not pose a threat, alleviate its concerns, and secure the time and confidentiality needed to enhance its position.

A. Redesign the strategy for engaging with China, emphasising mutual respect

Nuclear weapons serve not only as a means of ensuring national security but also as a powerful symbol of prestige. In many Asian cultures, prestige and honour hold significant importance, deeply rooted in historical, social, and political traditions. Possessing nuclear weapons transcends military utility and becomes a statement of technological prowess and sovereign strength. It reinforces their aspirations to be seen as equal players alongside other major powers, aligning with the cultural emphasis on respect, status, and recognition in international relations. It is crucial for China to channel its power toward its regional neighbours through mechanisms of recognition and respect from a major power like the United States. Thus, engaging with China through dialogue, demonstrating respect, is necessary.

B. Assist in addressing China’s security concerns

China shares borders or is in close proximity to several nuclear-armed states, including Russia, India, Pakistan, and North Korea. In addition to that, nearby countries such as Japan and South Korea have the technological capability to rapidly develop nuclear weapons should their policies

shift. The ongoing rivalry between Pakistan and India could lead to changes in India's nuclear forces or posture, influencing China's nuclear strategy on multiple fronts.

India and Pakistan are not signatories to either the Non-Proliferation Treaty (NPT) or the Nuclear-Test-Ban Treaty (CTBT). Leveraging the United States' image as a promoter of peace and persuading China's rivals, India and Pakistan, to join the NPT and CTBT could reduce the perceived security burden on China while demonstrating US respect for its concerns. Engaging in good-faith negotiations with China's adversaries would signal to China that the US seeks friendly relations. Simultaneously, such efforts align with the US's established reputation as a champion of peace, making the approach appear consistent and credible.

This would be best achieved by launching an initiative through the International Atomic Energy Agency (IAEA) and indirectly influencing India and Pakistan by leveraging global community pressure. While neither India nor Pakistan is likely to sign the NPT or CTBT, such an effort would generate the necessary international resonance.

II. The need for Arms Control

The drive for arms control has been driven primarily by emotional and economic considerations. The global desire to reduce the risk of nuclear war resonates on a deeply human level, while relief from the financial strain of an intense arms race holds strong economic appeal. However, in the era of nuclear missiles, no nation can achieve the same level of security as in the past, regardless of how much it spends. As the US continues to adhere to its arms control limits on missiles, delivery systems, and warheads, it should seek to bring China into binding arms control agreements.

III. Reformulate Technological Capabilities

A. Evaluate the necessity and role of ballistic missile submarines (SSBN)

The US possesses SSBNs, an extremely costly technology that is nearing obsolescence, as China has developed a system capable of tracking them. With no practical tracking system for ballistic missile submarines currently under development to counter China's capabilities, it is unnecessary to continue investing heavily in SSBNs. However, eliminating one leg of the nuclear triad—sea-launched ballistic missiles (SLBMs) and, consequently, the SSBN delivery system—entirely is not a feasible option. It must be first determined how much funding can be redirected from the SSBN programme. Based on this assessment, it is recommended to allocate these resources to enhance the cybersecurity or anti-satellite weapons programme to counter China's ABM systems or to advance the US ABM programme, which is currently five years behind.

B. Increase funding for Research and Development

Research and development (R&D) is essential for maintaining technological superiority and ensuring long-term strategic security. Investing in R&D drives innovation, enabling the development of advanced defence systems and countermeasures to address evolving threats effectively. With budgets currently frozen, reallocations can only be made within the defence budget. Programmes beyond the SSBNs should be evaluated, and funds redirected to research and development. Additional funding could be secured by engaging allies and establishing bilateral or multilateral agreements (such as AUKUS - the trilateral security pact between Australia, the United Kingdom, and the United States), where they share some of the financial burden.

IV. Create economic constraints on China's military programmes

Diminish China's military spending by fostering economic challenges within the region. For example, by redirecting trade from China to Association of Southeast Asian Nations (ASEAN) countries to impact China's economy—and by extension, its military spending. Implementing such a strategy is theoretically possible but would be complex and challenging as altering trade quotas and policies involves complex negotiations and must comply with international trade laws and World Trade Organization (WTO) regulations. Unilateral changes could lead to legal disputes or sanctions.

Threat Assessment

China will persist in its efforts to develop a top-tier military to assert regional dominance, project global influence, and counter perceived US military superiority. At the same time, China is likely to pursue opportunities to reduce tensions with Washington when it aligns with their interests, given the deep economic interdependence between China and the US.

In the scenario, the term "intercepted" likely refers to the tactical positioning or monitoring of the submarines, rather than any physical confrontation or combat. This indicates that no act of aggression took place. Despite advancements in tracking nuclear submarines and developing an ABM system, China is unlikely to attack the United States until the ABM system is fully operational (24 months), as the costs of such an action remain prohibitively high. China needs more time to build its capacity.

China's expanding capabilities reflect not only assertiveness but also a desire for prestige. Its approach to policy significantly differs from the Western model, rooted in a history spanning thousands of years as a dominant regional power by a considerable margin. I align with Kissinger’s view that China’s history has shaped a foreign policy style focused on achieving influence through the scale of its accomplishments and the grandeur of its actions, with military force serving as a supplement when necessary, but not as the primary driver.

The pursuit of power is distinct from addressing (whether perceived or actual) inferiority, with the latter often creating a stronger impetus. At present, China is focused on improving its position rather than striving for dominance. The dual role of nuclear capabilities as both a deterrent and a symbol of status underscores their importance beyond purely military considerations.

Therefore, the strategy for engaging with China requires two key elements: sufficient strength to balance China's dominance wherever it manifests, and a framework that treats China as an equal and integral participant in the international system.

After attaining perceived regional supremacy, China is likely to set its sights on achieving global dominance. This shift would involve expanding its influence across political, economic, and military domains on a worldwide scale. Politically, China may seek to reshape international institutions and norms to better align with its interests and values. Economically, it could intensify efforts to dominate critical industries, secure key supply chains, and extend its Belt and Road Initiative to exert financial leverage over other nations. Militarily, China might focus on projecting power far beyond its immediate region, developing capabilities that challenge traditional US dominance in areas such as space, cyberwarfare, and advanced weapons systems.

The interplay between China's ambitions and the evolving nature of deterrence underscores the broader shift in global power dynamics. While China continues to expand its military capabilities and influence, its current focus remains on consolidating regional dominance rather than challenging US primacy outright. However, this gradual trajectory aligns with broader concerns about how advancements in technology—both in traditional and emerging domains—are reshaping the strategic landscape. The erosion of the traditional Mutually Assured Destruction (MAD) framework highlights the increasing relevance of non-nuclear deterrents, such as cyber capabilities. In this context, addressing China's rise requires not only balancing its growing power but also adapting to a security environment where cyber and technological superiority play a pivotal role in shaping future strategies for deterrence and engagement.

MAD, the bedrock of Cold War deterrence theory, relied on the premise that the threat of total annihilation would deter nuclear-armed states from engaging in direct conflict. This balance was sustained by the inability of either side to neutralise the other's second-strike capabilities, ensuring mutual vulnerability. However, advancements in technology have begun to undermine this equilibrium.

Keir A. Lieber and Daryl G. Press in "The End of MAD? The Nuclear Dimension of U.S. Primacy" argue that the traditional framework of MAD is being undermined by advancements in the US nuclear capabilities. They highlight how technological developments—such as improved accuracy, stealth technology, and missile defences—have enabled the United States to achieve a

position of nuclear primacy, effectively gaining the ability to destroy an adversary's nuclear arsenal in a first strike.

Similarly, I advocate for Maximum Deterrence, but in the form of cyber capabilities rather than an expanded nuclear stockpile. Nuclear weapons and uranium enrichment facilities should remain operational to ensure readiness for rapid production if needed, but extensive modernisation and maintenance cost should be minimised. Unlike nuclear programmes, cyber initiatives do not require the same level of physical concealment, making them a more cost-effective deterrent of the future. Another factor contributing to cost-effectiveness is that cyber defence and offence can both benefit from the same research and development efforts, and cyber capabilities can be rapidly adapted and scaled to address evolving threats.

Short Term Recommendations Approach

Recommendations 1 and 2: Redesign the strategy for engaging with China, emphasising mutual respect. Launch an initiative at the IAEA to encourage India and Pakistan to sign the NPT and CTBT

China's expanding capabilities reveal not only assertiveness but also a strong drive for prestige. Employing Kissinger's vision, China's strategy is deeply rooted in its historical experience as a dominant regional power for thousands of years. This long-standing history has shaped a unique foreign policy style that prioritises influence through monumental achievements and the grandeur of its initiatives. This approach is evident in China's efforts to project power through vast economic projects, such as the Belt and Road Initiative, and its advancements in cutting-edge technology, from artificial intelligence to quantum computing. While military force is part of its arsenal, I believe it also serves as a supplemental tool rather than the central driver of its influence.

The United Kingdom offers another example of viewing nuclear weapons as a symbol of power. In the British debate, strategic arguments were secondary to the prevailing perception of nuclear weapons as a marker of great power status. Their significance was also linked to the perceived necessity of maintaining the US-UK 'special relationship,' the confidence they instilled in British policymakers, and the interests of established bureaucracies, as well as the technical strengths and weaknesses of various systems.[2]

In this context, nuclear capabilities take on a dual role for China. This dual significance underscores the broader importance of nuclear weapons for China, not just as a means of defence but also as a marker of status in the regional and international order. China's focus on advancing its military capabilities, such as its ABM systems and its ability to track ballistic missile submarines, further illustrates its ambition to position itself as a peer to other major powers.

[2] Lawrence Freedman and Jeffrey Michaels, *The Evolution of Nuclear Strategy*, 42. The Return of Great Power Politics, page 670

If the US cannot accelerate its progress, it should consider focusing on slowing China's advancements. However, any US acceleration is likely to prompt China to escalate its own efforts. Therefore, the first thing that should be done is to reassure China that the US poses no threat.

It was reinforced by Robert Jervice: "…although statesmen are fully aware of the need to make their threats credible, they often neglect the need to make credible their willingness to abstain from war and to respect the other's vital interests if the other cooperates."[3] Regime theorists maintain that lasting cooperation is possible only if each state retains the capacity to respond to transgressions by others, while security scholars argue that states must avoid unnecessarily provoking others.[4]

Respect holds paramount importance in Asian cultures. China perceives its own image through the lens of US reactions. This interpretation of self-reflection is then projected onto neighbouring countries in the region. It is essential to demonstrate respect towards China and further establish a strategic dialogue. It is important, however, to balance this approach, as China will likely aim to advance further and pursue global dominance in the future. One such approach could involve alleviating China's security concerns by engaging with India and Pakistan to encourage them to sign the Non-Proliferation Treaty (NPT).

China shares borders or is in close proximity to several nuclear-armed states, including Russia, India, Pakistan, and North Korea. In addition to that, nearby countries such as Japan and South Korea have the technological capability to rapidly develop nuclear weapons should their policies shift. [5] The ongoing rivalry between Pakistan and India could lead to changes in India's nuclear forces or posture, influencing China's nuclear strategy on multiple fronts.

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[3] Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon* (Ithaca, NY: Cornell University Press, 1989), chapter 2

[4] Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon* (Ithaca, NY: Cornell University Press, 1989), chapter 3

[5] Eric Heginbotham et al., *China's Evolving Nuclear Deterrent: Major Drivers and Issues for the United States* (Santa Monica, CA: RAND Corporation, 2017), p.21

According to the *China Strategic Missile Force Encyclopedia 2012*, cited by the RAND Corporation, the nuclear tests conducted by India and Pakistan have further undermined the stability of the nuclear non-proliferation regime, affecting China's perceptions.[6]

The NPT can be viewed as a form of propaganda. Rooted in the Latin term *propaganda fide*, propaganda was originally used by the Catholic Church to promote religious teachings. According to Garth Jowett and Victoria O'Donnell, propaganda can take various forms: white, black, or grey. The NPT, advocating peace through the limitation of nuclear weapons, represents white propaganda. If such an approach was effective in spreading the message of Christ, it can equally serve the purposes of the US government. Despite the fact that nuclear weapons serve as a guarantor of global stability, treaties like the NPT are essential for amplifying the fear of their use and reinforcing the nuclear taboo.

This goal could be pursued by launching an initiative through the International Atomic Energy Agency (IAEA) and indirectly influencing India and Pakistan by leveraging pressure from the global community. Although it is unlikely that either nation will sign the NPT or CTBT, such an effort would create the necessary international momentum and awareness.

Recommendation 4: Evaluate the necessity and role of SSBNs and redirect funds to emerging non-nuclear technologies like cybersecurity or anti-satellite weapons programmes

The United States maintains a fleet of ballistic missile submarines (SSBNs), a highly expensive technology that is increasingly approaching obsolescence as China advances its capability to detect and track these submarines. Without a practical tracking system currently under development to counter China's growing capabilities, continued heavy investment in SSBNs may no longer represent the most strategic allocation of resources. However, eliminating sea-launched ballistic missiles (SLBMs) and the SSBN delivery system—one leg of the nuclear triad—is not a viable option, as the triad's balance is essential for maintaining deterrence in it's present form and strategic stability.

[6] Eric Heginbotham et al., *China's Evolving Nuclear Deterrent: Major Drivers and Issues for the United States* (Santa Monica, CA: RAND Corporation, 2017), p.70

Given these considerations, a thorough evaluation is necessary to determine how much funding can be redirected from the SSBN programme without compromising national security. Resources identified for reallocation should be invested in areas that address emerging threats and enhance the United States' defensive capabilities. Michele Flournoy highlights that China favours cyberattacks as a means to disrupt US military operations at the outset.[7] Investing in advanced non-nuclear technologies, such as bolstering cybersecurity programmes or developing anti-satellite weapons, could offer critical countermeasures against China's sophisticated ABM systems.

[7] Lecture 12

Long Term Recommendations Approach

Recommendation 2: Increase funding for Research and Development

The Office of the Director of National Intelligence assesses that China is advancing rapidly across all areas of space technology and is projected to achieve world-class status in most fields by 2030. It is expected that China will develop and deploy sophisticated technologies and techniques for intelligence collection from space. By 2030, China's expanding space activities are likely to significantly erode the national security, commercial, and global influence advantages that the United States has long enjoyed from its leadership in space. However, China continues to lag in critical areas such as heavy-lift launch capabilities and data relay satellite technology.[8]

National Intelligence Counsil (NIC) assessed that China is increasingly utilising advanced cyber capabilities, such as espionage, cyberattacks, and influence operations. It is enhancing its capacity to analyse and manipulate large volumes of personal data, enabling more effective influence and coercion of targets in the United States and allied nations. Furthermore, Beijing is poised to capitalise on the growing dominance of Chinese companies in telecommunications infrastructure and digital services. China has also shown growing boldness in its cyber operations. For instance, in 2019, Beijing reportedly conducted cyberattacks on Telegram, a messaging platform widely used during the Hong Kong protests. These attacks, intended to disrupt communications associated with perceived domestic unrest.[9]

Yes, nuclear weapons remain the cornerstone of global stability, and they are unlikely to disappear anytime soon. However, in the 21st century, does a state truly need to possess its own nuclear arsenal? Or could it instead focus on developing advanced cyber capabilities to infiltrate the nuclear systems of another state and potentially seize control of their weapons?

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[8] https://www.dni.gov/files/ODNI/documents/assessments/NICM-Declassified-Chinese-Space-Activities-through-2030--2022.pdf

[9] NICA 2020-027: Cyber Operations Enabling Expansive Digital Authoritarianism, declassified October 5, 2022

A cost-benefit analysis would almost certainly reveal that leveraging cyber capabilities and advanced technology to steal nuclear weapons is likely cheaper than developing a uranium enrichment facility and producing weapons, all while remaining undetected by international watchdogs like the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO).

Dr Alexander Korolev from University of New South Wales examined the military partnership of China and Russia in 2020. According to Rosoboronexport, joint Russian-Chinese military-technical cooperation programmes primarily focus on projects related to aircraft engines and air defence systems, which accounted for 90% of all military technology exports to China by 2012. For instance, the Moscow-based V.V. Chernyshev Machine-Building Enterprise and the China National Aero-Technology Import & Export Corporation (CATIC) are jointly implementing a programme to modernise Russian Klimov-designed RD-33 turbofan engines for use in China's multi-role CAC/PAC JF-17 "Thunder" fighter jets.[10]

The two countries collaborate in manufacturing military technology for one another, which implies they may have some insight into each other's systems or a significant understanding of how those systems function. Since the start of the war in Ukraine, China has become virtually the sole manufacturer of electronics for Russia. With such extensive knowledge, could China potentially design a future cyberattack to gain access to Russia’s nuclear arsenal?

In the long run, even with current budget constraints, the U.S. will need to prioritise funding for Research and Development. This could involve reassessing other nuclear programmes and reallocating resources to advance AI, cybersecurity and cyber weapons initiatives.

Recommendation 3: The need for Arms Control

As outlined in the memorandum, the arms control strategy should commence within the first 24 months and subsequently transition into a long-term approach.

[10] Korolev, Alexander. How Close Are Russia and China? Assessing Military-Strategic Cooperation in International Relations. Journal of Strategic Studies 43, no. 2 (2020)

If you want to avoid the cost of producing weapons yourself, persuade your opponent to agree to arms control. And frame it as a moral and ethical imperative.

Disarmament, driven by the existential rejection of nuclear weapons, often proved impractical, even during the Cold War. In contrast, arms control focused on regulating and limiting nuclear arsenals to mitigate risks and stabilise relations between adversaries, rather than pursuing the complete elimination of nuclear weapons. The rationale behind arms control lies not in achieving peace but in managing competition to prevent catastrophic outcomes, such as accidental launches or escalations caused by misunderstandings.[11]

Given that the US continues to adhere to its arms control limits on missiles, delivery systems, and warheads, China's military capabilities should ideally be constrained. It's nuclear arsenal does not need to be eliminated but rather capped. And the US would benefit from leveraging the strong case for disarmament. It could argue that reduced posture could bolster China's diplomatic position in advocating for disarmament while preserving its capacity to maintain an 'assured' retaliatory response in the event of a significant nuclear threat. As Colin Gray put it "running with the nuclear fox and riding with the disarmament hounds".[12]

While serving as National Security Advisor, Kissinger encouraged Nixon to adopt a more restrained approach, promoting the concept of 'sufficiency.' This approach entailed rejecting 'superiority' as a goal for the US arsenal, recognising that striving for dominance would only escalate the arms race.[13] The rationale here would be to persuade China that its nuclear arsenal is sufficient to ensure its security.

But arms control is not solely about security. Freedman and Michaels highlight how political motivations, such as improving superpower relations or addressing domestic and international concerns, also played a significant role in driving arms control initiatives. For instance, the SALT

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[11] Lawrence Freedman and Jeffrey Michaels, *The Evolution of Nuclear Strategy*, 16. Disarmament to Arms Control
[12] Lawrence Freedman and Jeffrey Michaels, *The Evolution of Nuclear Strategy*, 42. The Return of Great Power Politics
[13] Lawrence Freedman and Jeffrey Michaels, *The Evolution of Nuclear Strategy*, 29. SALT, Parity and the Critique of MAD

agreements acted as diplomatic tools to manage US-Soviet relations while showcasing a commitment to reducing the nuclear threat. The challenge there lies in the lengthy negotiation process and verification and ensuring compliance.

It is highly likely that Beijing is uninterested in agreements that would constrain its plans and unwilling to participate in negotiations that reinforce US advantages, making it unlikely to sign any such treaties. In this scenario, an alternative for the United States could be to revoke ratification of existing arms control agreements while keeping them signed and increase the number of ICBMs.

However, this strategy is not advisable within the first 24 months, as it is likely to be perceived as overly aggressive.

Recommendation 4: Create economic constraints on China's military programmes

The rationale behind creating economic constraints on a state's military programmes is to limit its ability to expand or modernise its military capabilities.

Imposing sanctions, trade restrictions, or fostering economic competition, aims to divert resources away from defence spending toward more pressing economic priorities. This not only slows the development and deployment of advanced military systems but also helps maintain the balance of power by curbing disproportionate military growth.

Fostering economic competition is an effective technique for constraining a state's military programmes by limiting its financial and technological resources. This approach works by redirecting trade, investment, and technological partnerships away from the targeted state and toward competing regions or countries. In this particular case, prioritising economic engagement with alternative suppliers in Association of Southeast Asian Nations (ASEAN) region can reduce China's export revenues, thereby diminishing its ability to fund military expansion. Another strategy could involve increasing the stake of ownership in the Belt and Road Initiative (BRI).

Joseph S. Nye Jr. writes extensively on how promoting technological innovation in rival states can outpace the targeted state's advancements, creating competitive pressures that further restrict its military growth. By encouraging regional economic development and supporting industries in competing nations, this strategy not only weakens the financial foundation of the targeted state's military programmes but also enhances the capabilities of its rivals.