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**The Dreadnought Paradox: An Argument for an Expanded Submarine-Based
Conventional Deterrent to Counter A2/AD in the Pacific Theater**

by

Anthony W. Holmes

United States Department of Defense

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College, the Department of the Navy, the United States Department of Defense or its agencies.

Signature:

***//Signed//
Anthony W. Holmes***

17 May 2015

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Abstract

The Dreadnought Paradox: An Argument for an Expanded Submarine-Based Conventional Deterrent to Counter A2/AD in the Pacific Theater argues that new approaches are required to counter Chinese developments in antiship ballistic missile and other technology designed to prevent American forces from intervening in a Pacific contingency. The recommendation is straightforward: increasing the size of the guided-missile submarine (SSGN) force and scope of its mission as part of a *conventional* deterrent. Evidence strongly suggests Beijing has identified the aircraft carrier as the U.S. operational center of gravity, the destruction of which China believes would neuter our capacity to respond. But aircraft carriers are not obsolete, their current protection measures and previously assumed ability to establish sea control en route are. A dangerous situation is emerging wherein the carrier, as the *sine qua non* of U.S. maritime force projection, has also become the *ne plus ultra* of a platform so valuable it cannot be risked in actual combat. To avoid this “Dreadnought Paradox” the U.S. and its allies need to refocus on submarine-borne conventional strike capability to ensure lethal counterforce options against A2/AD – and prepare the way for the carrier and amphibious task forces.

STRATEGIC SETTING

That the United States faces an increasingly sophisticated and dangerous anti-access and area denial (A2/AD) environment in the Asia-Pacific has become an axiomatic, accepted truth. There are disagreement and discord, however, in how the U.S. should respond and what apotropaic action is necessary. There has been a flurry of discussion about various costly strategies, most notably the Air-Sea Battle concept, to ensure American power can be brought to bear in support of its national interests. As part of this ongoing discussion the United States and its allies should consider the value of expanded submarine-based conventional deterrence.

The United States has extended nuclear deterrence to its allies in the Asia-Pacific, an act that has kept the peace and promoted the economic development that has made the current state of affairs possible. However, the nuclear deterrent is no longer enough. A nuclear-armed aggressor may believe it can attack a non-nuclear state, even a treaty ally of the United States, without kinetic reprisal because Washington will fear an escalation spiral. The adversary may believe it must only incur short-to-medium-term economic costs. The nuclear-armed aggressor may also believe it can use conventional force against stated U.S. interests without risking nuclear retaliation if the United States does not believe its own survival is on the line or the loss of its credibility is manageable. In truth, the risk of nuclear retaliation is sub-minimal if the aggressor seeks not to conquer the country but only poach non-U.S. territory or improve its strategic position.

What is needed is a visible, announced, credible capability to both destroy aggressive forces while they are staging or once they are committed to a fight, but does not in turn risk passing the nuclear threshold. Moreover, the enemy must know it cannot seize territory of any size and rely on the difficulty of dislodging it conventionally to dissuade U.S. counteraction. An

asset that can both do these things and protect the *sine qua non* of U.S. force projection, the aircraft carrier, is the most rational proposal. If the U.S. intends for the aircraft carrier to remain its conventional force projection platform of choice, but fails to adapt to ever-advancing Chinese A2/AD capabilities, it risks what is introduced here as the Dreadnought Paradox.

For these grand strategic and operational reasons, the United States should itself increase, and encourage its allies to develop, a submarine-based conventional missile deterrent and expansive guided-missile submarine force. It would fit within the still-evolving regional security framework that includes the U.S. strategic nuclear deterrent and other emerging counter-anti-access and area denial (A2/AD) capabilities. Under the overarching framework of structural realism and deterrence theory the logic and value of this capability will be presented and tested.

The next section summarizes the Chinese capabilities at the core of the A2/AD threat environment and why historical nuclear deterrence is no longer adequate. Section 3 theorizes a dangerous situation that may be emerging from U.S. overreliance on the aircraft carrier in conflict. A presentation of how the United States and its allies currently configure their submarine-launched conventional missile platforms follows in section 4. Section 5 assesses the value of a submarine-based conventional deterrent regime against a modified standing framework. This paper concludes by addressing potential counterarguments and elaborating upon conclusions in sections 6 and 7.

IMPETUS TO ADAPT: THE THREAT ENVIRONMENT

China's heavy investments and advancements in standoff antiship cruise and ballistic missile technology demonstrate a capacity and desire to strike the large U.S. carrier strike group formations that would flow into the region in the event of any major contingency.¹ The DF-

¹ United States Department of Defense, *Report to Congress on Military and Security Developments Involving the People's Republic of China* (Washington, DC: Department of Defense, Office of the Secretary of Defense, 2014), 7; J. Michael Cole, "The

21D² antiship ballistic missile, dubbed the “carrier killer” by the global press, stands out amongst them but is by no means the only arrow in China’s growing quiver. It is, however, useful shorthand for the threat at-large.

The 2014 United States Department of Defense “Report to Congress on Military and Security Developments Involving the People’s Republic of China,”³ offers the executive branch’s official and likely most authoritative presentation of these Chinese developments in the public domain.⁴ The Report states,

China is fielding a limited but growing number of conventionally armed medium-range ballistic missiles, including the DF-21D antiship ballistic missile. The DF-21D gives the [People’s Liberation Army, PLA] the capability to attack large ships, including aircraft carriers, in the western Pacific Ocean. The DF-21D has a range exceeding 1,500 km (809nm) and is armed with a maneuverable warhead.⁵

Respected defense chronicler *Jane’s Defense* assesses this warhead to be either high explosive or nuclear-capable.⁶ *Jane’s* also cites other U.S. sources assessing a range up to 2,000km (1,079nm) and some Chinese sources suggest a range up to 2,700km (1,457nm).⁷ Regardless of the maximum range the DF-21D can achieve, even an average estimation places the missile’s

DF-21D “Carrier Killer”: An Instrument of Deception?” *The Diplomat*, 22 April 2013, <http://thediplomat.com/2013/04/the-df-21d-or-carrier-killer-an-instrument-of-deception/>; Zachary Keck, “Cruise Missiles, China’s Real ‘Carrier Killer’”, *The Diplomat*, 5 June 2014, <http://thediplomat.com/2014/06/cruise-missiles-chinas-real-carrier-killer/>; Harry Kazianis, “Lifting the Veil on China’s ‘Carrier Killer’”, *The Diplomat*, 23 October 2013, <http://thediplomat.com/2013/10/lifting-the-veil-on-chinas-carrier-killer/>; *et cetera*.

² The DF-21D NATO designator is CSS-5 Mod 5, and is hereafter exclusively referred to as DF-21D (*ibid*).

³ This document is often abbreviated to the “China Military Power Report,” the “Report to Congress on China,” or “the China Report” (and within the Pentagon, glibly as the “Report to China”).

⁴ This author must note he was an interagency tasking and coordination manager and also unofficial editor for this report during his assignment in the Office of the Secretary of Defense, Asia-Pacific Security Affairs.

⁵ United States Department of Defense, *Report to Congress on Military and Security Developments Involving the People’s Republic of China* (Washington, DC: Department of Defense, Office of the Secretary of Defense, 2014), 7.

⁶ “DF-21,” *IHS-Jane’s*, 24 June 2014, no article ID or persistent URL available.

⁷ *Ibid*.

range well within the First Island Chain and at some distance into the Second.⁸

China has sunk considerable cost into holding the surface fleets of the United States and its allies, led by the aircraft carrier, at risk far from China's shores.⁹ There is no reason to believe this will abate, or that Beijing's investments will not create dividends sooner rather than later in the form of more capable, accurate, and lethal A2/AD assets. These data also strongly indicate Beijing believes the destruction or incapacitation of the U.S. aircraft carrier would have strategic effects on its capacity and will. Therefore, it logically follows Beijing has identified it as the U.S. operational center of gravity in any force-on-force kinetic confrontation. Of course, the Pearl Harbor and September 11, 2001 attacks on the United States demonstrated the folly of an adversary assuming that quick opening strikes will sap U.S. will. This is why potential adversaries are focusing on neutering U.S. capacity to *respond*.

U.S. supercarriers, numerically larger carrier strike groups, and the recent developments in Japan of increasingly large flat-deck helicopter carriers represent a significant problem in allied force projection. Namely, these assets carry a certain prestige and demonstrate awesome military power, but they have evident and exploitable vulnerabilities and do not directly challenge emerging Chinese capabilities. In fact, they play strongly into China's strengths. Nor do these platforms directly exploit a Chinese critical vulnerability, i.e., Beijing's putative weaknesses in submarine/antisubmarine warfare.¹⁰

Massed in the Pacific Ocean and steaming toward its area of operations (AO), the U.S. carrier strike group must appear an enticing target to Chinese military planners. It is able to be

⁸ The First and Second Island Chains are well-known to Pacific experts and well-documented in China's military literature. The First Island Chain runs from the Japanese archipelago down through the Ryukyus, the east coast of Taiwan, the west coast of the Philippines, and eventually meets up with the easternmost part of China's Nine Dash Line in the South China Sea. The Second Island Chain extends to Guam.

⁹ Robert Farley, "Should America Fear China's 'Carrier-Killer' Missile?" *The National Interest*, 22 September 2014, <http://nationalinterest.org/feature/should-america-fear-chinas-carrier-killer-missile-11321>.

¹⁰ United States Department of Defense, *Report to Congress on Military and Security Developments Involving the People's Republic of China* (Washington, DC: Department of Defense, Office of the Secretary of Defense, 2014), 32.

struck by myriad Chinese missile systems before it can range its objectives, and well before U.S. surface-borne cruise missiles could neutralize enemy A2/AD assets.¹¹ This is not to contend, as some have, that the aircraft carrier is obsolete.¹² Rather, the era of the United States' ability to assume local sea control along the route to its objective and upon arrival on station is quickly becoming a thing of the past in East Asia – if it is not already so.

What the United States needs is a more sophisticated capability to deter use of Chinese A2/AD systems, or should that fail, to destroy them before they can stage. Failing that, the United States and its allies must be able to ensure a viable counterattack through survivable means. To destroy Chinese A2/AD assets within an acceptable threat window requires stealth, maneuverability, survivability, and readiness. These qualities abound in modern submarines, and with the addition of land-attack cruise missiles they would be a potent counter-A2/AD force. Of course, U.S. ballistic missiles could reach the area, but an adversary would almost certainly think nuclear first and conventional second, potentially pushing the nuclear envelope. U.S. leaders would be loath to use them, which is why a declared submarine-borne conventional capability is more appropriate.

THE DREADNOUGHT PARADOX

Absent such changes the United States risks falling victim to the Dreadnought Paradox. This is the situation that emerges when a nation's most important naval assets are so central to continued operations, morale, or national strategy (or simply so expensive) that military commanders or civilian leaders are reluctant to commit them in dangerous territory. In other words, you cannot afford to lose it, so you cannot afford to use it. This paradox also applies

¹¹ Robert Farley, "Should America Fear China's 'Carrier-Killer' Missile?" *The National Interest*, 22 September 2014, <http://nationalinterest.org/feature/should-america-fear-chinas-carrier-killer-missile-11321>.

¹² The discussions over the last few years across the public domain are too numerous to recount or even adequately summarize here, but for examples browse recent articles in *The National Interest* or any defense trade publication.

when an asset has become so entrenched within planning and doctrine, or has had so many costs sunk into it, that it remains central to strategy and operations long after its operational relevance has faded relative to emerging capabilities. Oftentimes the paradox is as much the result of rose-colored glasses within national-strategic planning circles as it is the result of vested interests and protection societies. For a military asset this is nonsensical, but it is worryingly close to contemporary reality. Only after the AO is sufficiently safe for the dreadnought will leaders be willing to insert it when its contribution would have been far more useful earlier.

Numerous examples exist in the last century of conflict. In World War I the British super-dreadnought *Queen Elizabeth* was withdrawn from Gallipoli upon the loss of the non-dreadnought battleship *HMS Goliath* and on warning of German submarines in the area. The Battle of Jutland reduced the British and German armadas to effective fleets-in-being, existing to check the other but unable to sortie or shape the primary battlespace with fires.¹³ In World War II the applicability of the paradox is arguable, probably because of the sheer scale of the conflict, quantity of assets, and overwhelming level of national commitment. However, it is undeniable strategic thinkers continued to emphasize the super-battleship over other effective, evolving platforms and capabilities. Only in retrospect would U.S. leaders be able to tell what kind of conflict they were in, the level of risk they should have accepted, and ultimately whether the paradox applied. In the Falklands War the destruction of a single British carrier would probably have killed the whole operation.¹⁴

Apply the dreadnought paradox to an even more important and expensive platform, U.S. aircraft carriers. How much of the current U.S. Navy's fleet is designed to protect the carrier? Almost the entirety. How much real offensive land-attack power would destroyers, cruisers, and

¹³ Robin Prior, *Gallipoli: The End of the Myth*, paperback edition (New Haven: Yale University Press, 2010), 146.

¹⁴ Admiral Sandy Woodward, *100 Days: The Memoirs of the Falklands Battle Group Commander*, Bluejacket edition (Annapolis: U.S. Naval Institute Press, 1997).

submarines present to a near-peer enemy if the carrier were disabled? Comparably little. The aftermath of the loss of a carrier would leave national leaders with fewer options for sustaining the fight without resorting to more coercive and escalatory global-reach assets like ballistic missiles and long-range bombers.

In an actual conflict leaders would be very cautious, and rightly so, to sortie into an AO of saturated antiship defenses that define the modern A2/AD environment. It is doubtful the AO could ever be made safe enough to risk a carrier strike group against a near-peer enemy. The aircraft carrier is indeed “90,000 tons of diplomacy,” but the symbolism works both ways. Afloat a carrier strike group sends a powerful message, but at the bottom of the East China Sea it sends just as powerful a message about what kind of threat the enemy represents. Any national leader would take a strategic pause to evaluate just what kind of national-strategic core interest was at stake.

If China has made such significant advances in A2/AD capabilities and is directly attacking the assessed strategy of U.S. force projection, then what value does a conventional deterrent and submarine land-attack capability add? And why should the United States or its capable allies invest in one? In short, the answer is that it would reassure the world about the strength of U.S. commitments, while also strengthening its alliances. Before exploring and assessing the value of conventional deterrence it is useful to briefly describe the current state of guided-missile submarines, such as their configurations and armament.

GUIDED-MISSILE SUBMARINES: THE CURRENT ORDER OF BATTLE

Guided-missile submarines are not particularly innovative, the United States and Great Britain already possess these systems on some of their submarines, but they have ever-increasing

value in the emerging A2/AD landscape.¹⁵ The Tomahawk Land Attack Cruise Missile (TLAM) is the standard for both the United States and Great Britain's submarine-launched land-attack capability, and is used here for assessment of the concept.

According to the U.S. Navy, the Tomahawk is an “all-weather, long range, subsonic cruise missile used for land-attack warfare, launched from U.S. Navy surface ships and...submarines.”¹⁶ It features the capability to fly at low altitudes at high subsonic speeds at ranges from 1,350nm (2,500km) for the Block II TLAM-A to 900nm (1,667km) for the Block IV TLAM-E. The TLAM-D submunition dispenser variant has a 700nm (1,300km) range and can deploy 166 bomblets.¹⁷ The Block III TLAM-C and Block IV TLAM-E are equipped with a 1,000lb unitary conventional warhead.¹⁸ According to Jane's, the system boasts a historical 85% success rate, and in September 2014 U.S. Navy tests successfully retargeted the Block IV mid-flight and performed high-altitude maneuvers before striking intended targets, potentially increasing their value as a conventional deterrent able to respond in dynamic situations.¹⁹

The United States has four nuclear-powered *Ohio*-class guided-missile submarines (designated SSGN).²⁰ These were the result of the 1994 Nuclear Posture Review determination that conversion of four of the Navy's eighteen ballistic missile submarines to guided-missile and Special Operations Forces-insertion platforms would better serve the interests of combatant

¹⁵ Australia's Collins-class diesel-electric submarines are also classified as SSGs, guided-missile submarines, but are exclusively configured in an antiship role. Therefore, an exploration of this capability is not warranted here (Guided Missile Submarine, Diesel-Electric (SSG), Royal Australian Navy, accessed 4 April 2015, <http://www.navy.gov.au/fleet/ships-boats-craft/submarines/ssg>).

¹⁶ Tomahawk Cruise Missile, United States Navy, “United States Navy Fact Sheet,” last modified 14 August 2015, http://www.navy.mil/navydata/fact_display.asp?cid=2200&tid=1300&ct=2.

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ “Tomahawk/RGM/UGM-109A/B/C/D/E,” *IHS-Jane's*, DOI 12 September 2014, No article ID or persistent URL available.

²⁰ The four currently active are *USS Ohio* (SSGN 726), *USS Michigan* (SSGN 727), *USS Florida* (SSGN 728), and *USS Georgia* (SSGN 729) (Guided-missile Submarines – SSGN, United States Navy, “United States Navy Fact Sheet,” last modified 14 August 2014, http://www.navy.mil/navydata/fact_display.asp?cid=4100&tid=300&ct=4).

commanders.²¹ Official U.S. Navy specifications state *Ohio*-class SSGNs have twenty-two vertical launch system (VLS) tubes capable of holding approximately 154 TLAMs.²² Additionally, U.S. Navy fast attack submarines (designated SSN) have twelve forward VLS tubes on thirty of the *Los Angeles*-class SSNs²³ and on Blocks I and II of the *Virginia*-class, though all can launch cruise missiles from their torpedo tubes.²⁴ The Block III contract for the *Virginia*-class will replace the twelve individual forward VLS tubes with two eighty-seven inch special Virginia Payload Tubes, each capable of holding six Tomahawk cruise missiles each.²⁵ The three *Seawolf*-class attack submarines can launch TLAMs from their eight torpedo tubes.²⁶

The United Kingdom's Royal Navy carries torpedo-launched Tomahawk cruise missiles on all four of its active nuclear-powered *Trafalgar*-class²⁷ and seven *Astute*-class attack submarines.²⁸ Further exporting this capability to allies and partners under license is neither insurmountable nor inadvisable with proper export, and if necessary fire release, controls in place. But is this policy wise?

²¹ Guided-missile Submarines – SSGN, United States Navy, “United States Navy Fact Sheet,” last modified 14 August 2014, http://www.navy.mil/navydata/fact_display.asp?cid=4100&tid=300&ct=4.

²² Ibid.

²³ *USS Providence* (SSN 719) and later possess the vertical launch system tubes for Tomahawk cruise missiles (Attack Submarines – SSN, United States Navy, “United States Navy Fact Sheet,” last modified 14 August 2014, http://www.navy.mil/navydata/fact_print.asp?cid=4100&tid=100&ct=4&page=1).

²⁴ Attack Submarines – SSN, United States Navy, “United States Navy Fact Sheet,” last modified 14 August 2014, http://www.navy.mil/navydata/fact_print.asp?cid=4100&tid=100&ct=4&page=1.

²⁵ Ibid.

²⁶ Ibid.

²⁷ *HMS Torbay* (S90), *HMS Trenchant* (S91), *HMS Talent* (S92), and *HMS Triumph* (S93) (Trafalgar Class, Royal Navy (UK), <http://www.royalnavy.mod.uk/the-equipment/submarines/trafalgar-class>).

²⁸ *HMS Astute* (S119) and *HMS Ambush* (S120) are commissioned; *HMS Artful* (S121) has been launched; *HMS Audacious* (S122), *HMS Anson* (S123), *HMS Agamemnon* (S124), and the purportedly-named *HMS Ajax* (S125) are under construction (Submarines - Astute Class, Royal Navy (United Kingdom), Ministry of Defense, accessed 4 April 2015, <http://www.royalnavy.mod.uk/our-organisation/the-fighting-arms/submarine-service/fleet-submarines/astute-class/hms-astute>; Damien Gayle, “Taking the Royal Navy into the 21st Century: Third of Britain's £1 billion Astute class submarines finally takes to the water,” *The Daily Mail*, 18 May 2014, <http://www.dailymail.co.uk/news/article-2631814/Taking-Royal-Navy-21st-Century-The-Britains-1-billion-Astute-class-submarines-finally-takes-water.html>).

SUBVERTING THE CRIMEA PARADIGM:

ASSESSING THE SUBMARINE CONVENTIONAL DETERRENT

In *Conventional Deterrence and the Challenge of Credibility* John Stone wrote “an advantage that conventional force enjoys over its nuclear counterpart is that it can be used with much greater discrimination. Conventional threats can, therefore, be considered more politically credible than nuclear threats under all but the most extreme circumstances.”²⁹ Similarly, Solomon writes:

Defenders can obtain conventional deterrence by denial if an opportunistic antagonist is convinced that the defender possesses conventional forces of sufficient capability, quantity, readiness, and proximity to the contested area to ensure any conceivable conventional offensive by the antagonist stands an unacceptable chance of degenerating into a costly, risky, protracted, and indecisive conflict.³⁰

The Asia-Pacific would appear a much different region if U.S. allies and adversaries did not perceive a credible nuclear deterrent. However, a major problem lies in the belief among potential adversaries that Washington would not use nuclear weapons in less than existential scenarios, that is, situations in which the existence of the state is not threatened. Numerous scholars correctly contend that nuclear deterrence is decidedly non-credible when applied to limited war situations and territorial disputes.³¹ For example, Beijing, Pyongyang, and Tokyo would almost certainly all agree that Washington would use nuclear weapons to prevent or

²⁹ John Stone, “Conventional Deterrence and the Challenge of Credibility,” *Contemporary Security Policy*, Vol 33 Issue 1 (2012).

³⁰ Jonathan F. Solomon, “Demystifying Conventional Deterrence: Great-Power Conflict and East Asian Peace,” *Strategic Studies Quarterly: The Journal of the United States Air Force*, Vol 7 Issue 4, (2013): 118.

³¹ See for example Tom Nichols, “The Case for Conventional Deterrence,” *The National Interest*, 12 November 2013, <http://nationalinterest.org/commentary/the-case-conventional-deterrence-9381>.

avenge a North Korean invasion of the South or a Chinese missile attack on Tokyo. However, all would debate vigorously on whether the United States would use nuclear forces to prevent Chinese military conquest of Taiwan – especially if that seizure were quick and seemingly irreversible without tremendous conventional cost. There is similarly no doubt that regardless of treaty commitments and statements of affirmation many in Tokyo do not believe Washington would use *any* force against a Chinese seizure of, for example, the Senkaku Islands.³²

Russia's invasion and annexation of Crimea from Ukraine reinforced these uncertainties on practical and philosophical levels. Ukraine is not a U.S. treaty ally, but the action still raised concerns in Asia about what China would learn from the incident. The sheer audacity and spectacle of Russia's conquest along with the size and strategic nature of the conquered territory was not lost on Asian leaders, particularly in Japan. Prime Minister Abe compared Russian actions in Crimea to Chinese actions in the East and South China Seas, while the national Japanese press feared how China would interpret the lack of a military response.³³

That being said, the United States should not have used military force to dislodge Russia. In fact, any threat of force from the West after the invasion and annexation was complete would be decidedly non-credible, especially against a nuclear-armed state like Russia. This is where conventional deterrence, clearly articulated by political leaders, has the most potential: forcing the adversary to consider and plan against a military capability, promising the aggressor it will not achieve victory by *fait accompli*, and providing the decision-maker an escalating series of discriminating military options.

³² Insights gained from a decade following Japanese military and defense issues, the political scene, personal and professional discussions, surveys of Japanese media, etc.

³³ "Abe Raises China's Assertiveness at G7 Summit," *NHK*, 28 March 2014, <http://www.nhk.or.jp>; "Japan, S. Korea, U.S. Must Address Deeper Challenges To Trilateral Unity," *The Yomiuri Shimbun*, 27 March 2014, <http://www.yomiuri.co.jp>; "Crimea Must Not Become A Precedent For Stealing Land From Another Country," *The Yomiuri Shimbun*, 27 March 2014, <http://www.yomiuri.co.jp>.

Stone and Solomon provide frameworks for assessing the utility of a guided-missile submarine capability which we will combine and represent as capability, feasibility, quantity, scalability (discrimination), survivability and readiness, and proximity.

Capability. The TLAM has demonstrated capability to destroy fixed and mobile assets well within an enemy's land borders, as Operation ODYSSEY DAWN demonstrated in Libya. In this construct, further advancement and fielding of the very successful and reliable Tomahawk cruise missile system to will leave little doubt amongst allies and potential adversaries about its ability to destroy road-mobile missile systems, fixed installations, or simply prevent *fait accompli*. To be truly credible, a U.S. submarine-launched TLAM capability must be expanded, modernized, and stationed further into the Asia-Pacific.

Feasibility. As the United States already has four *Ohio*-class guided-missile submarines, and is outfitting the new ships of the *Virginia*-class with the Virginia Payload Tube to accommodate TLAMs, the scientific groundwork is already done. Expanding the capability to levels necessary for it to function as a permanent conventional deterrent in the Asia-Pacific requires either further enlarging the *Virginia*-class fleet, putting more of the existing fleet on deployment to the region, continuing to modify *Ohio*-class submarines into the SSGN variants, extending the life of existing guided-missile capable submarines, devoting more compartments to TLAMs as opposed to special forces insertion tubes, or best case, all of the above.

This would not be inexpensive. The conversion program alone for the *Ohio*-class SSGN conversion cost approximately \$1 billion per vessel, which does not include the original cost to build each *Ohio*-class submarine.³⁴ Enlarging the size of the *Virginia*-class fleet, or making guided-missile capability a primary mission set for the U.S. Navy's ongoing *Ohio Replacement*

³⁴ Ronald O'Rourke, "Navy Trident Submarine (SSGN) Conversion Program: Background and Issues for Congress," *The Congressional Research Service*, 22 May 2008, product code RS21007.

Program could defray costs in some areas, but add them in new research and development, engineering requirements, and payload outfitting. Compared to the astronomical costs proposals such as Air-Sea Battle represent, or even the cost of a single modern dreadnought U.S. aircraft carrier, these costs are worthwhile and necessary.

Quantity. It is unknown and not the purpose here to hazard a realistic estimate as to the ideal number of cruise missiles the United States would need at its disposal to deter Chinese military action. It would require further study, and must be sufficient to hold at risk a sufficient number of antiship ballistic, airborne strike, and cruise missile sites that would result in a Chinese mission kill. However, to account for expected enemy air defense systems protecting A2/AD assets one must assume a modest 7:1 launch to kill ratio (that is, seven TLAMs per target).³⁵ Further assuming 50-100 DF-21D missile platforms would require 350-700 TLAMs at the ready, or between 3-5 fully-loaded out *Ohio*-class SSGNs. The imperative of having more dedicated guided-missile submarines on station in the region as part of a robust counter-A2/AD kinetic strike capability becomes all the more evident, as does the usefulness of asking allies and partners to shoulder more of the responsibility.

Scalability (Discrimination). Such a deterrent would be credible because it does not threaten the adversary's regime and therefore sits somewhat comfortably below the nuclear threshold. As Solomon noted, a less capable deterrent can be a political advantage, in this case comparing a modest second-strike conventional missile capability against the overwhelming nuclear and conventional forces China has at its disposal.³⁶ If the guided-missile capability is possessed by an ally such as Japan, or used by the United States in defense of Japan or Taiwan,

³⁵ Based upon an assumed 5-10:1 for targets protected by enemy air defenses upon review of their capabilities in defense journals and trade publications.

³⁶ Jonathan F. Solomon, "Demystifying Conventional Deterrence: Great-Power Conflict and East Asian Peace," *Strategic Studies Quarterly: The Journal of the United States Air Force*, Vol 7 Issue 4, (2013):128.

this approach is even more appropriate from a deterrence theory perspective because both neither possesses the standing military power parity to existentially threaten Beijing.³⁷ Nor is either country configured for large-scale high-intensity follow-on military action. The United States could do so, but would stress the argument that it chose a scalable kinetic capability rather than using the full might of its military to ensure China regime change was not the goal, but aggression must be punished. The U.S. would certainly take pains to stress this message.

Furthermore, the guided-missile submarines would be designed for an evidently restricted counterforce³⁸ purpose set: markedly increasing the difficulty the enemy would face in achieving a quick, decisive victory at seemingly low cost, and helping to ensure access for U.S. force projection into the region once hostilities have either begun or look inevitable.³⁹ The modest guided-missile submarine capability proposed here is unsuited for a debilitating first-strike against a great power and has no overwhelming countervalue use.⁴⁰ Again, countervalue attacks, pure punishment, is not the goal – deterring adversary action or, failing that, ensuring access for U.S. forces is the goal.

Survivability and Readiness. While a standoff, shore-based conventional missile system would lower the cost, China could target and reduce them easily in the opening strike. Being submarine borne would add both survivability and the knowledge that credible retaliatory capabilities exist after the first salvos are fired against allied defenses. China would have to weigh the value of an opening strike against known U.S. and allied military forces against the

³⁷ Of course, one could make the argument that Beijing demonstrably and spectacularly failing to protect or assert its sovereignty claims would be an existential threat to the Communist Party, but that is a discussion for another time.

³⁸ *Counterforce*, i.e., designed to destroy enemy military capability, as opposed to *Countervalue*, designed to attack civilian infrastructure or the population itself in order to inflict pain.

³⁹ Jonathan F. Solomon, “Demystifying Conventional Deterrence: Great-Power Conflict and East Asian Peace,” *Strategic Studies Quarterly: The Journal of the United States Air Force*, Vol 7 Issue 4, (2013):119.

⁴⁰ Cruise missiles like the one proposed in this paper admittedly were used in opening strikes in attempt to decapitate the regime of Saddam Hussein in Iraq. However, is it improbable such a decapitation strike would be effective, or even attempted, against a modern country of decentralized administration and executive redundancies. Furthermore, the U.S. or any country would be foolish to attempt a debilitating first strike against a nuclear power, which is another strength of the conventional capability to inflict retaliatory cost upon the adversary’s conventional forces.

presumed combined ability to respond. Furthermore, even in an overwhelming conventional first-strike against U.S. or Japanese bases, for example, this capability would allow the United States to inflict retaliatory and punitive damage against the aggressor and deny him *fait accompli*.

Proximity. Potential difficulties notwithstanding in the topography of the East and South China Sea, or the southern Sea of Japan, quieted guided-missile submarines offer probably the best possible option for prepositioned strike to hinder, disrupt, deny, and destroy enemy A2/AD forces. The combination of the TLAMs long-range and the submarines' survivability and stealth make it the ideal asset combination for counter-A2/AD warfare. Having prepositioned guided-missile submarine assets is ever-wiser considering that China probably would attempt to close chokepoints with its own submarines before U.S. and allied forces could enter the region.

COUNTERARGUMENTS AND RECOMMENDATIONS

The criticism one most expects is that this proposal will create an arms race. Some commentators already argue that the United States and China are in a realist security dilemma, and what is needed now are not continuing military modernizations but confidence-building measures and deescalatory commitments to avoid Graham Allison's "Thucydides Trap".⁴¹ On this, Solomon argued "China's reluctance to negotiate even rudimentary incident-prevention and escalation-mitigation (i.e., confidence-building measures) is consistent with its apparent strategic culture core aspect that favors manipulating crisis instability to coerce opponents."⁴²

⁴¹ For discussions on the security dilemma see, for example, Robert Manning, "The U.S.-China Security Dilemma," *The Atlantic Council*, 2 July 2013, <http://www.atlanticcouncil.org/blogs/natosource/the-uschina-security-dilemma>; Harry J. Kazianis, "The Ultimate Nightmare: Are the U.S. and China Destined for War?" *The National Interest*, 27 February 2015, <http://nationalinterest.org/feature/the-ultimate-nightmare-are-the-us-china-destined-war-12331>; Graham Allison, "Avoiding Thucydides's [sic] Trap," *Financial Times (London)*, 22 August 2012, http://belfercenter.ksg.harvard.edu/publication/22265/avoiding_thucydides_trap.html.

⁴² Jonathan F. Solomon, "Demystifying Conventional Deterrence: Great-Power Conflict and East Asian Peace," *Strategic Studies Quarterly: The Journal of the United States Air Force*, Vol 7 Issue 4, (2013):129.

Consider that as China becomes more economically and militarily powerful it becomes more assertive, as the last five years attest in maritime disputes. There is no reason to believe that after reaching its military apex vis-à-vis the rest of the region Beijing will decide to become less assertive or ratchet down its excessive territorial claims. This is especially true if the United States, the global security guarantor and enforcer of the status quo, has no desire to interfere or, as is most likely, pressures its allies to accede to China's terms to forestall conflict. What Beijing is most likely to do is continue its demonstrated and successful strategy of making incremental gains, declaring those gains part of a new and sacred status quo in the region, consolidating those gains, and then repeating the process. In other words, if the concerned parties choose not to engage in an arms race that is already underway they are likely just making China's goals more cheaply attainable.

Another common argument is that China would "design around the deterrent" and find a new and perhaps better method of holding U.S. and allied forces at risk and potentially denying them access to the region.⁴³ In response, it is hard to think of a downside to deploying a capability that counters China's A2/AD center of gravity. Forcing China to spend even more on horizontal A2/AD alternatives, denial and deception, and hardening its facilities while simultaneously ameliorating a critical vulnerability on your own side is a net gain for the United States and its allies.

Some might also argue that such a deterrent capability is unnecessary because China is aware of its worsening reputation in the region and the dangers of having the world's power economies angry at it. They may point to China's exhortations for the United States to avoid the problems of the past and embrace the "new model of great power relations." However, China has been reluctant thus far to define the concept beyond the basic platitude of mutual

⁴³ Ibid, 148.

understanding and respect,⁴⁴ probably in hopes that the United States will define it for them – a point upon which Beijing would anchor in future negotiations. As Andrew Erickson and Adam Liff note, “an even more cynical interpretation” is that Beijing would press Washington to acknowledge its “core interests,” and there is nothing to indicate Beijing has any desire to compromise.⁴⁵

U.S. recognition of China’s core interests, extraordinarily unlikely absent a seismic shift in U.S. Asia policy, would be received very negatively by East Asian allies and partners because the emerging theme for finding common ground with China among some scholars and pundits seems to be acceding to almost all of China’s demands. This would reinforce the already growing fear in the region that the United States is declining, China is rising in relative power, and one day Washington may just decide the trade-off is worth it because a troubled peace is better than war.

Finally, there is the reasonable, ever-present fear of nuclear escalation following any conflict between nuclear powers. However, there is no reason to assume any conflict involving nuclear powers will inevitably end in a nuclear exchange. Any nuclear power would be extraordinarily reluctant to conventionally attack another nuclear power for fear of nuclear retaliation, but the United States must be prepared for that eventuality. If an aggressor believes the United States will not respond to a conventional attack against its second-tier interests for fear of igniting an escalation spiral, then the United States must assume it too can respond

⁴⁴ According to Cheng Li and Lucy Xu, Chinese President Xi Jinping described the “new model” as: “1) no conflict or confrontation, through emphasizing dialogue and treating each other’s strategic intentions objectively; 2) mutual respect, including for each other’s core interests and major concerns; and 3) mutually beneficial cooperation, by abandoning the zero-sum game mentality and advancing areas of mutual interest.” While well-sounded in theory, in practice U.S. accession to these characteristics on terms China would find agreeable would be disastrous to America’s alliances. (Cheng Li and Lucy Xu, “Chinese Enthusiasm and American Cynicism Over the “New Type of Great Power Relations,” *Brookings*, 4 December 2014, <http://www.brookings.edu/research/opinions/2014/12/05-chinese-pessimism-american-cynicism-great-power-li-xu>).

⁴⁵ Andrew S. Erickson and Adam Liff, “Not-So-Empty Talk: The Danger of China’s ‘New Type of Great-Power Relations’ Slogan,” *Foreign Affairs*, 9 October 2014, <http://www.foreignaffairs.com/articles/142178/andrew-s-erickson-and-adam-p-liff/not-so-empty-talk>.

conventionally without triggering a nuclear response from the adversary for the same reason. This is admittedly a highly dangerous assumption, but without the assumption, and without planning for it, the United States risks being unwilling or unable to respond, and should concede that it has been deterred.

CONCLUSIONS

A strengthened guided-missile submarine capability is one of several options for reducing the emergent A2/AD threat. It hosts the virtues of silence, stealth, and distributed lethality, while being immune to most opening strikes in a conventional fight. It would force adversary antiship missiles further underground, into more hardened facilities, farther from the coast, and require new investments in counter-countermeasures. As a deterrent, it would demonstrate to the adversary a counterforce mission set and commitment to non-nuclear kinetic action to defend the status quo. This it would do comparatively cheaply. As a bumper sticker it could read “nothing will stop the United States from going where it wants, when it wants, to do what it has to do.”

The United States has become accustomed to practically unchallenged maritime force projection, with the aircraft carrier the force of first resort for projecting *diplomatic* and *military* power. Militaries are usually well-prepared for the last great conflict, as the current constitution of the naval carrier strike group evidence. Given the preeminent place the aircraft carrier, the modern dreadnought, holds in U.S. and allied strategic and operational planning it is no surprise our potential adversaries have targeted resources to ensure its destruction. Each passing year portends new advancements in carrier-killer technology. It is as true for nations, militaries, and species that those that fail to adapt court destruction.

This paper has intentionally focused almost entirely on the military aspect of conventional deterrence. The economic, social, and political (to include diplomatic) elements of

deterrence are sought and encouraged as well. These demonstrably work best when they are reinforced by a strong foundation of conventional retaliatory capability and will to fight. One surely hopes a guided-missile submarine payload would never have to be used in the Asia-Pacific, but merely its existence as part of a counter-A2/AD military option means potential adversaries must plan for it or else assume away the capability at great risk to themselves. If the current trend continues and the U.S. and its allies fail to adapt they risk an adversary perhaps more willing to use military action to resolve disputes. The adversary could rationally wager that the United States would be unwilling to risk its primary and most political means of force projection, the aircraft carrier, once a proven ability to kill it is demonstrated. The neutralization of carrier capability would leave the United States with the operational need to use global-strike assets, greatly increasing escalation risks and costs.

The United States does not and should not bear the brunt of these associated costs alone. Japan is capable of participating at multiple levels, which is worth serious consideration and is more likely than some analysts might believe.⁴⁶ As the weaknesses of nuclear deterrence in less-than-existential scenarios continue to be demonstrated, a viable conventional deterrent and complementary strike capability are realistic and necessary options for ensuring American and allied power continues to hold the line in the Asia-Pacific. After all, China wins in a draw or *fait accompli*. Both scenarios must be prevented.

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