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Beowulf Defense and Security

A Look at Security, States, and the Sea



Feature

The Tiger and the Dragon
A look at security in the new east

Essay

The "Warship of the Future"
that wasn't.
*An overview of the Navy's LCS
Program*

Beowulf Defense and Security
Pittsburgh, Pennsylvania
United States

"Security is a not a product, but a process."

— Bruce Schneier

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Our uniquely comprehensive security solutions are specifically tailored to engage the emerging needs of governments and private entities in the 21st Century and we are fully committed to providing innovative defense and security expertise with the utmost levels of professionalism, and fidelity to ensure that all clients are presented with the most effective solution to any concern.



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Outside cover / Above

Aircraft maintainers with the Indian air force conduct post-flight maintenance on an SU-30 Fighter following a Red Flag mission at Nellis Air Force Base, Nev. Aug. 13 2008.

(U.S. Air Force photo by Airman 1st Class Ryan Whitney)



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The “Warship of the Future”, That Wasn’t

A realistic overview of the failure of the Navy’s LCS Program

Phil Futuyama

Photo Credit

An MH-60R Sea Hawk helicopter assigned to Helicopter Maritime Strike Squadron (HSM) 77 prepares to land aboard the littoral combat ship USS Freedom (LCS 1). (U.S. Navy photo by Mass Communication 2nd Class Aaron Burden RELEASED)

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Foreword

Daniel de Gracia

Greetings and thank you for reading the launch edition of *Engaged*, the official journal of Beowulf Defense and Security! I am honored as an elected official to introduce this new and informative publication and hope that you will find it to be a superlative resource whether you are a public policymaker, maritime security professional, military operator, actuary or like myself, simply a citizen concerned about the issues that impact the future of our oceans.

In William Shakespeare's *Julius Caesar*, Brutus warns "There is a tide in the affairs of men ... On such a full sea we are now afloat, and we must take the current when it serves, or lose our ventures." Today's political and economic realities have underlined the sagacity of those words and presented us with a challenge to actively engage in the business of maritime security or risk unacceptable loss to the twenty first century's breakout of international piracy and banditry. Nearly three quarters of the planet is covered by water and there is not a single city or nation immune to adverse security changes on the open seas. Whoever controls the oceans controls the world.

As governments cope with frustrating structural budget gaps, the ability of private maritime security to ensure uninterrupted flow of commerce and safe ocean navigation will be a vital part of our foreseeable future. I encourage you to engage the future and secure the present by reading this journal. ✈

Daniel de Gracia is an elected Honolulu municipal board member and the economic policy advisor for the Grassroot Institute of Hawaii, a public policy think tank.

The Tiger and the Dragon

Phil Futuyama
Allison Maykuth

A look at the Security of a Changing East

Expansionism has always been among the most influential elements of foreign policy. It is responsible for the creation and disintegration of superpowers, the eradication of entire nations, and complete paradigm shifts in schools of philosophy, economics, and politics. With the impressive rise of China and India as key players on the global stage, this concept has become all the more apparent. Rooted in the two core aspects of Sino-Indian relations, militarism and economic competition, is the beginnings of a complex bi-polar security environment steeped in a tense history and an aggressive pursuit of growth.



Photo Credit

The People's Liberation Army Navy (PLAN) guided missile destroyer Shenzhen (DDG 167) gets underway from Apra Harbor, Guam, following a three-day port call in October 2003. (U.S. Navy Photo)

Global implications of a China-India Aggression Escalation

Given the turbulent legacy of conflict between India and China, it is hardly surprising to see lingering tensions in the present political environment. The late 1950's and 1960's saw a slew of border conflicts between the nations, which were perhaps sparked by the Tibetan Uprising, in which India intervened to grant asylum to the Dalai Lama. Tensions endured into 1962, which culminated in the Sino-Indian war, a harsh battle over a Himalayan border area. Though the nations have signed peace accords, it appears relations remain strained and unresolved. By analyzing the current context of global power, it appears China and India now have the capabilities to launch

highly aggressive strikes against one another. However, such an attack would inevitably involve more than just the aggressor and the victim; other nations with strong ties to India and China, such as the United States and Pakistan, would surely impact the decision to strike, as well as the consequences of an advance. With the risks of toppling the delicate balance of world power, it seems unlikely that either China or India is willing to ignite the flames of a high-scale battle that would billow beyond control and leave their defense capabilities in cinders.

The China-India Power Struggle

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The U.S. Department of Defense recognizes growing Chinese strength in its 2011 annual report to Congress. China has made unexpected strides in technological expansion, leading to a large military buildup that includes the testing of the nation's first aircraft carrier, as well as the development of carriers that can transport and deploy ballistic missiles. China has also been focusing its energy on strengthening its conventional armed forces.¹ Because of this rapid growth, one might suspect China is intending to increase its defenses against perceived external foes, or even muster its forces to launch a preemptive strike. Given China's rocky relations with India, this certainly does not bode well for India's sense of security. An article appearing in *The Economist* in August of 2011 comments on the Department of Defense's report and suggests that China, although its recent progress is worrisome, does not seem to be a particularly malevolent force, at least in the present; it would rather focus on internal economic development than external confrontation.² On the other hand, China is exceptionally transparent about its defense advancements, which raises the question that feasibly, it could be in the process of covertly developing other military advancements. This claim would be difficult to prove, although suspicion of any secret security project is certain to provoke tension in other nations, for the true uncertainty lies within China's intentions.

India perhaps senses its vulnerability and has likewise sought to increase its military capabilities. It has a highly developed nuclear power program and plans to pursue increased nuclear acquisition.³ Its military competencies far outstrip those of China, making it unlikely that China would seek to attack India, for a retaliatory strike against China would wipe out China's still-developing defenses. Perhaps in the long run, if China manages to truly rival Indian strength and nuclear capacity, it would initiate an attack, but in the present arena, this would be an act of suicide. India, on the other hand, has no desire to enter into conflict with China, and even seems willing to seek international cooperation.⁴ As long as India pursues peaceful negotiation with China, and if China remains less developed in

the military and nuclear sector, it is improbable the two will engage in open conflict.

Global Implications

Global influences certainly have an impact on China-India tensions. The Council on Foreign Relations reports relations between the United States and India are at an all-time high. The United States has expressed explicit support for India's presence as a power in Asia and agrees on a peaceful strategy of cooperation with China. Additionally, as the Chinese threat cannot be ignored, the two nations have agreed to frequently consult with one another to discuss their evaluations of China's behavior.⁴ An American collaboration with India is a formidable force in the balance of global power. Given their close ties and similar policy agreements, any Chinese attack on India is likely to provoke American response. At the moment, China barely has the resources to inflict a large impact if it attacks India, let alone enough remaining strength to defend itself if India retaliates. With the United States in the picture and acting on India's behalf, a Chinese attack would face brutal retribution and possible annihilation if nuclear weapons are involved. It is unimaginable that a nation would be willing to face crippling destruction to itself, as well as the sacrifice of costly weapons that have only recently been developed. American collaboration and support of India is sufficient to deter China from attempting an act of aggression against India.

Although this American influence might deter China from pursuing action against India, Pakistan support of China might be significant enough to sway the balance of power back toward China. India and Pakistan have a legacy of conflict, especially concerning the Kashmir region bordering the two nations, an area in dispute since the end of Britain's rule in India. Both nations claim right to this land, and because this conflict remains unresolved, relations between India and Pakistan are extremely strained. Particularly worrisome to India is China's support of Pakistan, given China has provided it with military and nuclear support. In the 1960's, China supplied complete arms systems to Pakistan, as well as arms factories, and has been Pakistan's primary weapons provider since the 1990's.⁵ China also provides nuclear development assistance and supplies to Pakistan, which already possesses short and medium-range ballistic missiles.⁵ Because of this close relationship between the two, India must concentrate on defense against both China and Pakistan, whether in a first-strike or

¹ United States. Dept. of Defense. *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2011*. Washington: GPO, 2011. Web.

² "Modernisation in sheep's clothing." *The Economist*. 26 August 2011. Web. 11 November 2011.

³ *Nuclear Power in India*. World Nuclear Association. November 2011. Web. 11 November 2011.

⁴ "The United States and India: A Shared Strategic Future." Council on Foreign Relations. September 2011. Web. 11 November 2011.

⁵ Afridi, Jamal. "China-Pakistan Relations." Council on Foreign Relations. 6 July 2010. Web. 18 November 2011.

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retaliatory capacity. Moreover, given poor relations between the United States and Pakistan, Pakistan might have more incentive to partner with China in a strike that could extend to the United States through an alliance with India.

Is Cooperation a Possibility?

An understanding of power balance demonstrates the low probability of imminent conflict between India and China, yet an absence of violent attacks does not suggest the nations will be at peace; their historical tensions run too deep to simply evaporate. Yet, is it possible the two nations could move toward a more cooperative relationship? The first step would be for the two to agree to a non-aggression pact. In order to do so, certain incentives would have to be in play: India needs to cease support of the Dalai Lama and Tibetan rebels on Indian soil, as well as avoid interference in the South China Sea dispute. China, on the other hand, would need to eliminate defense provisions to Pakistan.⁶ It is presumptuous to believe the two nations would be able to enter into a friendly alliance; however, with negotiation, it would be possible for the two to coexist without fear of conflict while pursuing individual interests. As the United States and India have both expressed interest in peaceful cooperation, perhaps China will soon feel it is in its best interest to comply, as the alternative would be to face the full force of American and Indian defenses.

In addition, according to a 2010 Pew Global Attitudes Survey of residents of India and Pakistan, attitudes within the two nations appear to favor negotiation. Chart 1 below shows that a majority of respondents in both countries with an opinion believe it is important to improve relations. Furthermore, chart 2 reflects a majority of respondents in both countries that show support for negotiations between each other. Pakistan displays a higher percentage of individuals in favor, a surprising statistic given India's emphasis on peaceful cooperation in international affairs. This suggests that perhaps Pakistan does not possess high levels of aggression for India and will similarly be unlikely to interfere in any conflict between India and China. Without Pakistan, China would be foolish to provoke conflict with India and possibly inflict both Indian and American retaliation upon itself. However, this data represents civilian perspectives, and the state of Pakistan may well act against public

opinion. Either way, these statistics are optimistic and show the prospect of peace concerning India or Pakistan is attainable.

Importance of improved China-India relations (Percent within country)⁷

	Country		Total
	India	Pakistan	
	51.1%	56.4%	53.5%
Somewhat important	36.0%	25.2%	31.0%
Not too important	6.7%	8.0%	7.3%
Not at all important	6.3%	10.4%	8.2%
			100%

Opinion of negotiation with the other country (Percent within country)⁷

	Country		Total
	India	Pakistan	
Favor	68.4%	86.9%	77.0%
Oppose	31.6%	13.1%	23.0%
			100%

Though China and India have the ability to harm one another, it would be reckless to do so, as China's security forces, though progressive, are not enough to support an extensive operation or defense against retaliation. American support of India also functions as a credible deterrent. India also has no incentive to strike against China, as it has expressed interest in cooperation, and the Pakistani threat remains troubling. Though the nations' differences may be irreconcilable, there is little possibility they will enter into military conflict. Cooperation is possible, but as long as tensions remain, chances of complete peace are slim.

The Economic Race

With the concerning global economic downturn forcing stagnation in the GDP growth of the G6 nations, the BRICs (an acronym for the fastest growing economies: Brazil, Russia, India, and China) have taken up the aforementioned expansionist role - ushering in a renewed period of rapid development and change. But with BRIC favorites India and China leading the pack and vying for many of the same geo-economic footholds, the risk of their expansionist policies

⁶Raghavan, B. S. "Indian and Chinese sagas can run in parallel." 3 November 2011. Web. 11 November 2011.

⁷Datasets: *Spring 2010 Survey Data*. Pew Research Center. 7 April 2010-8 May 2010. Web. 18 November 2011.

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colliding head-on is becoming the alarming side-effect of a tense dynamic.

Indicators of such a collision are plenty. And while they don't necessarily constitute anything as drastic as full-scale armed conflict, they do imply immense changes to global security through what could most appropriately be called an aggressive economic competition between nations. Raghav Bahl, prominent Indian entrepreneur and author of "Superpower?" examines the economic tensions between India and China as a sort of "race", often inviting the fable comparison of the tortoise and the hare. And it's fair to say that the comparison sticks. China's astronomical leap forward was unprecedented, astonishing the world by surpassing Germany as the world's top exporter in a matter of decades. India's growth, on the other hand, has proven to be far less remarkable, albeit more stable. With China's defiance of 200 years of economic example by supporting 80% of its GDP on foreign investment and exportation, it risks a catastrophic bubble burst, while India's "slow but steady" approach projects it as the only BRIC with sustained growth after 2050⁸.

It's not the outcome of the race that's important here, however. Regardless of who comes out on top, aggressive economic and political tactics employed by both nations will be unavoidable. Vital resource consumption has attracted China and India to compete for many of the same key economic regions, specifically the South China Sea, South East Asia, and resource rich regions of the Middle East and Africa. And with geographical claims being a mainstay of Sino-Indian dispute since as far back as 15th Century Ming expeditions into the Indian Ocean⁹, the trend almost appears absolute. The simultaneous developmental leaps of both nations encouraging an increased exploitation of these economically strategic regions will continue and escalate the nearly perpetual tension.

The Maritime Interest

One of the most popular cases for this competitive tension will be economic control of the South China Sea, a body almost entirely claimed by the People's Republic of China (PRC) and dotted by a highly contested archipelago. Its popularity is attributed to the evidence of enormous petro-reserves in the undersea strata, a prize

that invited several violent clashes in the 1990's between claimants of the Spratly Islands¹⁰. While it is not among the countries bordering the South China Sea, this discovery of petro-reserves has encouraged India to jump into the geo-political fray. By reaching a 3-year contract with Vietnam, a competitive claimant to the Spratly Islands, India's Oil and Natural Gas Corporation was permitted to launch exploratory operations to the region¹¹. But despite Vietnam's authority over the exploration blocks being outlined in the 1982 United Nations Convention on the Law of the Seas (UNCLOS), Beijing opposed India's presence in the South China Sea as an infringement of territorial sovereignty. Chinese Spokesperson, Jiang Yu, responded by reaffirming the "consistent position that [China is] opposed to any country engaging in oil and gas exploration and development activities" in the South China Sea.¹² While this response is significantly milder than the persistent past allegations claiming China's use of privateers to violently assert PRC control over the Spratlys², such public warnings provide a serious concern for future developments—particularly as India escalates its naval presence in the region.

Inversely, China's increasing naval presence in the Indian Ocean has presented its own grounds for conflict in future relations. As it stands currently, this potentially hostile situation can be perceived as a reasonably innocent counter-piracy operation acting outside of Combined Task Force 151. Indeed, China's economic interests depend heavily on shipping routes through the Strait of Malacca and the Gulf of Aden, both of which connect to the Indian Ocean and maintain a reputation as piracy hotspots. However, the PRC's construction of naval bases in Sri Lanka, Burma, and India's arch-nemesis Pakistan suggest a drive for strategic dominance and security in an economically sensitive region⁵. And though a counter-piracy operation provides a politically conscious explanation for the militaristic expansions in the region, it's hardly the dominant cause. As the past decade has made evident, key waterways across South-East Asia have seen more than enough military exercises to make both Beijing and New Delhi nervous. And with the vulnerable Malacca passage accounting for 40% of world trade¹³, both India and China are highly

⁸ Raghav Bahl, "Super Power? The Amazing Race Between China's Hare and India's Tortoise" *Penguin Group* 2010, New York

⁹ Howard Chua-Eoan, "Beyond Pirates: On the High Seas, an India-China Rivalry" *TIME World*. April 2009. Web. November 14.

¹⁰ Martin Murphy, "Small Boats, Weak States, Dirty Money: Piracy and Maritime Terrorism in the Modern World"(New York: Columbia University Press, 2010) 56

¹¹ B.Raman, "South China Sea: India Should Avoid Rushing In Where Even US Exercises Caution" *South Asia Analysis Group*. Sept 2011. Web. November 12

⁵ Howard Chua-Eoan, "Beyond Pirates: On the High Seas, an India-China Rivalry" *TIME World*. April 2009. Web. November 14.

¹³ Factbox: "Malacca is Strategic 'Chokepoint'" *Reuters*. March 2004. Web. November 14

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motivated to forge political and economic ties with the regional straits-littorals; full-well knowing that a closed Malacca chokepoint would, at the very least, harm the economic growth of either country.

Developing Partners

Understandably, the developmental aspirations of India and China cannot be restricted to maritime theatres. Interest in economic partnerships with Middle Eastern and African countries has only grown as development continues to demand more resources. And with Africa exporting 4 times the goods to China that it does to the European Union (EU)¹⁴, it seems the appeal of an Afro-Asian relationship is mutual. Mining operations, oil extraction, and manufacturing have become staples in Asia's ties with Africa and the Middle East. But with famine ravaging the horn of Africa, western military draw-downs in the Middle East, and a myriad of internal governance issues plaguing many of the regional powers, India and China will be forced to take on a heavily supportive role in order to maintain a secure operational presence. Elements of this role already exist, and in keeping with the trend of a Sino-Indian trade race, are highly competitive.

With the allocation of capital being focused primarily on development and infrastructure, the interest in maintaining a stable and growing trade partner is clear. But with regime changes and outbreaks of violence being relatively common in Africa and the Middle East, stability and growth are little more than "best case scenarios". If India and China are truly dedicated to protecting their investments and by association, their growth, they must be willing to take a more "hands-on" approach in their supportive roles when the situation calls for it. And given their economic aspirations, it's likely they will.

The Security Continuum

The economic trade race between China and India promises a complete shift in international security. The PRC's rapid development is expected to produce more warships than the US within a decade, and India has been busy scaling up its own military technology at an impressive rate¹⁵. Developments like these are entirely products of China and India's economic successes, and will ideally serve as the means to ensure their economic futures. In his article for *Foreign Affairs*, Robert Kaplan explains that these developments are the

beginning a "security continuum" in which the counter-piracy and security operations of the US in economically strategic regions will be largely replaced by Sino-Indian interests. Regions like the South China Sea, South East Asia, and the Indian Ocean are seeing the beginnings of this continuum as naval patrols from China and India have become far more frequent and far more elaborate.

The benefits of Kaplan's continuum are obvious. As was the case with the Cold War, regular and wide-spread naval patrols can reduce maritime piracy to a non-factor for the security community¹⁶. And with India and China seeking to secure many of the same strategic economic regions, it's likely a similar effect will take hold. Piracy hotspots like the Gulf of Aden, the South China Sea, and the Strait of Malacca will increasingly become more serious concerns for the rising economies- and will be addressed more aggressively. Ports along Africa's eastern coasts and the Middle East will become vital security investments, requiring strict attention to regional stabilities. And lastly, oil and mineral reserves will be the focus of militaristic "arm-flexing" as two nations seek to exhibit economic dominance over each other. This will see insurgencies and uprisings abroad taking a more focal role in Chinese and Indian foreign policy, akin to the regional Soviet and American operations that preceded them. For a rivalry with little risk of sparking a large-scale armed conflict, the future of Chinese-Indian relations stands to become one of the most effective contributions to global security in recent times. ✎

¹⁴ Scott Baldauf "India boosts bid to rival China in Africa". May 2011. Web. November 21

¹⁵ Robert D. Kaplan "Center Stage for the Twenty-first Century" *Foreign Affairs* 2009. Volume 88, No. 2

¹⁶ Bibi van Ginkel and Frans-Paul van der Putter "International Response to Somali Piracy" 2010 Martinus Nijhoff, Boston

The “Warship of the Future”, That Wasn’t

Phil Futuyama

A realistic overview of the failure of the Navy’s LCS Program

Phil Futuyama takes a quick look at the US Navy’s Littoral Combat Ship in his debut article as a Beowulf Research Intern.



The littoral combat ship USS Freedom (LCS 1) is underway in the Pacific Ocean. Freedom is conducting counter-illicit trafficking operations. (U.S. Navy photo by Mass Communication Specialist 2nd Class Michael C. Barton/Released)

The climate of defense and security is changing. Pirates, terrorists, drug cartels, regional political instabilities, and humanitarian crises have forced the United States to adopt less traditional roles for its military while operating on the world stage. The shifting concern towards asymmetrical warfare and logistics has spurred demand for a naval vessel capable of fulfilling a variety of roles in increasingly alarming coastal regions, while retaining its equally important open-sea responsibilities. To meet these demands, the Department of Defense initiated an ambitious project to construct the “Littoral Combat Ship”, or LCS.

The plan was reasonable enough. The working concept of a multirole ship had already been employed in the Royal Danish Navy as the Flyvefisken Class Multirole Vessel for 30 years. The two contracts issued to General Dynamics and Lockheed Martin by the US Department of Defense to design and build the LCS sought to take this concept and introduce cutting edge stealth and surveillance technology, high speed capabilities, and improved offensive means. It sought to become the replacement for an aging and expensive Navy, intending to be compatible with future developments over several decades. At the very least, the theoretical concept of the LCS was nothing short of an exciting shift in maritime defense.

The use of reconfigurable “mission modules” would allow the LCS to easily swap its roles within 48 hours and without extensive structural alterations. The modules, similar in size and design to standard intermodal frigate containers, ideally enable the LCS to fulfill the duties of larger specialized ships, while maintaining the flexibility to accommodate a wide range of tasks such as minesweeping, surveillance, counter-submarine warfare, and special operations. This flexibility also promised to keep the LCS up-to-date with emerging technology, maintaining a low-cost method to remain cutting edge. Unfortunately, even the considerable advantages presented by a modular system afforded the LCS few bragging rights.

As early as the research and development phases, the LCS was mired in problems. The US Navy’s concerns over performance and costs cancelled both contracts several times, pushing back the completion date by years. When finally the USS Freedom, Lockheed Martin’s LCS design, was deployed in 2006, it failed to impress. Trials found the LCS was unstable at the high speeds it promised, rapidly depleted its fuel supply, required additional buoyancy tanks, and raised concerns with corrosion. When General Dynamic’s USS Independence was deployed in 2008, little had been improved. Even the highly regarded modular systems proved overly-complex and failed to provide seamless integration. This collection of problems and concerns nearly

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tripled the cost of LCS from its original estimates, further distancing the LCS from everything it was meant to be.

This divergence, however, has done little to dissuade the Pentagon from the LCS program. New bid offers have been accepted for the next three additions to the littoral combat fleet, even after unsatisfactory results forced the cancellation of both the Lockheed and General Dynamics contracts. In response to questions of fiscal austerity and poor LCS performance, Department of Defense Spokesperson Cheryl Irwin tried to reassure the public that "issues during ship trials are common" and that the new offers for LCS construction "provide substantial savings compared to earlier cost estimates". Given the DOD's insistence on the program, it appears that the ultimate goal of replacing 56 aging frigates and minesweepers with 55 LCS units has not been discouraged.

But the fact remains that the few distinctly positive characteristics of the LCS program are restricted to idealistic future improvements under the new contracts and a limited series of reports. One such study by Northrop Grumman Aerospace claims that 7 deployed LCS can more cheaply and effectively manage anti-piracy

operations in the West Indian Ocean than a fleet of 20 conventional warships. Even if one disregards Northrop Grumman's obvious interests as the contracted UAV manufacturer for the LCS program, the study fails to instill confidence in the LCS's multirole capabilities beyond a single task. Given the rising price tag of an LCS unit, one would hope that a "flex ship" design would be just as effective in a variety of roles beyond counter-piracy missions.

If the LCS's history is any indication, one would be wise to approach the advancement of the program with skepticism. As the project that touted the USS Independence and USS Freedom as affordable alternatives pushes well over \$30 billion, future expenditure projections should be perceived as suspect during this period of heightened budgeting concerns. Unless the program manages to keep to its cost-effective outline, the Navy might find it far more reasonable to proceed with plans to introduce the mission module concept to the trusted Arleigh-Burke class fleet. As it stands now, however, the future of maritime warfare may have to wait a while longer. ↗

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