THE ROLE OF THE CHINA'S ANTI--ACCESS AND AREA-DENIAL CONCEPT AS AN ANSWER FOR UNITED STATES' AIR-SEA BATTLE MODEL IN THE PACIFIC REGION

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ABSTRACT
The East Asia security is currently of attention of the world powers as it is an area of growing competition between US and China. The paper will focus on defining PRC's strategic culture pillars and understanding Beijing's ultimate objectives in developing A2/AD systems. It will be illustrated how A2/AD systems are only one segment of a broader A2/AD strategy, focused on securing PRC's energy resources procurement in the Indo-Pacific. Next, options to threaten the US ASB concept and Allied Expeditionary forces and overall military dominance in East Asia – Pacific region will be covered.

KEY WORDS
East Asia, anti-access and area-denial, air-sea battle concept, onternational relations.

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Introduction

'A Ship's a Fool to Fight a Fort' these words, first spoken by Horatio Nelson, are one of the six cornerstones of naval operations, along with 'Attack Effectively First' according to 'Fleet Tactics and Coastal Combat' (Hughes, 2000). If we were to translate this to modern times, the fort today is represented by the anti-access and area-denial (A2/AD) means such as land-based aircraft and missiles, coastal submarines and air- and/or even space-based sensors. A2/AD is the new buzz word among contemporary military planners, and the United States Navy (USN) has derived its Air-Sea Battle Concept to counter this new 'Fort', currently with a focus on the Indo-Pacific region, where allegedly China is challenging the US superiority.

The Air-Sea Battle (ASB) Office in the US Department of Defence (DoD) divides such systems in two categories: Anti-Access (A2) and Area Denial (AD). Their aim is, respectively, to deny '...U.S. and Allied Forces to both get to the fight (A2) and to fight effectively once there (AD)' (US Department of Defence – Air-Sea Battle Office, 2013

p. 2). However, looking at the situation from the Beijing perspective, the PRC is a country in strong economic expansions, heavily dependent on maritime traffic for energy supply and trade, which seeks to secure its vital interests from any actual or potential influence by other regional competitors (Bitzinger, 2014, p. 1). Actually, the military balance in the Indo-Pacific appears very complex and the US' capability to manoeuvre forces to and within this region is not unchallenged as it was during the last 60 years. In fact, the outcome of a potential confrontation with the PRC in such an environment is unpredictable.

The first part of the essay will focus on defining PRC's strategic culture pillars and understanding which are Beijing's ultimate objectives in developing A2/AD systems. In particular, in order to answer the first question in the topic, it will be illustrated how A2/AD systems are only one segment – specifically the military tactical one – of a broader A2/AD strategy, focused on securing PRC's energy resources procurement in the Indo-Pacific. According to this framework, it will be argued how A2/AD systems are more defensive than offensive in character.

The second part will argue that the PRC could threaten the US ASB concept and Allied Expeditionary forces based on the dangerous assumption of access and superiority drawn as a post-Cold War conclusion.

Frankly, there is nothing new about any of these concepts. Concerning the A2/AD, Tangredi in his book about the subject, points out how this is not a 'technology-driven post-Cold War phenomenon, but rather a routine element of grand strategy used throughout history by strategically weaker powers to confront stronger powers' (2013). Likewise it could be commented that ASB concept just rephrases the concept of Joint thinking. However, the idea of Capt Hughes, who in his book outlines that technology drives tactics, and tactics drive strategy remains valid. Therefore, Washington should analyse and rephrase its doctrinal concepts as a result of historical experience and new technology. In so far the ASB concept underlines the growing importance of cyberspace and computer networked warfare.

Washington versus Beijing: Who is challenging who?

In order to understand the ultimate goal of A2/AD systems in Beijing's overall strategy, it is necessary to look at the Chinese cultural background. With more than 4000 years of history as the East-Asia's protagonist, and a civilization that matches up to the European ones, the PRC represents the direct heir of an ancient empire. Indeed, the Communist experience and Deng Xiaoping's reforms, although still relevant in today's political, economic and social framework of PRC's society, can be considered little segments if compared to the overall Chinese history. According to Johnson, '... traditional culture, communist ideology, and [...] western values' (2009, p. 3) are elements of today's Chinese strategic culture, as well as the unresolved issue over Taiwan sovereignty and an hidden feeling of feud towards Western and Japanese colonial powers for their cruel and exploitative policy applied during the 'century of national humiliation', between 1839 and 1949 (Mearsheimer, 2014). Moreover and contrarily to western culture, so long history is associated to a different Chinese perception of time: extended and past-oriented. In other words, achievement of objectives in the short term is much more a western than a Chinese concept, often driven more by the time constraints of political mandates than from actual needs. Actually, the PRC leadership's strategic decisions (including

military programs) should be considered in a broader time and historical context, and much more in the long than in the short period (Riel, 2004).

As an element of traditional culture, Confucian philosophy shaped Chinese thinking for ages. Confucianism pursues harmony instead of clashes and looks at physical confrontation with the enemy only as a last option (Qi, 2004 p. 53). That does not necessarily mean that the PRC is not ready for war actions – also preventive – when state integrity is at stake. Beijing's intervention in the Korea conflict in 1951-53, and the Sino-India (1962), Sino-Soviet Union (1969) and Sino-Vietnamese (1979) wars are examples of the PRC's commitment to defend territorial homeland integrity (Johnson, 2009 p. 12). However, state survival is not only a matter of territorial integrity. Energy resource security is another pillar of the PRC internal stability, as it underpins economic growth and, consequently, political and social stability. In fact, any interruption in energy flow from the Arabic Gulf will put at stake not only the PRC's economy, but also its society and its political leadership (Medcalf, 2013 p. 63) (Rehman, 2011 p. 7).

In order to secure its access to energy resources, the PRC pursues two main strategies. The first, called the 'String of Pearls Strategy' (figure 1 in annex), is aimed at securing the flow of energy from the Persian Gulf to the PRC's sea ports. During the last two decades Beijing pursued a farsighted policy of bilateral economic agreements with countries along the route to the Persian Gulf, aimed at establishing strong relationships, with Burma and Pakistan, in particular, and built up commercial outposts on strategic positions (the 'pearls') along the coast (Rogers, 2009 pp. 15, 16). The second strategy, far more challenging for the PRC and major source of worries for the neighbouring countries on the Pacific side, aims to secure a strategic defence perimeter within the 'First Island Chain' (a line that connect the Japanese archipelago, Taiwan, the Philippines and the Malacca Strait – figure 2 in annex).

> *'In the 1960s and 1970s, Mao Zedong, fearing attack from both the U.S. and the Soviet Union, concentrated economic development well-inland. Mao sought to protect China's "third-line" of industry from attack by interposing China's physical space between it and likely attackers. [...] Deng Xiaoping, reversed much of this policy when he inaugurated the period of Reform and Opening in 1978. Thanks to Deng's policies, China's economic centre of gravity has shifted to its coast, where foreign and domestic investment has been most heavily weighted'* (Cheng, 2013 p. 1).

As a consequence, today the vital core of the PRC's economic power is exposed on the sea side and lacks strategic depth for its defence. Thus, Beijing is pursuing a military development and is actively engaging neighbouring countries in claiming its sovereignty on the Paracels and Spratly Archipelagos in the South China Sea and the Senkaku/Diaoyu Islands in the East China Sea. Ultimately, the PRC's strategic objective is to enlarge its defencing perimeter and build up a sufficient military deterrence to avoid challenges to the core of its economic production. The sovereignty claims over Taiwan can be considered as a part of this strategy as well, although much more challenging for Beijing due to the strong defences on the island and the military support provided to Taipei by the US. Beijing, coherently with its cultural long term approach, is pursuing this strategic objective by '...the slow accumulation of small actions, none of which is a casus belli, but which add up over time to a major strategic change' (Haddick, 2012),

a behaviour defined by scholars as 'salami slicing' (Baruah, 2014).

As the main focus of this paper is on the PRC's A2/AD systems' efficacy towards the US' forces, the analysis will concentrate on those two main players. Nevertheless, it is remarkable that Beijing aims to influence the power equilibrium in a critical area where also other competitor countries operate. In fact, not only the U.S., but also India, Japan, South Korea, Singapore and Australia are important geopolitical players with relevant interests in the region. Moreover, all the countries in the Indocin peninsula, the Philippines and Indonesia play a significant role in the equilibrium due to their strategic position on the PRC's road to energy resources (Medcalf, 2013, p. 61).

Beijing's critical goals of ensuring energy supply for its economy and securing its territorial integrity clash with the robust US military presence in the region. Over the last 60 years, Washington has consolidated positions on key territories along the 'First' and the 'Second Island Chains' in the Pacific, with the purpose to contain communist ideology during the Cold War. As a matter of fact, the same network of military bases is now constraining the PRC's, subordinating its freedom of movement to another power's will (Scott, 2012, pp. 617-619). Therefore, Beijing has concentrated its

> *'[...] A2/AD efforts [...] on countering both American land and sea-based airpower, including not only aircraft carriers, but cruise missiles and long-range bombers. To this end, Chinese strategy has strategic, operational and tactical dimensions'* (Cheng, 2013, p. 1).

Specifically, at the strategic level, this strategy aims to erode US' power in the region through '...legal, public opinion and psychological warfare' means (Cheng, 2013, p. 2). In other words, the PRC aims to create a political environment among the countries in the region to support Beijing's security policy and, in parallel, illegitimate the US' actions that attempt to frustrate it. At the operational level the focus shift to the information domain, considered the key element of victory on the battlefield for the US and its Allies during the most recent conflicts in Iraq (2003) and Libya (2011). In particular, Cyber Warfare capabilities are seen as a main tool to challenge the enemy in the information domain. Finally, the tactical dimension of this competition is represented by the development of A2 (attack submarines, anti-ship ballistic missiles, strike aircrafts and anti-satellite missiles) and AD (missile surface units, sea mines and air defense systems), aimed at physically denying US forces to approach and operate in the eastern-Pacific in case of conflict. Although there are distinct definitions for A2 and AD, the same system could be hypothetically employed both as A2 or AD tool.

Regarding the PRC's carrier-vessel program, although it indicates Beijing's will to expand its influence in the Indo-Pacific beyond the 'First Island Chain', it will not be addressed in this paper, as the carrier-vessel is in nature more a mean of power/capability projection and expeditionary capability than part of A2/AD. However, the project is still worth mentioning in an A2/AD strategic perspective, as the carrier-vessel could be a credible naval diplomacy mean, which can contribute to shape the political environment of neighbouring countries in the region (Erickson, et al., 2012, p. 43).

Seen in its strategic, operational and tactical dimensions, A2/AD strategy is much more than a 'shopping list' of weapons systems. Actually, it is a broader strategy to defend the PRC's national interest to develop the country's economy. Nevertheless, the US' worries are also understandable. In fact, both the US and PRC basically mistrusting each other, both the contend-

ers face a 'security dilemma' and consider their posture as defensive, whereas the counterpart is seen as an offensive threat to their security (Mearsheimer, 2014). Actually, depending from which point of view the situation is considered, it is very difficult to univocally define who is the challenger and who is the challenged.

One can argue from the Chinese perspective that the current procurement programme is merely means to defend PRC's 'Near Seas' or their 'fort' within the 'First Island Chain' with an extended reach to protect interests within also the 'Second Island Chain'. Especially as Beijing is 'pursuing what is arguably the world's most missile-centric approach to warfare today' (Erickson, et al., 2012). China remains dependant on its sea lines of communications for its growing demand for energy and raw materials. The emerging fort has certain similarities with the Cold War Soviet defence of the access to Murmansk starting with the barrier at the Greenland, Iceland, UK (GIUK) gap, a layered defence called 'the Bastion'. Looking through the American lens, it would be natural to argue that USA wants to keep the status quo as the major peace keeper in the Indo-Pacific region, deterring any rising power from challenging American interests or threatening its allies.

The question one must ask is: Will the PRC become/stay a responsible stakeholder as its power, military and economic, increases? Moreover

> *[...]'China has every sovereign right to invest its newfound wealth in an aircraft carrier or even several. The strategically significant questions concern not the number and capabilities of these ships but how they will be employed* (Erickson, et al., 2012)'

and that still remains to be proven, and is equally true for other systems the PRC might procure or develop.

However, a defensive character is not enough to qualify Beijing's policy as submissive. Actually, the PRC has plenty of means in the economic and political domains to shape the Indo-Pacific equilibrium and it is ready to undertake all options – military ones included – to achieve its objectives, especially if national interest is at stake (Mearsheimer, 2014). As a matter of fact, the PRC

> *'[...] is as much or more an active political and economic challenger – seeking to raise myriad barriers to U.S. influence – as it is a military competitor. [...] When adversaries effectively combine political, economic, and informational tools with important military capabilities, the access challenge becomes more acute and potent'* (Freier, 2012).

Another important question to discuss is whether the current assumption of access and superiority of the USN and its allies is over estimated. Sam J. Tangredi warns against 'Post-Cold War assumption of Access' (Tangredi, 2013, p. 65). Though mentioning the assumption of 'oceanic sanctuary', Tangredi is basically concerned with US dependency on satellite-based communications and sensors, high-bandwidth connectivity and computer networks, pointing out that the ideal A2 strategy would be to let the superior power believe that it still can achieve access in order to impose the 'shock and awe' effect once hostilities start. Moreover the USN carrier-centric system is vulnerable to missiles and submarines similar as described in the paragraph 'Strategic Drawbacks' for the Chinese carriers (Dobbins, 2012).

Is the ASB Concept the right answer?

Since the end of World War Two, the Pacific became an 'US lake', as the North American superpower extended its control until

the shores of Asia. The US underpinned its hegemony by the forward basing of military forces and power projection capabilities along strategic outposts (figure 3 in annex) and consolidating strong alliances with Japan and South Korea in the north and with Australia in the south. As previously stated, this 'barrier' was specifically aimed to contain Communism in Asia, and allowed the US to freely intervene from the sea side in the Korea and Vietnam conflicts during the Cold War (Rogers, 2009, p. 10).

The US' hegemony in this part of the globe has been reaffirmed over the years. However, the PRC's military rise is now challenging that leadership. In particular, Beijing's development of A2/AD systems is seen as a potential limit to the US and its allies' expeditionary capability. In this perspective, the US' pivot to the Pacific, announced by President Obama in 2011, is an indicator of the perception to be challenged. The development of the ASB concept represents a way to deal with the A2/AD systems and to develop countermeasures. Specifically, ASB '...calls for "interoperable air and naval forces that can execute networked, integrated attacks-in-depth to disrupt, destroy, and defeat enemy anti-access area denial capabilities' (NIA/D3) (Etzioni, 2013). As stated by the DoD's ASB Office, the idea behind ASB derives from the Air-Land Battle concept developed in 1970 during Cold War, aimed to counter a possible Soviet land aggression in Europe through deep attacks by air on the enemy rear echelons. ASB expanded the concept to attack in depth, encompassing all the five warfare domains (Air, Land, Maritime, Cyber and Space), and providing protection for their own rear forces (US Department of Defence – Air-Sea Battle Office, 2013, p. 1).

The specific data about US' capabilities and tactics to counter A2/AD threats are not available as they are classified. Nevertheless, the document 'ASB. Service Collaboration to address A2 & AD challenges' by DoD provides sufficient details about ASB concept philosophy. The figure 4 in annex describes the employment of forces, the line of operations, and the objectives to achieve. Specifically, the focus is on cross-domain information sharing, integration of the existing military capabilities and exploitation of US' power projection superiority to carry on attack-in-depth on enemy A2/AD systems. The desired end state (freedom of movement and manoeuvre) is then achieved by the multiple and parallel disruption of enemy C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) networks, destruction of enemy capabilities and defeat of enemy employed weapons. (US Department of Defence – Air-Sea Battle Office, 2013, p. 4).

The ASB approach to the problem is very straightforward and its success is based on the assumption that the US can enjoy a sufficient technological gap, a sharp superiority in the air, cyber and space domains, and a privileged situation in the basing of assets (either at sea and ashore) vis-ŕ-vis every potential challenger. Nevertheless, it will be argued how the ASB concept presents several critical limitations and can be challenged by the PRC's A2/AD systems.

Firstly, the US-PRC technology gap is still consistent, although constantly decreasing. The Yuan Class submarines, the Luyang II Class destroyers and the J-11 jet-fighters are technologically inferior vis-ŕ-vis US' Seawolf Class submarines, Arleigh Burke Class destroyers and F-22 jet-fighters. Nevertheless, those assets can represent a credible and effective A2/AD tool if jointly employed in littoral waters (within 100 nautical miles range from the homeland) and in synergy with ballistic and cruise shore-based mis-

siles and modern sea-mining capabilities. Moreover, in the specific sector of anti-ship ballistic missile systems, like the DF-21D, the PRC's expertise is at the cutting-edge of technology and, as USN CAPT Hendrix argues, can credibly challenge the US carrier strike groups (CSG) operating within its 1000 nautical miles radius (2013 p. 8). Ultimately, a confrontation in the littoral waters is likely to drive to a situation of 'mutually assured denial' (Rogers, 2014).

Secondly, if air superiority can be assumed to be solidly in the US's grasp, space and cyber domains are much more contested. After Russia and the US, the PRC is the third nation to have acquired the capability to operate manned spacecraft (Qi, 2004 p. 63). Moreover, the PRC technology in anti-satellite missile systems showed consistent credibility shooting down an inoperative satellite in 2007 (Krepinevich, 2010 p. 15). In the cyber domain the competition between Washington and Beijing is even more equilibrate: as a matter of fact, a potential cyber-war with Beijing will be played almost on an even footing. Power projection is a joint capability enormously reliant on C4ISR and the US has always enjoyed the advantage to fully exploit cyber and space domains. Nevertheless, in case of a confrontation with the PRC, the US' C4ISR capabilities will be limited, along with its power projection (Dobbins, 2012 p. 15).

Finally, Washington can boast a remarkable advantage vis-à-vis Beijing regarding the forward basing and alliances network in the Indo-Pacific. In fact, the US has plenty of forward bases that can sustain expeditionary operations in the Asian continent (Tangredi, 2013 p. 177). Moreover, a solid system of alliances and cooperation initiatives in the region – where Japan, South Korea and Australia are the main pillars – and the support of France and the UK, enhance the US' advantage over the PRC (Scott, 2012, p. 623). In short, if a concentration of AD/A2 capabilities within the 'First Island Chain' gives the PRC a chance to challenge the US' mobility, Washington still enjoys a big advantage outside it. Nevertheless, the solidity of the alliance's system is the prerequisite for success and, although no contrast is emerging, any change of orientation towards PRC – also if related to an isolate nation – can overturn the equilibrium. Moreover, as stated in the first section, the PRC is aiming to erode the US' consensus in the region as a strategic objective of its broader A2/AD strategy.

Nonetheless, only a real conflict situation will be able to validate the PRC's A2/AD efficacy. Moreover, in case of conflict in the PRC's littoral waters (a crisis in the contended waters of South China Sea or in the Taiwan Strait are possible scenarios), the US and Allied forces would not have the unchallenged freedom of movement they enjoyed in the past, like during the Taiwan Strait crisis in 1996. Although still far away from the US' standards in terms of expeditionary and power projection capabilities, the development achieved in specific sectors as anti-satellite and anti-ship ballistic missile systems, mine and cyber warfare, enables the PRC's forces to credibly exercise A2/AD capabilities in Chinese littoral waters and deny the US' maneuver options. Moreover, future technological developments could further extend the A2/AD capabilities' range. Specifically, anti-ship missile systems with extended range, speed and precision derived from new technologies (scramjet, ballistic and satellite guided) can actually overcome the stand-off advantage of US CSGs operating between the First and the Second Island Chain (Kemburi, 2014, p. 2). As a result,

> *Should the entire system work as planned, it could force the U.S. Navy's surface elements to operate much far-*

ther from the Chinese coast than previous naval concepts of operation would have envisioned, or it could force the Navy to operate as currently planned but at much greater risk (Gordon IV, et al., 2013, p. 34).

Were the wrong conclusions drawn after the Cold War leading to a dangerous assumption of access and superiority?

Hughes offers an interesting discussion of this subject in his paragraph 'Three Tactical Legacies of Strategic Warfare Thinking' under the chapter 'Evolution of Tactics in the Age of Missile Warfare' (Hughes, 2000) and arrives at the conclusion that 'At present the ocean sanctuary to which the American navy has become accustomed seems insecure'. He then goes on to sum up the chapter in the following way: 'Coastal regions will be where operations will take place. In fact, littoral waters may be usefully defined as where the clutter of friendly, enemy, and neutral coastal trade, fishing boats, oil rigs, small islands, dense air traffic, large commercial ships, and an intricate tangle of electronic emissions all create a confusing environment in which stealthy attack can come suddenly and almost without warning. Fleet actions in the missile age have been fought in coastal waters, but not by the U. S. Navy' (Hughes, 2000, p. 167). His book offers quite detailed accounts of salvo sizes and damage calculations which might scare the average reader as being to detailed, but the important lesson to take away is this: 'it will not take a high-technology coastal defence to inflict pain and suffering on a high-technology, blue-water navy' (Hughes, 2000 p. 166). From Fivelstad's own experience with one of the world's most advanced Anti Air Warfare (AAW) systems, the AEGIS system installed on the Norwegian multirole Nansen cl frigates it might be added that: however advanced the system is, it can only handle so many targets as you have AAW missiles or munitions in your launchers. You can always be saturated by swarms of 'stupid' rockets or grenades.

In his report 'The Third Battle: Innovation in the U.S. Navy's Silent Cold War Struggle with Soviet Submarines', Owen Cote, with great insight, offers a very detailed and accurate unclassified version of how the submarines evolved from surface vessels which could dive to true submarines which may surface, and the technological race for acoustic parity between the two major players during the Cold War: the USA and the Soviet Union. He very much raises the right points and reaches the right conclusion: the Anti-Submarine Warfare (ASW) situation remains troublesome. Especially his analysis of the present ASW situation which he refers to as the 'Fourth Battle' seems to be very much in line with Fivelstad's recent experiences and worries as an ASW specialist in the Royal Norwegian Navy: the conventional submarines are becoming increasingly sophisticated in every aspect; sensors, weaponry and ability to remain undetected. In fact they should no longer be referred to as 'Coastal' due to their prolonged reach. In writers' combined experience the greatest technology development we have seen recently is the enhanced processing capabilities of the computers. Sonar (and radar) technology remains much the same, we have also achieved enhanced power output since the dawn of these technologies, but the major recent advancement lies in the data processing capacity. However, the reality is still that the three basic naval warfare areas demand highly educated and well trained and dedicated crews.

Even more important: it can be argued that the emergence of the evolved conventional submarine combined with today's missile technology, range and possibilities for over the horizon targeting (OTHT), challenges the current understanding of Sea Control, and what seems to be both Tangredi's and Hughes' agreed understanding: the USN nuclear powered attack submarine's position as the 'ultimate sea control weapon'. In a recent interview the first commanding officer of the newly christened first of class DDG 1000, USS Zumwalt, Captain James Kirk was asked the following question: 'in terms of sea control, do you view yourself of more of a Mahanian or Corbettian? In other words is it sea supremacy everywhere all the time, or sea control when and where you need it?' (Kirk, 2014). Indeed, it is time for all great navies to review the ideas of Mahan and Corbett in lieu of recent technology developments, the effect of recent budgetary setbacks most great navies have suffered, and rather adopt the expressions 'favourable and/or unfavourable Sea Situations'.

The chapter 'Fourth Battle' also offers the important discussion of risk vs time and bluntly states what any Admiral will have a rough time explaining to the Joint Task Force Commander: 'Faced with the possibility or the reality of losses at sea, the Navy will be forced to stop and eliminate that threat before proceeding, and when that threat is submarine-based, its elimination will not be immediate and may take weeks' (Cote, 2003). He then goes on pointing out another very important issue regarding the priority of scarce resources vs missions for the primary submarine hunters: the frigates and destroyers. During the last decades the focus of Washington and its allies has shifted in accordance with the new security environment; from the traditional warfare areas during the Cold War, to the challenges of anti-terrorism and anti-piracy. At the same time battling defence cost savings. Hence the very crucial point: 'the post-Cold War security environment presents some of the operational and technical challenges in ASW that the unanticipated end of the Third Battle allowed the Navy to avoid' (Cote, 2003). He rightly goes on to enhance this challenge by the following observation: 'future adversaries may continue to cede the United States control of the seas, as Iraq did during Desert Shield/Desert Storm, which in turn would allow the U.S. Navy to continue its current de-emphasis on sea control. Alternatively, these adversaries might discover that the best way to blunt American power projection capabilities is at sea, and that the highest leverage sea denial capabilities are provided by modern, undersea warfare weapons, as both the Iranians and the Chinese may have already decided, as suggested by their recent purchases of Russian Kilo-class submarines' (Cote, 2003).

The above referenced analysis of China's procurements and open source documents furthermore supports the urgent need to return to the basics of the naval warfare skills: 'In order to grasp the energy that China is now committing to undersea warfare, consider that during 2002-2004 China's navy launched thirteen submarines while simultaneously undertaking the purchase of submarines from Russia on an unprecedented scale. Indeed, China commissioned thirty-one new submarines between 1995 and 2005. Given this rapid evolution, appraisals of China's capability to field competent and lethal diesel submarines in the littorals have slowly changed from ridicule to grudging respect of late. China's potential for complex technological development is finally being taken seriously abroad' (Erickson, et al., 2012).

Attack Effectively First

The combination of the above mentioned factors should precipitate Washington and its allies to carefully examine their posture in the Indo-Pacific region for two reasons, which unfortunately contradict each other and present a challenging dilemma. Firstly, in order to keep the upper hand in ASW, and all warfare areas for that matter, one needs a high degree of presence in the area in order to establish situational awareness and the pattern of life. One needs to be thoroughly familiar with the local oceanographic and bathymetric conditions. Moreover frequent ASW patrols and exercises will have a deterrent function and 'Deterrence is planning for war in order to keep the peace. The first role of counter-anti-access planning is deterrence' (Tangredi, 2013, p. 161).

However frequent patrolling and increased presence might be regarded as escalating and might alienate and demonise China away from becoming the strategic security partner in the region, and even worse provoke China to attack effectively first. USN retired Captain Wayne P. Hughes, author of the book 'Fleet Tactics and Coastal Combat' a book referred to also by Tangredi, offers the following wisdom, deemed to be true since the age of the sail and the tactical theme running through the book: 'the great naval maxim of tactics, Attack Effectively First, should be thought of as more than the principle of the offensive; it should be considered the very essence of tactical action for success in naval combat' (Hughes, 2000, p. 40).

Pax Proctor Vim (Peace Through Power) is the previously mentioned newly launched USN destroyer Zumwalt's official motto. In the above mentioned interview, Naval War College Professor Jim Holmes and author of CNO-PRP book Red Star Over the Pacific asks, 'What contingencies would justify risking a $4-billion-plus warship in battle?' This is an interesting question relevant also for carrier groups: 'They arguably have not been tested in the missile age. Since World War II, the closest any carrier has come to high-intensity conflict where it faced a real threat of damage or sinking was during the 1982 Falklands War, when Exocet missiles disabled and later sank the destroyer HMS Sheffield and the containership SS Atlantic Conveyor. The British task force commander, Admiral Sandy Woodward, later acknowledged that had the carriers HMS Hermes or Invincible suffered a similar fate, the United Kingdom would have withdrawn them and likely lost the war' and 'In 1982, asked during a Senate hearing how long U.S. aircraft carriers would survive in a major war against Soviet forces, Admiral Hyman Rickover famously replied, "About two days". These facts are not lost on Chinese strategists' (Erickson, et al., 2012). From this we can derive that in order to achieve deterrence, or 'Peace through Power' you might have to put high value assets in harm's way, and risk a high number of casualties for a contingency of less strategic value to the nation than you anticipated.

Indo-Pacific: what future equilibrium?

Summing up, the PRC's A2/AD systems can challenge the US' hegemony in the Indo-Pacific and limit its power projection capability. Nevertheless, looking at the situation from the PRC side, A2/AD systems are means to defend its national energy supply interests. In more general terms, the US-PRC relation in the Indo-Pacific can be seen as a 'mutual security dilemma', where each contender is contemporarily challenger and challenged. However, looking at history, the PRC has much more arguments to be distrustful, as the experiences of the Opium Wars in the nineteenth century and the Nanking massacre in 1937 during the

Japanese occupation demonstrate. Regarding the ASB concept, it can be a valid solution to mitigate to some extent the efficacy of PRC's A2/AD systems in the short term and enable the US to buy time. Nevertheless, ASB is far from being a 'silver bullet' and in a long term perspective, when the PRC's and the US' Defence budgets eventually become comparable and technology evolution present innovative solutions (especially in the space and cyber warfare domains), the outcome of the competition will ultimately show a different power balance. On the other side, the US has been able to build up solid bedrock of alliances, trust, and relationship in the region over the last century. That should be sufficient to grant its hegemony in the Indo-Pacific for many years to come. However, also the PRC is pursuing its own policy to build alliances, with the aim to acquire strategic outposts on the way to energy resources, while eroding US' consensus.

In fact, the race between the US and the PRC is going to continue. Ultimately, a protracted containment of the PRC could eventually drive to a conflict situation (as it happened between the UK and the Imperial Germany during the Great War), where both contenders risk to lose a lot. Moreover, also in the case of an US and its Allies' success, the aftermath could be so negative to change the regional equilibrium anyway. Additionally, globalization binds so tightly the economies of the countries that a conflict will be extremely devastating for everybody, what Dobbins refers as 'Mutual assured economic destruction' (2012, p. 19). Conversely, Beijing's "salami slicing" strategy is considered much more insidious in the long term, as it can ultimately alter the US alliances' equilibrium and drive some other countries on the PRC' side. Nothing at the moment is indicating a shift in that direction. Nevertheless, the risk associated to a 'bandwagoning' with the PRC could seriously jeopardize the entire Indo-Pacific security equilibrium.

The US and its Allies should avoid any possible friction with Beijing and enhance their cohesion, possibly pursuing a parallel dialog with the Chinese counterpart and taking into consideration the PRC's security issues. In any case, the PRC's military weight is going to rise and cannot be ignored. Moreover, the US and the Allies are still facing a long period of economic crisis. Therefore, in the long term, they will not be able to afford the luxury to impose unilaterally their will on Beijing doorstep. Today the US has the means to maintain its hegemony position in the Indo-Pacific. However, Washington should also be far-sighted enough to appraise when is the moment to concede something in order not to lose more, as it happened to the UK maritime power after the Great War. On the contrary, the experience of the UK policy applied during decolonisation after World War Two is a good example of wise and pragmatic policy, which allowed London to enjoy a privileged relationship with its former dominions, while maintaining a considerable share of power in the international arena.

Will China have the temerity to challenge the United States directly in these highly specialized domains of warfare? And when will they be ready to do so? To answer these questions it would require a study of classified material, and therefore it remains outside the scope of this work. But by the time they are ready, the USN and its allies will need to have come up with a completely revamped ASW and AAW posture.

Any state with a minimum of armed forces and the ability to go to sea with a small fleet, able to swarm the Air Defence system and thereby saturating it can challenge the most advanced opponent. Furthermore one unlocated submarine may also threaten a carrier battle group.

Therefor Washington and partners would be well advised to: 1. refocus scarce budgetary resources within both training and development toward traditional warfighting capabilities, especially ASW and AAW for missile defence; 2. develop redundancy for satellite-based communications and sensors, computer networks, and weapon systems dependant thereof such as precision guided munitions and missiles. 3. share and increase the patrolling and surveillance activities of the area in such a manner as to collect the highest possible amount of data with the lowest possible footprint/posture.

If the USN with allies are still ahead at the acoustic and bathymetric game; that might just be the chink in the armour of the fort which the ship can exploit.

Annex (maps and diagrams)

Figure 1. People Republic of China's "String of Pearls" (Barone, 2013)

Figure 2. The "First and Second Island Chains" (Van Tol, et al., 2010)

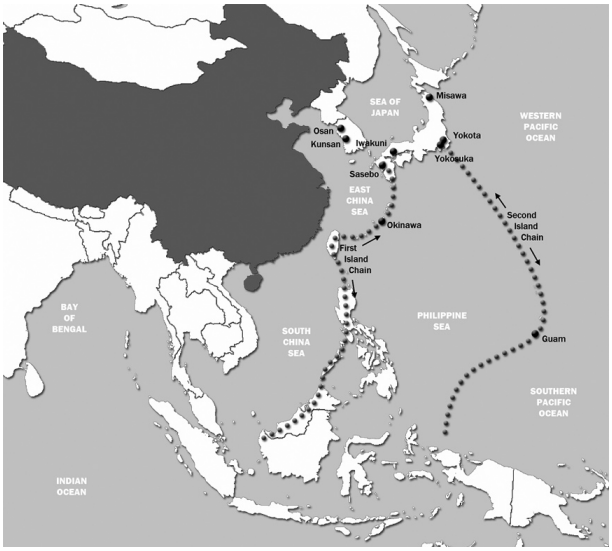
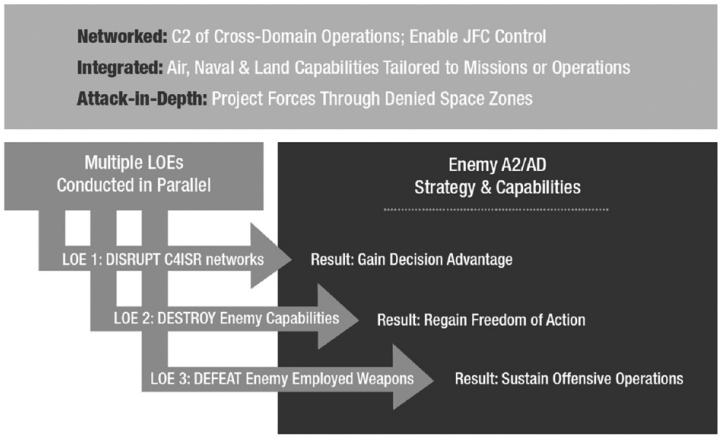


Figure 3. The US bases in the Pacific Region (Chang, 2013)

Figure 4. Components of ASB's conceptual design "NIA/D3" (US Department of Defence – Air-Sea Battle Office, 2013 p. 5)



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