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Overseas or Submarines

Is China a Revisionist State?

Understanding and Explaining China's Naval Modernization and Maritime Strategy

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I: Introduction

The 21st century looks poised to be a century of power transition. Hundreds of years of Eurocentric domination of the international system, two world wars that saw the European great powers decimate one another and with them the collapse of their colonial empires, followed by the bipolar rivalry of the two superpowers. The end of the millennium left only one contender standing tall above the rest. The United States remains the most powerful country on the planet and it will likely remain so for the foreseeable future. Nobody is even close to matching the military prowess and global power projection capability of the US. But decisive change is taking place in international politics. The US is the world's only superpower, but it is no longer a hyper-power leaving all other contenders in the dirt. Others are rising and dusting themselves off, and chief amongst those is China. Few doubt that the unparalleled rise of China will significantly change the regional political and power dynamics, and China's impact on the global stage is only set to increase. The rise of China as an economic powerhouse has laid the foundation for the rise of China as a major military power in Asia and indeed the world.

When the Chinese civil war ended 60 years ago the country was on its back, exploited, occupied, downtrodden, and poor. Not many, perhaps none, have moved so fast and so far from weakness to strength as China since then.[1] At the end of the 19th century Meiji Japan used the slogan "rich nation, strong army."[2] China has coined its own version of this is "prosperous country and a strong army."[3] Beijing often states, that it has learned from the fate of other rising powers, and that it will not repeat the mistakes of the past. China will not follow the path of Imperial Germany leading up to World War I, or that of Nazi Germany and Imperial Japan before the Second World War. Neither shall China behave like the world's two superpowers did during the Cold War. China will try to transcend the traditional ways of emerging great powers, and its rise will be peaceful and strive for cooperation with all countries. Surely, this is how China wishes to be perceived.

The term "great power" is often fuzzy and used in arbitrary ways both by statesmen and in the media. Power means different things to different people, and defining greatness is by no means a lesser task. But some countries can be unequivocally labelled a great power no matter how one interprets the term. China is surely a member of the club of great powers and it is becoming increasingly more powerful based on a number of simple facts: Its territorial extent and strategic location, the size of its population, the value and rapid growth of its economy, the immense magnitude of its share of global trade, and the strength of its military. Furthermore, China is one of but a handful of countries with important national interests around the globe. Whether one views a rising China as benign or aggressive, the reality of these facts demands the attention of every other country in the world. Perhaps most significantly, China is the only country recognized as a potential challenger and possible threat to American predominance in the future.

[1] Kagan, Robert (2008), *The Return of History and the End of Dreams,* Atlantic Books, London, p. 25.
[2] Samuels, Richard J (1994), *Rich Nation, Strong Army: National Security and the Technological Transformation of Japan,* Cornell University Press, New York.
[3] Gries, Peter Hays (2005), *China's New Nationalism: Pride, Politics, and Diplomacy*, University of California Press, Berkely, p.105

Specifically, China is seen by many of its neighbours and countries in its region to have the wherewithal to one day supplant the United States as the most powerful country in the world.[4] In a realist perspective, power is the currency of international politics. Population size and economic power are the main proponents that countries translate into military power. China's rise in recent decades has taken place on an unprecedented scale and at a breathtaking pace. China's ascent towards great power status and potential rival to U.S. predominance has a military component that demands attention. In particular, the modernisation of the People's Liberation Army Navy (PLAN) has been a focal point in strategic and security circles.

By referring to China's growing military might or to the country's soaring defence budget, one is merely pointing out an obvious fact, albeit an important one. Furthermore military power is an imprecise term in the sense that different kinds of military capabilities enable different kinds of military strategies and specific strategies demand specific capabilities. Particular strategies and distinct capabilities in turn direct the specific force postures. In short, we need to understand what the Chinese naval forces can and cannot do in order to explain and understand why and how the inevitable rise of China is going to unfold. We need to look at capabilities.

Problem Statement

Is China a Revisionist State? - Understanding and Explaining China's Naval Modernization and Maritime Strategy

This master thesis will attempt to explain the change in Chinese naval capabilities based on structural realism. Theoretically informed propositions based on offensive and defensive realism regarding Chinese strategic behaviour will lead to predictions on Chinese naval capability development and force posture. This will be tested against empirical data on the evolution of Chinese naval capabilities and trends in the modernization of the Chinese navy and maritime strategy.

II: Methodology

General methodological approach in a realist theoretical framework

Structural realism constitutes the theoretical framework of this thesis. Different positions and key scholars within this theoretical tradition will be introduced in the following chapter. Initially, we shall examine how the fundamentals of realism as a school of thought regards the basics of human political existence and the resulting methodological implications. General assumptions about how the world works guide the ontological eye of realism and hence what can and should be studied in order to obtain scientific explanations. Realists of all strands would likely endorse the following three very basic assumptions about human political life.

[4] Nathan, Andrew J & Scobell, Andrew: *How China Sees America: The Sum of Beijing's Fears,* Foreign Affairs Vol. 91 Issue 5, Sept./Oct. 2012

Groupism means that the realist view on human beings is that they by and large face one another as members of a group. To ensure anything more than survival above subsistence level, humans need the solidarity, cohesion and cooperation of a group. This very basic feature of human life generates a potential for conflict with other groups. Since the Westphalian Peace of 1648 in Europe the most important group has been the nation state, and the most important factor facilitating in-group unity is nationalism.[5] Thus, the most salient object of study in international relations is the nation state. Moreover, structural realism does not make any assumption about the nature of the polity. It ignores cultural differences, regime types or which individuals are in power, because the international system generates the same fundamental incentives for all great powers.[6]

Egoism or being motivated by self-interest is another defining feature of human life in the realist world, which translates into self-interest of the group and in a world of nation states that means the national interest. Even if certain conditions can facilitate altruistic behaviour, egoism is rooted in human nature and self-interest is ultimately the driver of political behaviour. When choices between collective and self-interest must be made, egoism is likely to overcome altruism.[7]

Power centrism is the analytical heart of realism since power is a basic facet of politics. Power only makes sense as a relative concept as being strong implies that somebody else is weak.[8] Additionally, human affairs are marked by the existence of great inequalities in terms of resources and influence. Some social groups, be they empires, nation states or tribes are always bequeathed with a disproportionate amount of material means to get what they want. Thus, they exert influence and control a cut above the rest. This entails that political interaction permanently unfolds under the potential shadow of the use of material power to coerce.[9]

These basic views of the nature and conditions of human life have vital impact on how one think about international politics. Group-identification, and therefore group-interaction, has a major impact on human affairs, which leads to group-interests and necessities trumping any alleged universal morality or ethics, and as a result makes it improbable that humankind will ever fully transcend power politics by way of the progressive power of reason. This again leads to a distinct realist approach to analysing, explaining, and understanding international politics - a focus on the most powerful units in the system; a disinclination to believe in declared foreign policy goals motivated by something else than state interests; and a proclivity to look beyond rhetoric to the power realities that is the undercurrent of international politics.

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[5] Gilpin, Robert, *No One Loves a Political Realist,* p. 7-8, Security Studies, 5/3, pp. 3-26, 1996; Wohlforth, William C., *Realism and Foreign Policy,* in *Foreign Policy – Theories, Actors, Cases*, Smith, Steve; Hadfield, Amelia & Dunne Tim (eds.), Oxford, Oxford University Press, 2008.

[6] Mearsheimer, John J., *Structural Realism,* p. 72, in Dunne, Tim; Kurki, Milja & Smith, Steve (eds.), *International Relations: Theories, Discipline and Diversity,* Oxford, Oxford University Press, 2007

[7] Mearsheimer, John J., *The False Promise of International Institutions,* International Security, Vol. 19, No. 3, Winter 1994-1995, p. 11.

[8] Hyde-Price, Adrian, *European Security in the Twenty-first Century, The Challenge of Multipolarity,* Abingdon, Oxford, 2007, p. 35.

[9] Gilpin, Robert, *No One Loves a Political Realist,* p. 7-8, Security Studies, 5/3, pp. 3-26, 1996; Wohlforth, William C., *Realism and Foreign Policy,* in *Foreign Policy – Theories, Actors, Cases*, Smith, Steve; Hadfield, Amelia & Dunne Tim (eds.), Oxford, Oxford University Press, 2008

Studying the behaviour of states, not their intentions

This thesis endeavours to understand and explain the military-strategic behaviour of China in the maritime domain within the ontological framework sketched out above – states, not statesmen, motivated by self-interest, and the material power they wield, not ideological inclination, is the object of study. This entails, that the analysis in this thesis explicitly omits considering whether the regime type of China has any bearing on its behaviour. Furthermore, who's in charge of China's foreign and defence policy matters not. The structural realist theoretical approach applied here means that when Xi Jinping took over the presidency of China from Hu Jintao on 14 March 2013[10] little will change in China's strategic behaviour in the foreign policy arena. To the extent that the intentions of Xi Jinping are different to that of Hu Jintao the observer can only speculate. Indeed, one of the core assumptions of structural realism is the uncertainty of intentions, as will be elaborated in the following chapter on the theoretical framework that this thesis works within. Other states observing and responding to China's actions cannot know Beijing's intentions for sure, not now and much less so years down the line, and neither can any researcher. Methodologically speaking, this implies that one should refrain from the attempt to get inside a statesman's head to figure out any future intensions. This can only amount to speculation. What we can know with relative certainty is the development of capabilities, in other words what China *can* do, not what it *wants* to do.

Realism is a parsimonious theory. It simplifies reality and makes abstract generalisations. It can not explain every aspect and detail of the complexities in international politics, nor does it try to. Waltz argues that structural realism must move away from reality to generate explanatory power, meaning that a full description of reality does not order it or provide understanding. An "elegant theory" that focuses and a number of key variables do.[11] Mearsheimer compare neorealism to "a powerful flashlight in a dark room" that can illuminate the most important factors of international politics but will not suffice to shed light on every detail.[12]

Realism is also often criticised for being a positivist theory, though Waltz himself claims that it is not. Positivism as a philosophy of science is derived from John Locke's empiricism, i.e. that reality can only be understood through human senses and experiences. Appearances and not reality itself is what can be studied and thus it relies on inductive reasoning.[13] Realism shares with positivism that the *science* of political science can be and should be pursued. International Relations theory should concern itself with what *is* and not what *ought to be* and accordingly realism is not a normative theory. However, realist theory relies on deductive reasoning so that conclusions and explanations of specific behaviour can be drawn on the basis of general assumptions. Realists of all breeds share the same epistemology. Realism functions on the assumption that there is an observable reality which can be investigated without being directly affected by the observer.

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[10] Buckley, Chris, *China's new President Nods to Public Concerns, but Defends Power at Top,* New York Times, 14 March 2013, http://www.nytimes.com/2013/03/15/world/asia/chinas-new-leader-xi-jinping-takes-full-power.html?pagewanted=all&_r=0, accessed 26 April 2013.

[11] Waltz, Kenneth N., *Theory of International Politics,* Reading, Massachusetts: Addison-Wesley, 1979, p. 40.

[12] Mearsheimer, John J. - *The Tragedy of Great Power Politics,* New York, N.W. Norton, 2001, p. 11.

[13] Cited in Hyde-Price, Adrian, *European Security in the Twenty-first Century, The Challenge of Multipolarity,* p. 13.

Moreover structural realism does not shy away from causality: The structure of the international system forces states to behave in certain ways. The independent variable is the structure of the system, the dependent variable is state behaviour. Defensive realism sees the structure as compelling great powers to be status quo-seeking, offensive realism sees the same structural forces as driving states to be revisionist. This is the essence of the divide between Waltz and Mearsheimer. The classical realism of Morgenthau entailed the option that states could both be status quo or revisionist. Structural realism says that all great powers are *either* status quo (defensive) *or* revisionist (offensive).

Theory blindness, i.e. being sure that a certain theoretical prediction must surely fit the reality of things, can be guarded against by making multiple hypotheses on the basis of theory. Accordingly, it is indeed possible to "test" theories, and this is what this thesis intends to do - to test four different hypotheses regarding the military-strategic behaviour of China in the maritime domain.

Testing the theory

Generated from defensive and offensive realism, this thesis deduces four theoretically informed hypotheses and predicts corresponding naval force postures in each hypothesis. These hypotheses are then tested on the empirical data enabling us to say which hypothesis is best supported by China's strategic behaviour and procurement patterns in the maritime domain. Secondly, it will shed light on which theoretical outlook has the most explanatory power. Is China a status quo power as defensive realism (Hypothesis 1 and 2) propose, or are is China a revisionist power in line with the presumption of offensive realism (Hypothesis 3 and 4)?

Data collection

Methodological problems concerning accessible information

Ranking among any state's best guarded secrets are the exact military capabilities and the performance data of its military hardware. Intelligence agencies of major powers spend enormous resources spying on each other to extract such information, and they often get it wrong. For example it is widely accepted, that the United States and its NATO allies had overestimated the military power of the Soviet Union right up until its collapse at the end of the Cold War. The non-existence of weapons of mass destruction in Saddam Hussein's Iraq is a recent example of misjudgement that gained almost instant notoriety.

Hence, serious methodological difficulties present themselves when conducting empirical research on the strategic behaviour and aspirations of major powers. Revisionist powers will often conceal their intentions and do their best to hide the development of military capabilities to steer clear of confrontations with stronger status quo seeking contenders. Regarding China, many observers point out the nebulous nature of Chinese political decision making, and especially the nature of its military modernisation and strategy. Indeed, Deng Xiaoping's 24 Character strategic guiding principle explicitly emphasise the prudence of hiding China's military capabilities until the modernisation process of the country has fully matured. A case in point from the naval domain is China's recently commissioned aircraft carrier. The former Soviet carrier Vayrag was

purchased in Ukraine by a private Chinese company in 1998 under the pretext of turning it into a floating casino in Macau.[14] Instead, the Vayrag was towed to a shipyard where it was fully refitted with military equipment and subsequently launched as the new pride of the Chinese Navy. The Chinese Defence White Papers released in 2009 and 2011 never mentioned any carrier being introduced into the PLAN though the implications of such a vessel in operation are significant.

Bean counting and net assessment

One method of data collection in this field of research is *bean counting*. In its most basic form, bean counting consists of adding up units in given areas, and matching up numbers against a potential rival to gauge the relative strength of a state vis-à-vis another state. This approach has been criticized for being too simplistic, not taking into account issues like the training of personnel, combat experience, officer education, moral, and so forth.[15] The critique has come from practitioners of *net assessment*, an approach to evaluating military balances with a more holistic political-military measurement of the capabilities of a given state. [16] The critique of the bean counting approach raised from the corner of net assessment is legitimate. Measuring the actual war readiness understood as a state's employment of its human and material military capabilities is, of course, better understood if one has access to a wide range of data on all the areas that come together to constitute an country's fighting skill. Unfortunately, a lot of the information is classified and hence not accessible for researchers.[17] That being said, a lot of open-source information is available.

Enhanced bean counting

This thesis applies what can be labelled enhanced bean counting - 'enhanced' meaning not just counting units, but taking in to account what each unit is actually capable of. It is essential in the investigation of China's strategic behaviour not only to distinguish between types and numbers of units and count them, but also to examine the technical specifications and capabilities of the ships and their equipment and weaponry.

More specifically, I have compiled a great deal of data to document the actual capabilities of China's naval forces as accurately with the sources available (on sources see immediately below). I have made an effort in creating a reliable set of empirical data that has been meticulously cross-referenced between the primary sources of data as far as possible. To test the hypotheses and predicted postures, I have used this method of so-called enhanced bean counting

[14] As implausible as the story may sound, China is actually already home to Minsk World, a theme park based on an ex-Soviet aircraft carrier in Shenzhen, and a carrier-themed amusement park, Tianjin Binhai Aircraft Carrier Theme Park.

[15] Skypek, Thomas A. (2010), *Evaluating Military Balances Through the Lens of Net Assessment: History and Application,* Journal of Military and Strategic Studies, vol. 12, issue 2, p. 6.

[16] Cohen, Eliot A. (1998), *Toward Better Net Assessment: Rethinking the European Conventional Balance,* International Security, vol. 13, no. 1

[17] Skypek, Thomas A. (2010), *Evaluating Military Balances Through the Lens of Net Assessment: History and Application,* Journal of Military and Strategic Studies, vol. 12, issue 2, pp. 9-10.

in order to gauge the actual capabilities of the Chinese Navy and thus explain the strategic behaviour of China.

The year 1997 is chosen as a starting point for two reasons. Firstly, the modernisation of the Chinese Navy began in earnest in the beginning of the 1990s but did not discernibly start to have an impact on observable hardware acquisitions until the middle of the decade. Secondly, the Taiwan Strait Crisis in 1996 is widely believed to have had a catalytic effect on China's determination to build a modern navy. The U.S. navy's show of force and China's inability to prevent American carrier strike groups from steaming into the Strait was a major wake-up call for China that underscored its relative weakness in the naval domain.

Sources

The primary data sources utilised in this thesis relies on authoritative sources such as IHS Jane's Fighting Ships, The U.S. Naval Institute's Guide to Combat Fleets of the World, and The Military Balance by International Institute for Strategic Studies from 1997-2013.

The Military Balance is commonly acknowledged to be accurate and it is widely used and referenced in academic journals. The Military Balance is for the most part up to date, but catalogues defence assets either at the start of a year or at the end of the preceding year. I have therefore made extensive use IHS Jane's Fighting Ships and other relevant publications under the IHS Jane's portfolio to obtain data on individual ships, but also to be as up to date and accurate as possible with the number of ships commissioned into the PLAN, especially for the years 2012 and 2013. For example, the Military Balance 2013 lists 7 *Yuan*-class attack submarines (SSK), but according to Jane's Fighting Ships, that is continuously updated, a whole of 12 boats of the class have been commissioned into the Chinese Navy.

Jane's Fighting Ships is widely used as the go-to supplier for reliable open-source data and intelligence gathering and is also referred to in peer-reviewed journal articles, as well as official government reports on military matters. When using the IHS Jane's electronic data base the dates given in references in this thesis are the dates listed as 'latest update.' Therefore, I do not make references like *Jane's Fighting Ships 2005-2006*, but refer to the entry time of the data base update..

A remark on documenting the empirical data

As mentioned the chosen applied method is enhanced bean counting, i.e. counting and distinguishing carefully between units. The empirical data presented in this thesis data has been compiled by me from authoritative sources as accounted for above. Two major components of naval forces are submarines and major surface combatants. The evolution of these two chief elements of China's Navy come in the form of very large tables with the object of documenting the development of China's naval capabilities over time. They have been included as appendices. In the presentation of data and in the discussion regarding each hypothesis I refer to the tables in the appendices. Because of the volume the tables can not meaningfully be embedded in the text in full scale, and key data are therefore presented in extract and in the form of graphic figures.

The reader is kindly advised to consult the tables in appendices for the detailed empirical documentation on the matters referred to in the text.

Terminology

A text dealing with military matters contains a lot of abbreviations, known to the scholar in this field but otherwise illegible. I use the abbreviations because they appear in this form in the literature and for the sake of readability. A list of abbreviations is included in an appendix.

III: Theoretical Framework

As mentioned realism is concerned with the world as it actually is not how it ought to be. In other words, it is an empirical rather than a normative paradigm. Realism is also quite pessimistic and emphasizes the recurrent patterns of power politics as manifested by reoccurring conflicts, rivalries, and wars between groups of humans. Changes in the balance of power and the logic of power politics have been a stable of realist thinking since the account of the Peloponnesian Wars by Thucydides in the Fifth Century BC when he observed that *"what made war inevitable was the growth of Athenian power and the fear which this caused in Sparta."*[18] Thucydides found some causes of war to be rooted in the system in which states take part and that the relative distribution of power between the units in the system had a decisive influence on their relations with one another. Particular attention must therefore be afforded to great powers as they have the most leverage on the international stage. With the discussion of whether a small state should stand by its ideals or acknowledge its relative weakness Thucydides in the Melinian Dialogue famously stated that *"the strong do what they have the power to do and the weak accept what they must accept."*[19]

Realist theorists are fond of tracing their historical merits back through the millennia from other of the classical texts by Kautilya[20], Machiavelli[21], and Hobbes[22], to modern realist thinkers as E.H. Carr[23] and Hans Morgenthau. Morgenthau was the first to establish "realism" as an approach to the study of international relations more than 50 years ago in his ground breaking book published a few years after the end of Second World War.[24] Besides being assaulted from various theoretical rivals, mainly liberalism, institutionalism, democratic peace theory and later

[18] Cited in Kauppi, Mark V., *Thycudides: Character and Capabilities*, p. 142, in Frankel, Benjamin (ed.), *Roots of Realism,* London, Frank Cass and Company Limited, 1996.
[19] Thucydides, *The Peloponnesian War, The Melinian Dialogue, (Book 5, Chapter 17),* available at Internet Classics Archive at MIT, http://www.wellesley.edu/ClassicalStudies/CLCV102/Thucydides--MelianDialogue.html. To be precise, this translation by Richard Crawley actually reads "the strong do what they can and the weak suffer what they must". I have chosen to use the more common translation, as found in Perry, Marvin & Chase, Myrna & Jacob, James & Jacob, Margaret and Von Laue, Theodore H., *Western Civilization: Ideas, Politics, and Society, Volume 1: To 1789, p. 70,* Wadsworth, Boston, Tenth edition, 2012.
[20] *Kautilya's Arthashastra,* written about 300 BC, R. Shamasastry's English translation, 1915; available at http://www.sdstate.edu/projectsouthasia/Docs/index.cfm.
[21] Machiavelli, Nicolo, *The Prince,* written c 1505, published 1515, English Translation W.K. Marriot, available at http://www.constitution.org/mac/prince.pdf.
[22] Hobbes, Thomas, *Leviathan,* London, 1651.
[23] Carr, E.H., *The Twenty Years' Crisis, 1919-1939,* London, Macmillan, 1946.
[24] Morgenthau, Hans J., *Politics among Nations: The Struggle for Power and Peace,* New York, Alfred A. Knopf, 1948.

constructivism, realism itself diversified into splinter groups. Most significantly was Kenneth Waltz's introduction of "neorealism" in the late 1970s.[25] Hereafter, Morgenthau's original realism became known as "classical". From that time on, numerous other subcategories and variants of realism have bloomed, including two kinds of "structural realism", "three kinds of offensive realism", and various sorts of "defensive realism" besides the inevitable "neoclassical realism". Although the so-called "English School" of IR-theory advocated by Barry Buzan has claimed the term "structural", Waltz uses the phrases structural realism and neorealism inter-changeably, and so shall I.[26] Exploring the theoretical dispute inside the realist canon could be a book-length exercise in academic hair-splitting. While that could surely be both a captivating and worthwhile effort, it is the aim of neither this chapter nor of this thesis. Nevertheless, one should be aware of these historical deep-seated divides in realism, between classical realism and neorealism, and between offensive and defensive realism. The latter discord became particularly pronounced with the publication of John J. Mearsheimer's account of his version offensive realism in 2001.[27]

Waltz and Mearsheimer has come to be the premier advocates of defensive and offensive structural realism respectively, and more or less all other subsequent International Relations theory has had to relate to their seminal work, either in opposition to realism or in praise of it. This thesis operates within the boundaries of the structural realist theoretical framework, and it is on the basis of Waltz and Mearsheimer I make propositions and hypothesize on the rise of China in the maritime domain.

Structural Realist Assumptions

The following five assumptions[28] are the bedrock of structural realist thought: The system is anarchic and, survival is the primary goal, great powers and almost all states possess offensive capabilities, no state can be certain about others' intentions, and actors are rational.

The first assumption is that the main actors in international politics are great powers and that they operate in an anarchic system. Anarchy is the ruling principle but that is not the same as saying that the international system is necessarily characterised by chaos and disorder; it only implies that there is no higher authority in the international system than the state. As understood in realist literature, the term anarchic is an ordering principle saying that the international system consists of states as independent political units. The state is not the only actor in the international system, but is by far the most important one.

The second assumption is that all states hold a certain degree of offensive military capability and have the power to harm other states. Hence, states are potentially dangerous to each other, and the distribution of military capabilities in the state system is a conditioning factor in a state's strategic behaviour.

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[25] Waltz, Kenneth N., *Theory of International Politics,* Reading, Massachusetts: Addison-Wesley, 1979.
[26] Snyder, Glenn H., *Mearsheimer's World – Offensive Realism and the Struggle for Security,* International Security, Vol. 27, No. 1 (Summer 2002), pp. 149-173.
[27] Mearsheimer, John J. - *The Tragedy of Great Power Politics,* New York, N.W. Norton, 2001.
[28] Ibid, pp.30-31.

The third assumption is that states can never be certain of other states' intentions. Intensions are impossible to determine with certainty, and while a state may show no signs of malign intentions to another state, one cannot rule out for sure the possibility of the first state's aggressive intensions in the future. Besides, intentions can change over time and a present ally might be the rival of tomorrow.

The fourth assumption is that the primary goal of any state is survival. States want to maintain their sovereignty, their territorial integrity and control over domestic political affairs. Other goals that a state might pursue are secondary. That does not mean that all actions of states are determined by security concerns, and states do evidently pursue a wide range of foreign policy goals, but it means that security interests takes precedence over other matters. If the security of a state, or indeed its survival, is threatened, it cannot pursue any other goal or interest it might entertain.

The fifth assumption is that states are rational actors that think and act strategically to ensure its survival in the international system. States are able to make rational strategic choices because they understand the international system, and have a sense of the relative power of the units within the system. This does not imply that states cannot make wrong decisions. The room for miscalculation is considerable, so a failed foreign policy is not evidence of a state acting irrationally, but rather the result of misperception, or simply making a wrong bet and losing it.

Structural realism departs from this set of assumptions, which form the basis of the reasoning, and most realists would not find much to quarrel about here. The above five assumptions are as Mearsheimer has formulated them. Other realists theorists, of course, has advocated for a different set or combination as core tenets of realist theory. Adrian Hyde-Price list as a core assumption of neorealism that states are functionally alike, a point also raised by Waltz.[29]

Defensive Realism - Kenneth N. Waltz

Waltz avers that the anarchy of the international system entails that its units can rely on nobody but themselves to guarantee their survival, and hence the primary aim of the state is security. The security of any unit is compromised with an increase in the power of other units in the system. This is not so because one has the intention to harm another, but because a relative advantage in power makes it possible for them to do so. Therefore, states care deeply about their position in the balance of power.[30] Structural realism occupies itself with capabilities rather than intentions, and what make states fear is the ability to hurt or coerce another. This means that the best way to stay safe is to be stronger than your opponents. Whatever measures a state takes to enhance its own security it does so at the expense of others, inducing a similar behaviour in the other units in the system. This traps states in a security dilemma regardless of whether or not they have any aggressive intentions because *"the source of one's own comfort is the source of another's worry."*[31] This is the foundation of the neorealist answer to why states pursue power and

[29] Hyde-Price, Adrian, *European Security in the Twenty-first Century, The Challenge of Multipolarity,* Waltz, Kenneth N., *Theory of International Politics,* p. 128, Reading Massachusetts: Addison-Wesley, 1979.
[30] Waltz, Kenneth N., *Theory of International Politics,* p. 121, Reading, Massachusetts: Addison-Wesley, 1979.
[31] Waltz,Kenneth N., *The Origins of War in Neorealist Theory,* Journal of Interdisciplinary History, Vol. 18, No. 4, p. 619, 1988.

ultimately fight wars. Power is the best way for the state to ensure security and survival. Unlike classical realists, power is not an end in itself, but the means to an end, survival, and this dooms states to live in everlasting security competition. It also entails that the struggle for power will always be a 'zero-sum' game even though power is an unlimited resource, because states are concerned with relative gains as opposed to absolute gains. An even small increase of the power of a state is perceived as a potential threat by other states.

Even so, Waltz assets that prudent statesmen will seek an *appropriate amount* of power because "*excessive strength may prompt other states to increase their arms and pool their efforts against the dominant state."*[32] States then try to be only moderately more powerful than their potential rivals in order to increase the possibility of their own survival. Superfluous power accumulation is counter-productive because it provokes the other great powers in the system will rally and check the rising state. Therefore, states should not aspire to become a hegemon, either in their own region or globally.[33] Although states then do seek incremental increases in power vis-à-vis other states, their main aim is to make sure that others do not grow more powerful at their expense. According to Waltz, the chief concern of states then *"is not to maximize power, but to maintain their position in the system."*[34] This results in states having few incentives to behave offensively, which is why Waltz' theory has been charged with having a 'status-quo bias.'[35] Indeed, the structure of the international system does not only discourage aggressive behaviour, it drives states to concentrate on maintaining their position in the balance of power. Hence, the structural realist theory of Waltz is termed defensive realism.

Defensive Realist Predictions on the Rise of China

The defensive realism of Waltz has a more optimistic standpoint on the prospect of China rising peacefully. China will increase its military prowess and attempt to better its position in the balance of power, and China's neighbours and the U.S. will balance against China to contain it. Defensive realism does not predict that security competition will vanish, but it will not be so fierce exactly because China, as all states, realises that unyielding power maximisation in the pursuit of regional hegemony is in the end self-defeating. Furthermore, defensive realists believe that nuclear weapons also add to the possibility of China rising peacefully alongside its neighbours. It is very hard to expand when faced with another nuclear power and that seriously dampers the possibility for war. Nuclear weapons do not abolish security completion, as was clearly evident between the Soviet Union and the United States during the Cold War. But large-scale major war between nuclear-armed adversaries is less likely because of the massive costs a retaliatory nuclear strike involves. China realises this and will limit its aims accordingly and will therefore be easily contained and possible to cooperate with. In other words, if China does try to maximise its power and dominate Asia, it is strategically unwise behaviour. Continuous economic growth and rise on the global political stage is best pursued not by reaching for the

[32] Ibid, p. 616
[33] Waltz, Kenneth N., *Theory of International Politics,* p. 126, Reading, Massachusetts: Addison-Wesley, 1979.
[34] Ibid.
[35] Randall L. Schweller, 'Neorealism's Status-Quo Bias: What Security Dilemma?' *Security Studies*, 5(3), 1996, pp. 90–121.

crown of regional hegemony and building a navy with large power projection capabilities, but by attaining a relatively defensive military capability focused on deterrence and periphery defence.

Hypothesis 1 - Securing the Realm

Security competition will persist in North East Asia, but the room for cooperation is big and the risk of conflict low. The structural forces bearing down on China are relatively benign, and the increasing integration into global trade and the world economy leaves China with little incentive to rock the boat. After all, the two decades of unprecedented growth in China has been taking place under exactly the conditions of U.S. supremacy that offensive realism claims China will eventually seek to upset.

By accepting the U.S. to ensure global maritime trade, and in effect controlling Chinese sea lines of communication (SLOC), China is also if not accepting then at least living with the potential chokehold the Americans have on Chinese trade in general and oil seaborne energy supply in particular in a time of crisis. So far, this has served China well, the U.S. has provided the maritime security needed for China to engage in and profit tremendously from seaborne trade. China acknowledges the U.S. as the premier naval power in the Western Pacific, and will not seek to challenge this fact, thus having no need to expand its navy aggressively.

Nevertheless, the structural forces will compel China to modernize and increase its naval power, but the likelihood of war is very small, because there is so much more to gain from cooperation. Economic interaction and trade will dampen the security competition, and China will not pursue a large navy with power projection capabilities that could threaten and frighten its neighbours. Engaging in an aggressive naval build up would be foolish as it would scare China's neighbours into forming a balancing coalition led by the United States.

According to Waltz we should therefore see China balance the power of the U.S. and its allies, notably Japan and South Korea, in the region, but only up to a certain degree. Reckless power expansion and avowedly offensive weaponry will not feature prominently in the Chinese Navy. In the naval domain, the balancing behaviour of China will focus on deterring an invasion from the sea and, increasing and modernising its capabilities to fight off an enemy in its coastal regions.

Predicted Posture:

- Consolidation of the "Near Coast" strategy. With no ambition to dominate the regional seas, China will modernise, strengthen, and build up its coastal defence forces.
- A limited number of nuclear-powered submarines with ballistic missiles (SSBN) for assured nuclear deterrence and second strike capability.
- Small and short-range conventional-powered submarines such as will be the focus of the PLAN's submarine force. The relatively shallow waters off the Chinese littoral do not require large ocean-going submarines.
- Littoral warfare vessels such as missile-armed patrol craft, and coastal antisubmarine ships able to fend off enemy ships close to Chinese shores.

Geographical extension: Coastal orientation only in doctrine and hardware. The reach of PLANs conventional submarines and littoral combat ships restricts the range which the PLAN will be able to launch operations, more or less within China's territorial waters.

Hypothesis 2 - Balancing the Hegemon and Its Regional Allies

The substantial and continuous growth in U.S. defence spending and increasing focus on Asia and the Western Pacific has not gone unnoticed by China. Furthermore, China has also taken note of the increase in naval power of other regional actors. China does not have expansionist aims and does not seek to dominate its region, but nonetheless feels compelled to balance against the growing naval power of the other countries in East Asia. Japan is increasing its naval power and have for the first time in more than three decades decided to deploy more submarines. South Korea is pursuing a transition from brown water to blue water navy capabilities and is investing heavily in submarines. India is striving to operate two carrier strike groups in the near future and is engaging in extensive naval modernization. Vietnam is also becoming a player in the maritime domain, and Australia and Indonesia are likewise investing in naval assets and increasing their focus on China. This accumulates into a sense of encirclement or outright containment in China and hence fuels the Chinese need to build up its naval forces to guarantee its own security. China is simply trying to retain its position in the balance of power.

This is defensively motivated behaviour, not driven by revisionist aims but by fear of falling behind. China is status quo-seeking and aims to retain its position in the balance of power in East Asia. The strictly littoral navy predicted in Hypothesis 1 is deemed insufficient to effectively counter the growing clout of other regional navies and China is obliged to field a more potent navy. Therefore, the Chinese Navy will build on the force posture portrayed above.

Predicted Posture:

- Larger coastal combatants such as corvette-sized ships that can check an opponent further from the Chinese coast to augment the guided-missile fast attack craft deemed enough for strictly littoral combat.
- Surface vessels suitable for autonomous deployment that can meet a potential enemy relatively far off the Chinese coast, as opposed to integrated units with each ship assigned a specific purpose in the group. Guided missile destroyers (DDG) and guided missile frigates (FFG) with expected capabilities including layered anti-air defence systems to defend themselves against aircraft and anti-ship missiles. In addition, anti-submarine warfare (ASW) capabilities with at least two different kinds of sonar systems, one hull-mounted, another buoy-based (towed-array) and perhaps assisted by helicopter-borne sonar for some kind of triangulation. Shore-based assistance cannot be guaranteed thus necessitating independent defensive systems.
- Increase in numbers of conventional-powered submarines of small to medium size, roughly around 2000 tonnes. China's older submarines are likely to be replaced by more modern classes, armed not only with torpedoes but also with anti-ship missiles to deter enemy forces from venturing close to the Chinese littoral.

- Deployment of an anti-ship ballistic missile (ASBM). An ASBM deterrence would be a unique Chinese capability and if operational would constitute an obstacle for U.S. carriers to operate strike groups from within the first island chain.

Geographical extension: Roughly to the limit of China's exclusive economic zone, about 200 nautical miles (nm) from the Chinese coast, to be able to check an opponent well before they reach Chinese coastal waters.

Offensive Realism - John J. Mearsheimer

The offensive realism of Mearsheimer asserts that great powers "*maximize their relative power.*"[36] In that respect he is closer to Morgenthau's claim that a perpetual power-struggle is the result of man's innate lust to dominate others, the 'animus dominandi.'[37] However, unlike Morgenthau, Mearsheimer does not find the source of causation in human nature but in the anarchical structure of the international system. What drives states to accumulate as much power as possible is a search for security. Security as the motivator and structure as causation associates Mearsheimer with Waltz, obviously, but the two differ on the crucial point of how much power is enough. Waltz thinks that the pursuit of power has its limits, indeed, too much of it is self-defeating, but Mearsheimer sees the search for power and security as unquenchable:

> *"For defensive realists, the international structure provides states with little incentive to seek additional increments of power; instead it pushes them to maintain the existing balance of power. [...] Offensive realists, on the other hand, believe that status quo powers are rarely found in world politics, because the international system creates powerful incentives for states to look for opportunities to gain power at the expense of rivals, and to take advantage of those situations when the benefits outweigh the costs. A state's ultimate goal is to be the hegemon in the system."*[38]

As noted above, Waltz perceives such relentless power maximization as counter-productive, and evidently believes that an amount of sufficient security to guarantee survival tenable. The power needed to ensure this is surely markedly less than the 'hegemonic' amount suggested by Mearsheimer.

Mearsheimer outlines an international system consisting of 'insular' and 'continental' great powers that all aspire to regional hegemony through the build-up of military capabilities.[39] The great powers engage in regional balancing as well as balancing across the regions of the world. Mearsheimer discard the perception that the world has become unipolar after the Cold War and the belief that the U.S. is a global hegemon. Not only does he identify Russia and China as great powers that, despite the predominance of U.S. power, can contest and impede an American

[36] Mearsheimer, John J., *The Tragedy of Great Power Politics,* p. 21, New York, N.W. Norton, 2001.
[37] Morgenthau, Hans J., *Politics among Nations: The Struggle for Power and Peace,* p. 7, New York, Alfred A. Knopf, 1948.

[38] Mearsheimer, John J., *The Tragedy of Great Power Politics,* p. 21, New York, N.W. Norton, 2001.
[39] Ibid, p. 55.

invasion of their homeland,[40] but Mearsheimer put great emphasis on *"the stopping power of water."*[41] Great powers cannot conquer each other over vast expanses of water such as the Pacific Ocean, so geography matters a good deal since it divides the world into regions. Thus regional hegemony is attainable and desirable for great powers. Global hegemony is next to impossible except if a state acquires *"clear-cut nuclear superiority"* defined as *"a capability to devastate its rivals without fear of retaliation."*[42] Assuming that this highly unlikely scenario does not unfold, hegemony can only be regional. The United States is the only regional hegemon in modern history with its domination of the Western hemisphere, but even so it is not satisfied. A regional hegemon will strive to prevent the rise of *"peer competitors"* by trying to maintain a balance of power between at least two great powers in other regions with a potential hegemon. If the international system contains only one hegemon it will be a status quo power because it has achieved the ultimate goal any state can entertain, regional hegemony and no rivals in the rear view mirror. Other great powers that are not regional hegemons are by nature revisionist as they seek to maximize their share of world power. [43] Therefore, the structural realism of Mearsheimer is labelled offensive realism.

Offensive Realist Predictions on the Rise of China

Offensive realism takes a quite pessimistic view on the possibility of China rising peacefully. China's ultimate goal is to become the regional hegemon of Asia, and it will increase its military power to make sure that no other Asian state can credibly threaten it.

China's military expansion and potential regional dominance will cause most of China's maritime neighbours, including Japan, South Korea, Singapore, Vietnam and the Philippines to join the U.S. to contain China. Their goal would to form a balancing coalition with the aim of containing China and in the end weaken it so much that it doesn't constitute a threat any longer. The USA will not tolerate the rise of peer competitors and a potential regional hegemon in North East Asia and together with its allies the U.S. will engage in intense security competition with China, just as they did in Europe with the Soviet Union during the Cold War. China's goal on the other hand is to eventually push the Americans out of Northeast Asia, just as the U.S. squeezed the European great powers out of the Western hemisphere in the nineteenth century.

Taiwan is a crucial issue since its geographic location gives it great importance in controlling the sea lanes of East Asia. For that reason alone, it is unlikely that the U.S. and Japan would accept China controlling Taiwan. For the same reason, China wants to unite Taiwan with mainland China. Hence, Taiwan will be a central issue in any anti-China balancing coalition, which will rile China and fuel the security competetion between Beijing and Washington.

Offensive realism recognises that nuclear weapons reduce the likelihood of war between states, but not that it will lessen the security competition and power maximizing behaviour of China. After all, nuclear weapons did not hinder military build-up between the U.S. and the Soviet Union during the Cold War.

[40] Ibid, p. 381.
[41] Ibid, p. 114.
[42] Ibid, p. 145
[43] Ibid, pp. 41-42.

Hypothesis 3 - In Pursuit of Regional Dominance

China will seek to be the premier naval power within the first island chain and into the waters beyond that. It will build a navy with some power projection capability that can overwhelm China's smaller maritime neighbours and change the balance of power in the region. Hence, China's strategic behaviour will be revisionist in nature.

China will continue to take a forceful stance in the East China Sea with regards to Japan and its American ally, and Beijing will uncompromisingly assert its claims in the territorial disputes in the South China Sea. China will construct a navy that can handle these disputes and take the contested islands by force and hold them if need be. The development of power projection capabilities is not directly aimed at the U.S. Navy, but to establish the Chinese navy as the dominant force vis-à-vis other countries in the region, such as Japan, South Korea, Vietnam, and the Philippines. The PLAN will seek to have the capabilities to ensure that China effectively makes a Taiwanese declaration of independence ever less likely. This includes anti-access/area denial (A2AD) strategy that is indeed aimed at deterring, denying or delaying U.S. intervention in China's Near Seas demarcated by the first island chain.

China will insistently maximise its power, but avoid confrontation with the system leader. China accepts that it cannot match American naval power in Western Pacific and that the PLAN will not have the capabilities to do so in the foreseeable future. Nevertheless, China's strategic behaviour will be characterised by building up naval forces even though it risks provoking balancing behaviour by other countries in the region. The attaining an offensive posture

Predicted Posture:

- Amphibious assault capabilities to enforce claims on disputed islands such as the Diaoyou/Senkaku Islands, the Spratly Islands, the Paracel Islands, and the Scarborough Shoal. Such amphibious capabilities are operating in groups and do not need to be multifunctional vessels suitable for autonomous deployment.
- Large and advanced submarine force with medium-sized conventional-powered submarines (SSK) up to 3000 tonnes, augmented by nuclear-powered attack submarines (SSN). China will continue the build up of an imposing underwater fighting force equipped with advanced weaponry such as anti-ship cruise missiles.
- Aircraft carrier programme capable of offering limited power projection capabilities, furthering China's status as a dominant major regional naval force more directed against other regional powers and not against the United States.

Geographical extension: China's Near Seas - the Yellow Sea, the East China Sea and the South China Sea, with an A2AD capability within the first island chain.

Hypothesis 4 - Extra-Regional Ambitions

China wants to dominate Asia the way the United States dominate the Western hemisphere. China will seek to maximize the power gap between itself and its neighbours Russia and Japan, aspiring to severe military superiority, so that no state in Asia has the wherewithal to threaten it. A conquering rampage and territorial expansion on the Asian landmass is not the purpose of China's military might. Rather, like with the U.S. in the Americas, China wants to be able to dictate acceptable behaviour in its region and to have its way on issues that matters to China.

China will continue to expand and modernize its navy and intensely pursue the development of a blue-water navy with serious power projection capabilities. This includes developing the capabilities to confidently operate in distant seas and into the Indian Ocean to the west and the Western Pacific beyond Japan to the east.

China knows that such aggressive behaviour will trigger a balancing coalition, but is also knows that the only way around this problem is to maximize its power even further. This entails that China's naval development is aimed at rivalling the U.S. Navy in the a navy China's strategic behaviour will be extremely revisionist in nature, aiming at regional hegemony.

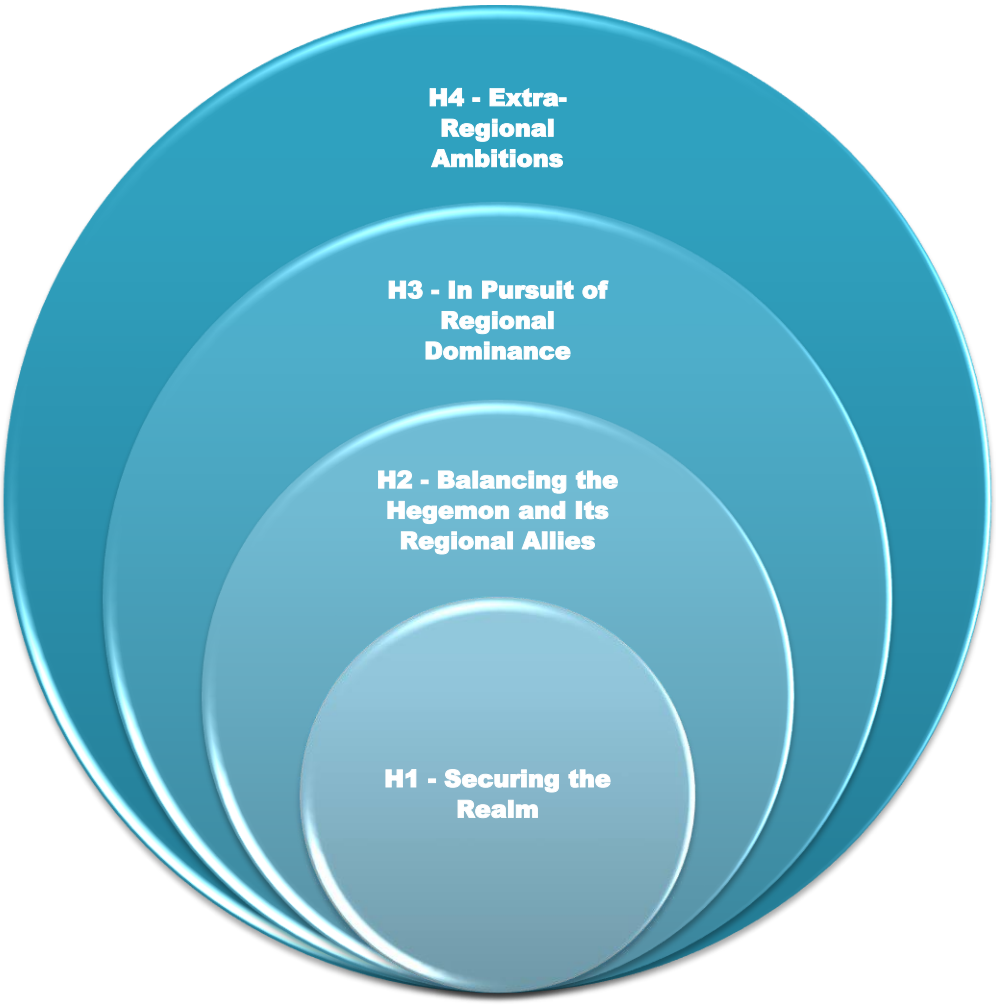
Predicted Posture:

- China will invest heavily in large ocean going submarines. Big nuclear powered attack submarines (SSN) are a major constituent. Nuclear ballistic submarines carrying nuclear nuclear-armed intercontinental ballistic missiles (ICBM) will increase in number and ensure China a credible second strike capability and first-rate deterrence capability.
- China will continue to deploy long-range ocean going surface vessels suitable for autonomous deployment such as with such as multifunctional destroyers and frigates with layered air defence and sophisticated radar, sonar, and weapons systems.
- Replenishment at sea (RAS) vessels and other support vessels intended to enable continuous deployment far off Chinese shores, indeed in distant regions.
- China will also pursue its aircraft carrier ambitions with great vigour. China will launch more aircraft carriers in the years to come, and build the support vessels needed to form carrier strike groups that will constitute major power projection capabilities. This is of course coupled with expansion in numbers and quality of naval aviation units.

Geographical extension: The high seas, including the Western Pacific and the Indian Ocean Region.

Graphic illustration of relations between hypotheses

The figure represents the four hypotheses as continuous layers of ambition .The hypotheses are theoretically informed predictions, but they should not necessarily be viewed as mutually exclusive, but rather as the reach of strategic scope and geographical extension. For example, if the data is supportive of H4 it does not mean that China will forsake the capabilities predicted in H3, H2, and H1. So each ring represents additional capabilities, meaning that data supporting H4 does not mean a significant reduction in Chinese coastal warfare capabilities or lessening of A2AD missile capabilities.



With regards to geographical extension, a furthering of ability to control maritime territory presupposes control of waters closer to Chinese shores. For example, capabilities developed for operations within the first island chain naturally mean that defence of littoral waters is not neglected. On the other hand, data suggesting a long-term commitment to blue water navy capabilities such as large destroyers capable of autonomous deployment does not automatically mean that China has attained full control of its regional waters.

IV: Securing the Realm - testing Hypothesis 1

Predicted Posture:

- Consolidation of the "Near Coast" strategy. With no ambition to dominate the regional seas, China will modernise, strengthen, and build up its coastal defence forces.
- A limited number of nuclear-powered submarines with ballistic missiles (SSBN) for assured nuclear deterrence and second strike capability.
- Small and short-range conventional-powered submarines such as will be the focus of the PLAN's submarine force. The relatively shallow waters off the Chinese littoral do not require large ocean-going submarines.
- Littoral warfare vessels such as missile-armed patrol craft, and coastal antisubmarine ships able to fend off enemy ships close to Chinese shores.

Geographical extension: Coastal orientation only in doctrine and hardware. The reach of PLANs conventional submarines and littoral combat ships restricts the range which the PLAN will be able to launch operations, more or less within China's territorial waters.

Coastal defence has been the strategic approach of the Chinese Navy for at least the first four decades of the birth of the People's Republic of China in 1949. Such an approach to maritime security will have its major focus on naval capabilities designed to secure the coastal regions of China from a seaborne invasion. If Beijing has no aspirations to become a serious sea power, China will continue to concentrate its military power around the PLA ground forces protecting its land borders. Consequently, the PLAN will remain the maritime equivalent tasked with border defence. The focal point of naval development and procurement will be directed to coastal defence equipment, not only as part of a natural modernisation process of military hardware that gradually become obsolete. The coastal defence of the PLAN is expected not only to be maintained and modernised but significantly built up and constitute the chief force posture.

Initially, we shall start with having a brief look at the legacy of the Chinese Navy and why it has historically been focused on coastal defence. This permits an understanding of how and why China would continue with such a strategy. In addition, it serves as a backdrop for analysis of the hypotheses in subsequent chapters, providing historical depth for understanding and explaining Chinese strategic behaviour in the maritime domain.

The Legacy of the People's Liberation Army Navy

China has an extensive coastline of roughly 18,000 km, and the difficulty of establishing efficient and useful control over such an elongated line of defence had prompted naval defence to focus on strategically important areas. China's coastal defence strategy incorporated the approximate 12 nautical miles (nm) of territorial waters that stretches seaward from China's coastline, and about 300 kilometres (km) inland, a region in which China's economically and politically important cities are situated. These included the straits and waterways that enemy forces could take advantage of when attempting to invade China by sea to conquer land targets

of strategic importance. Examples of this include the Strait of Bohai which is the maritime entry to Tianjin and Beijing, and relates to the security of the north coast of China; the Strait of Taiwan that concerns the security of China's east coast and the question of Taiwanese reunification of Taiwan with mainland China; and the Strait of Qiongzhou and securing the island of Hainan and China's south coast. The deployment of the three PLAN fleets, the North Sea Fleet, the East Sea Fleet, and the South Sea Fleet, corresponds with the defence of these straits and contiguous seas as the focal point of Chinese coastal defence.[44]

Geostrategic Environment - Primacy of Land Forces

Throughout most of the history of communist rule in China, the country's strategic security environment has been decidedly continental in nature. Facing the Soviet Union on its northern borders, India in the Himalayas to southwest, and the United States positioned in Korea in the northeast, China could not afford to allocate much attention or resources to its navy.

In the 1950s and 1960s, the main concern of the PLA was relatively small-scale coastal incursions by Taiwanese Kuomintang forces (KMT), expected as be preparations for major offensives to recapture mainland China. For the purpose of countering this, the PLA focused its attention on coastal defence forces, rather than the navy itself. Mao's China surely had plans to invade and capture Taiwan as well, and the People's Liberation Army had amassed its forces for invasion preparations across the Strait. In 1950, with the outbreak of the Korean War the situation changed. In its own account, China had repeatedly warned the Americans first not to cross the 38th parallel separating North from South Korea, then not to take Pyongyang and thirdly not to go too close the Yalu River and thereby directly "threaten the security of China."[45] China proceeded to redeploy its troops from across the Taiwan Strait to the northeast close to the North Korean Border and eventually invaded North Korea to pre-empt the Americans and United Nations forces to overrun the North Korean Army completely and establish themselves on the banks of the Yalu River. In the end, Mao abandoned preparations to invade Taiwan when the U.S. Seventh Fleet positioned itself in the Taiwan Strait and effectively deterring China.[46] With a full-scale land war in Korea against the world's strongest force and the perceived threat from the Americans in Korea, the U.S. and Chiang Kai-shek's forces in Taiwan, and the Americans and French in North Vietnam, China's geostrategic security environment could hardly be more continental in nature.

In 1954, China shelled the island of Jinmen in order to prevent Taiwan from assigning a security treaty with the U.S. and later the same year, the PLA Air Force (PLAAF) bombed the Dachen Islands. Mao's strategy of scarring the Taiwanese and Americans with a show of force did not pay off, and President Eisenhower did sign the security treaty and China backed off as the American Seventh Fleet intervened. Skirmishes between PLAN torpedo boats and KMT forces

[44] Nan Li, *The Evolution of China's Naval Strategy and Capabilities: From "Near Coast" and "Near Seas" to "Far Seas";* Asian Security, vol. 5, no. 2, 2009, pp. 144-169; Military Balance, *Chapter Six: Asia, Map 4, p. 197*
[45] As recalled by the Chinese foreign minister at the time, Chen Yi, in an interview with the *Tokyo Journalist,* published 26 June 1962, cited in Whiting, Allan Suess, *China's Use of Force, 1950-96, and Taiwan,* International Security, Vol. 26, No. 2, Fall 2001, p. 106.
[46] Ibid, p. 107-108.

continued in the Taiwan Strait, but China carefully avoided engaging American ships. After having abandoned plans to recapture Taiwan by force and being faced down by the U.S. China's navy was all the more oriented on defence of the coast. However, the PLAN did play on offensive role in amphibious landing operations to capture islands from KTM forces. In January 1955 China captured the Yi Jiangshan Islands, the last stronghold of Nationalists off the coast of Zhejiang Province.[47]

In 1962, the Sino-Indian border war underscored the primacy of land forces in China's security environment as the two Asian giants fought over their Himalayan border. The dispute continues to this day with no agreed border, but ending in a ceasefire at the so-called line of actual control.[48] From 1958 and through the 1960s, the Sino-Soviet relationship had soured and clashes on the border took China and Russia to the brink of war. The border dispute was centred on centuries-long quarrels over territory going back at least to the seventeenth century. Russia claimed more land in the eighteenth and nineteenth centuries and in the end seized almost 3 million square kilometres. Russia asserted its claim in a series of "unequal treaties" as they have been referred to by Chinese historians. China started to contest Soviet occupation of the territories by 1963 and after China's demonstrated nuclear capability in 1964 both countries began building up its military forces along the border. In the second half of the 1960s, the Soviet Union continued to move troops to its Far East and increased its ground forces in the military districts on the Chinese border from 13 to 21 divisions. In 1969 tensions flared and armed clashes on the border cost the lives of approximately a thousand people.[49] Reportedly, the Soviet Union were on the brink of launching a nuclear attack against China, but Washington warned Moscow that it would mean American nuclear strikes on Soviet cities if they escalated the conflict to the nuclear level.[50]

This caused China to shift its attention from the United States to the Soviet Union as the most likely near term adversary. Accordingly, China began to emphasize its defence against a Soviet invasion from the north as opposed to its previous orientation towards the south and east. The Soviet Union could field a technologically much more advanced army than China, and hence the Chinese sought to counter that with its abundance space and manpower, guided by Mao Zedong's notion of "people's war". By luring the enemy into the deep Chinese lands and seeking a prolonged war of attrition and guerrilla-style tactics of mobility and harassment in Chinese familiar territory, this would give the Chinese the needed time to blood-let and weaken the enemy until strategic offensives were feasible. This left the PLAN more or less irrelevant, since a

[47] Chen Jian, *Mao's China and the Cold War,* 2001, University of North Carolina Press, Chapel & Hill, London, pp. 169-170.
[48] Whiting, Allan Suess, *China's Use of Force, 1950-96, and Taiwan,* International Security, Vol. 26, No. 2, Fall 2001, p. 112-113.
[49] *The Sino-Soviet Border Clashes,* globalsecurity.org, http://www.globalsecurity.org/military/world/war/prc-soviet.htm accessed 6 November 2012
[50] Osborn, Andrew & Foster, Peter, *USSR Planned Nuclear Attack on China in 1969,* The Telegraph 13 May 2010, http://www.telegraph.co.uk/news/worldnews/asia/china/7720461/USSR-planned-nuclear-attack-on-China-in-1969.html, accessed 28 April 2013.

strategy of allowing the enemy deep into Chinese territory in effect made coastal defence unneeded.[51]

When Deng Xiaoping took over the leadership in the late 1970s the guiding principle changed from "people's war" to "people's war under modern conditions".[52] The major strategic focus was still on a large scale war with the Soviet Union primarily fought be land forces, but more attention to the navy was underway, as China's long coastline where many of its strategic assets and economic centres are located, constitutes its nautical flank. The Soviets could conceivably take advantage of this strategic and geographic vulnerability and seek to capture islands and straits and conduct amphibious-landing operations to capture strategic assets, advancing on both land and sea, and initiate a two-front assault from both the north and the south. Thus, the PLAN should augment the land-based defence and protect naval bases, harbours and airfields near the coast. Moreover, the Soviets would be operating far from its homeland and consequently long supply routes would be necessary and the merchant ships resupplying Soviet forces would be vulnerable and open for Chinese sabotage and ambush. Hence, the PLAN main task was then to conduct counter-amphibious-landing operations around the Chinese littoral, depending on geographic advantages such as the many natural harbours, bays and caves that could accommodate naval, air, artillery and missile forces and operating bases. Furthermore, by operating close to the coastline in smaller and faster ships, the PLAN would also be within the reach of land-based firepower and support.[53]

The collapse of the Soviet Union, the end of the Cold War and bipolarity had geostrategic security ramifications that resonated across the planet in the winter of 1989. The implications for China were equally massive, rearranging the security architecture of the world, leaving the United States the undisputed military champion globally, and in northeast Asia by far the premier naval power. In short, the naval strategy of China throughout the 1970s and 1980s was designed to ensure national survival in a major war with the Soviet Union. The PLAN was not tasked with capturing lost or disputed territory. It was a strictly defensive strategy.

We shall now turn to the examination of the specific force posture predicted in Hypothesis 1 and investigate if China's strategic behaviour and naval modernisation is centred on the predicted force posture. The posture is in essence a continuation of the Near Coast defence strategy based on the legacy of the Chinese Navy as presented above in the contemporary environment in Northeast Asia.

[51] Nan Li,*The Evolution of China's Naval Strategy and Capabilities: From "Near Coast" and "Near Seas" to "Far Seas";* Asian Security, vol. 5, no. 2, 2009, pp. 144-169, p. 146

[52] *Transformation and Refinement of Chinese Military Doctrine: Reflection and Critique on the PLA's View,* in Seeking Truth From Facts, A Retrospective on Chinese Military Studies in the Post-Mao Era, edited by Mulvenon, James C. & Yang, Andrew N.D., RAND 2001

[53] Nan Li,*The Evolution of China's Naval Strategy and Capabilities: From "Near Coast" and "Near Seas" to "Far Seas";* Asian Security, vol. 5, no. 2, 2009, p. 147.

Nuclear-powered Ballistic Missile Submarines

China's main nuclear deterrence is undertaken by the Second Artillery Force, the service responsible for the China's conventional and nuclear ballistic missile arsenal. China's strategic missile force ranks among the largest in the world with a wide assortment of short, intermediate, and medium range ballistic missiles (SRBM, IRBM, MRBM) as well as land-attack cruise missiles (LACM). Most imperative though is the estimated 72 intercontinental ballistic missiles capable of delivering nuclear warheads to most of the globe.[54]

Even with the massive destructive power of the Second Artillery Force, a limited but modern nuclear-powered ballistic missile submarine (SSBN) capability would greatly enhance China's nuclear deterrence. Nuclear-armed missiles are innately defensive weapons. As mentioned earlier, territorial expansion and massive offensive wars are very hard to wage engage a nuclear armed opponent for fear of nuclear retaliation. The spoils of war are almost certainly not high enough to pay the price nuclear war would demand. SSBNs armed with intercontinental ballistic missiles are the ultimate deterrence. Possessing a second strike capability, meaning being able to retaliate with nuclear weapons after having suffered a nuclear attack greatly reduces the likelihood of being attacked much further. Lurking in the oceans, SSBNs are the epitome of an assured nuclear second strike capability.

China's search for a submarine-based nuclear deterrent has been long in the making. In 1960s and 1970s, when American and Soviet submarine design made great headway, China's nuclear submarine development was marred by technical and systemic failures. After the deployment of the *Han*-class (Type-093) nuclear-powered attack submarine (SSN) in 1974, China started to make up for lost time in their pursuit of a sea-based nuclear deterrent.[55] China's leaders had long coveted possessing such a weapon, and their wishes were granted when the 6,604-ton *Xia*-class (Type-092) was launched in 1981 and commissioned in 1987, though the submarine was marred by many troubles. A second of class was reported launched in 1982 but unconfirmed reports have asserted that one of the boats was lost in an accident in 1985.[56] The JL-1 Submarine Launched Ballistic Missiles (SLBM) it carries are of the relative short range of 1700 km, and the single and by now ageing and troubled-plagued *Xia* never conducted a deterrent patrol, and it is not considered to be operationally deployed.[57]

But the undersea nuclear deterrent capability of China is undergoing a generation change with the advent of the *Jin*-class (Type 094) SSBN. The *Jin*-class is a vast improvement over the *Xia*-class, but considering the aforementioned massive problems that afflicted the *Xia* that is not saying much. The *Jin*-class is quite a bit bigger, suggesting longer range and endurance, though the actual tonnage displacement remains unknown.[58] Even if one disregards the technical limitations of the *Xia* and JL-1, the simple fact that only a single boat was in existence in the PLAN until the advent of the *Jin* reduces its deterrence effect immensely. Several boats are

[54] IISS Military Balance 2013, p. 287.
[55] Purser III, Benjamin S. & Chase, Michael S., *Waypoint or Destination? The Jin-Class and China's Quest for a Sea-BasedNuclear Deterrence,* Vol. 12, Issue 15, 4 August 2012, pp. 11-12.
[56] IHS Jane's Fighting Ships, *Submarines – Strategic Missile Submarines,* 11 February 2013
[57] U.S. Department of Defense Annual Report to Congress, *Military and Security Developments Involving the People's Republic of China,* Annual Report to Congress, 2010, p. 34.
[58] See appendix XXX

needed in order to entertain a continuous at-sea deployment as maintenance and repair work is regularly required which necessitates docking for long periods of time. China now fields three *Jin*-class SSBNs with one more boat in build, so at least four *Jin*-class SSBNs are certain. Some official American estimates assess that China will probably deploy five submarines of the *Jin*-class.[59] However, China's new is probably not that impressive compare with the SSBNs of other countries. According to the U.S. Office of Naval Intelligence, the *Jin*-class is noisier than the Russian *Delta III*-class SSBN build more than thirty years ago.[60] Also, the *Jin*-class is relatively small. As mentioned, the exact tonnage displacement is unknown, but estimated at around 8000-10000 tonnes. The American *Ohio*-class SSBN is twice the size at 19000 tonnes, and the *Jin* is outright dwarfed by the massive Russian *Typhoon*-class that displaces 26500 tonnes, making it three times as big as China's new SSBN. Additionally, the *Jin*-class only has capacity for 12 JL-2 SLBMs in comparison with the 20 SLBMs carried by the *Typhoon*[61], and 24 by the *Ohio*.[62] Furthermore, the JL-2 SLBM is has been repeatedly delayed and it is not yet operational, although it probably will be within a few years time.[63] On 18 April 2013, the Director of the U.S. Defence Intelligence Agency told Senate Armed Services Committee that the JL-2 and the Jin-class SSBN "*may reach initial operational capability around 2014.*"[64] The range JL-2 SLBM is estimated at 7400 km.[65] That would not make it able to target the U.S. homeland, except Alaska, from Chinese littoral waters as it would plunge into the water about 800 km from Seattle. In order to reach the 48 contiguous American states, the JL-2 would need to be fired from somewhere west of Hawaii.[66]

Concluding on Nuclear-powered Ballistic Missile Submarines, regarding Hypothesis 1

In sum, China has achieved a mediocre sea-based nuclear deterrent, assuming the JL-2 is successfully deployed. Four *Jin*-class SSBNs will provide Beijing with an SSBN fleet close to having a near-continuous at sea presence. Compared with the abundance of American nuclear strategic missile submarines and the Russian undersea mammoth, the Chinese SSBN fleet is not much to boast about. But compared to where China was less than a decade ago, with an old, small, accident prone, and nonoperational single *Xia*-class SSBN, the introduction of the *Jin*-class is big accomplishment and impressive stride. As such, the current SSBN fleet of the Chinese Navy corresponds well with the predicted posture.

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[59] U.S. Department of Defense Annual Report to Congress, *Military and Security Developments Involving the People's Republic of China,* Annual Report to Congress, 2010, pp.2-3

[60] Office of Naval Intelligence, *The People's Liberation Army Navy – A Modern Navy with Chinese Characteristics,* Suitland, MD, Office of naval Intelligence, August 2009, p. 20.

[61] IHS Jane's Fighting Ships, *Submarines – Strategic Missile Submarines, Typhoon Class*, 25 February 2013.

[62] IHS Jane's Fighting Ships, *Submarines – Strategic Missile Submarines, Ohio Class,* 9 April 2013.

[63] U.S. Department of Defense Annual Report to Congress, *Military and Security Developments Involving the People's Republic of China,* 2012, p.23.

[64] Richardson, Dough & Isby, David C., *China yet to Deploy DF-41 and JL-2, IHS Jane's Missiles & Rockets,* 30 April 2013.

[65] U.S. Department of Defense Annual Report to Congress, *Military and Security Developments Involving the People's Republic of China,* 2012, p.23.

[66] O'Rourke, Ronald, *China Naval Modernization: Implications for U.S. Navy Capabilities – Background and Issues for Congress,* Congressional Research Service, 21 March 2013, p.19.

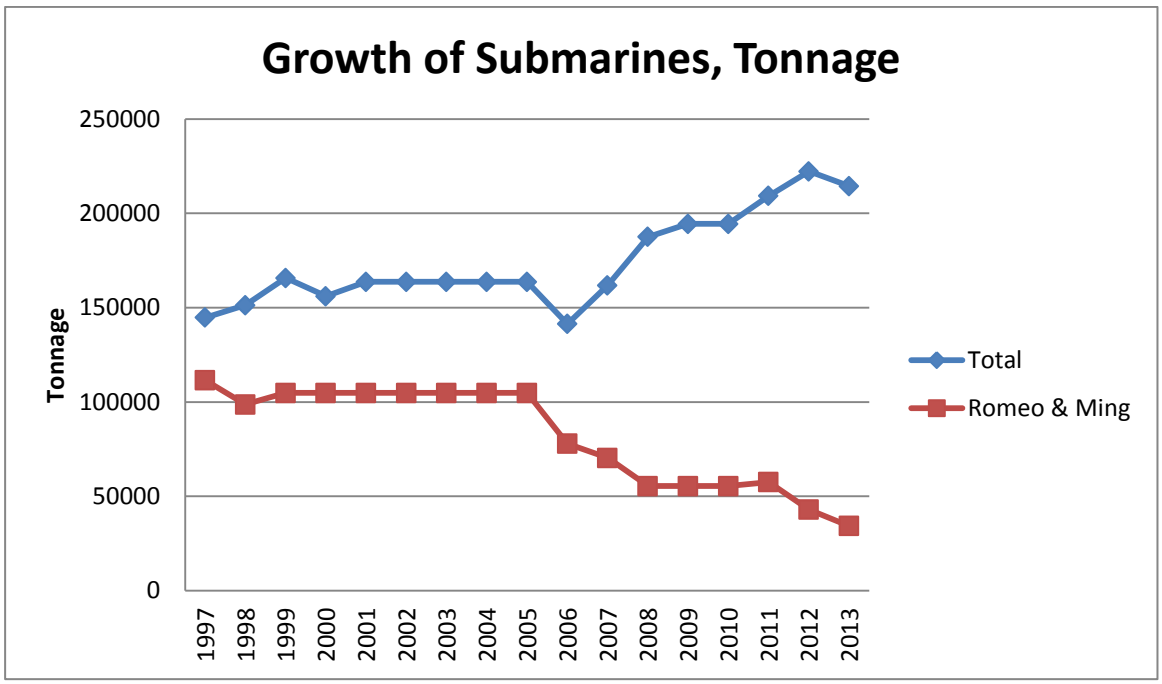
Conventional Submarines

H1 envisions China to invest in a conventional-powered submarine force with relatively small boats to operate in the Chinese littoral. Well into the 2000s, China relied on Soviet-designed *Romeo*-class submarines that the PLAN had procured and deployed in substantial numbers, as well as the *Ming*-class, China's domestically produced version of the *Romeo*. The SSK fleet of *Romeos* and *Mings* was indeed quite impressive by the numbers. From 1997-2002, China continued to build more of the *Ming*-class, and in 2005 it deployed 19 submarines of the *Ming*-class and 35 of the *Romeo*-class. From then on though, the PLAN started shedding itself of the *Romeo*-class and it is now complete phased out. 16 *Ming* are still in service, but by most estimates the *Ming*-class is now more or less completely obsolete.[67]

A sound replacement for the *Ming*-class is the *Song*-class that saw the first of class commissioned in 1999. The *Song*-class SSK displaces 2286 tonnes and is roughly the same size as the *Ming* which displaces 2147 tonnes. All around a better submarine than the *Ming*, and armed with anti-ship cruise missiles as compared with the torpedo-only *Ming*, the *Song*-class SSK can be regarded as part of the natural modernisation step of the Chinese Navy.

However, if the PLAN's SSK fleet is to be build up for coastal defence with littoral combat submarines, the force posture of H1 predicts a nearly sole focus on fielding small submarines. No replacement for a *Romeo*-size submarine has been commissioned into the Chinese Navy. The sinking in March 2010 of the South Korean corvette *Cheonan* is indicative of how asymmetric capabilities can pose a threat to advanced surface ships.[68] Presumably, the ship was sunk by a torpedo fired from a North Korean 'midget-submarine' which shows the effectiveness of submarines small enough to hide in shallow waters close to the coast where it is harder to detect by sonar.[69] Anti-submarine warfare would be difficult in China's shallow and noisy littoral waters, and small SSKs would be "ideally suited for submarine operations" as they can hide and "manoeuvre between the rocks and shoals, where acoustics are clouded."[70] Additionally, numbers matter, and writing in 2004 some two American naval and China analysts warn that the U.S. should not dismiss the usefulness of the *Romeo* and *Ming* submarines. They could be used as bait, fanning out in large numbers and force American SSNs to deal with the older submarines, revealing themselves to small number of advanced submarines. "No wonder China continue to operate the vessels, which are widely derided as obsolete by Western observers" they claim, and state that the PLAN can operate its ageing diesel-electric submarines with great tactical efficiency.[71] Well, not any longer. The Chinese themselves seem to disagree by scrapping the *Romeos* altogether and decommissioning the *Mings*, albeit at a slower pace.

[67] See appendix XXX.
[68] IISS Military Balance 2011, *Northeast Asia,* p. 197
[69] The Economist, *Peril on the Sea,* 10 June 2010.
[70] Goldstein, Lyle & Murray, William, *Undersea Dragons: China's Maturing Submarine Force,* International Security, Vol. 28, No. 4, Spring 2008, p. 185.
[71] Ibid, p. 191.



The graph illustrates the point made above. As a share of the tonnage displacement of the entire PLAN submarine fleet, the *Romeos* and *Mings* was more or less steady until 2005. Seen over the entire period of time, the development is striking. In 1997, the two submarines classes displaced 111529 tonnes compared to the total displacement of 144769, constituting 77% of the entire submarine fleet. In 2013, with only the *Mings* remaining, they displaced 34352 tonnes out of a total of 214401 tonnes, only 16%. The *Song*-class is not included as it is seen as an eventual substitute for the *Ming*-class. If the *Song*-class is included in calculation the 16 *Ming*-class and 16 *Song*-class SSKs would have a combined displacement 70928 tonnes. Relative to the total tonnage of 214401, they still make up only 33% of the entire PLAN submarine in terms of tonnage.

Concluding on Conventional Submarines

Over the period of time from 1997-2013 China has build a submarine force geared for a whole lot more than more than coastal defence, decreasing the explanatory power of Hypothesis 1. The PLAN fields a submarine fleet that greatly surpasses the limited number and relatively small size predicted the defensive realist position sketched out in H1. The nature and implications of China's enlarging fleet of advanced conventional-powered submarines will be discussed in following chapters, as they have reached a level of both quantity, quality and size that serves better to be analysed within the offensive realist framework of Hypothesis 3.

Patrol and Coastal Combatants

Until the mid-2000s, the PLAN's force of missile patrol boats were made up of old and basically obsolete vessels based on Soviet designs. China has sought to modernise and upgrade its coastal and littoral combatants in the first decade of the 21st century. Part of this process has been the development of anti-ship missile carrying FACs (fast attack craft) and the gradual

decommissioning of older missile and torpedo boats. The PLAN still deploys 11 *Huangfen*-class (Type-021), 6 *Houjian*-class (Type-037/II), and 20 *Houxin*-class (Type-037/IG) FACs equipped with anti-ship missiles.[72] But a new and advanced missile craft has made its entrance and has attracted much attention, *Houbei*-class (Type-022). Accordingly, this will be awarded special attention in the section below.

The Houbei-class

The programme to deploy domestically produced fast attack craft equipped with advanced ASCMs came to fruition in the late 2000s. After extensive trials the first boat was launched in 2004. Construction of the *Houbei*-class apparently stopped in 2009, and it is unclear whether China will built more.[73] However, it seems clear that the PLAN has decided that the future of its coastal combatants will be centred on this new catamaran-hulled FAC.

The *Houbei*-class is an example of how Chinese state-owned civilian companies are used to acquire and apply foreign dual-use technology in China's military build up. The design of the ship is based on a commercial fast-ferry of Australian origin. In 1993, Sydney-based AMD Marine Consulting, a naval and architectural company, made a joint venture, Seabus International Company, with Guangzhou Marine Engineering Company, itself a subsidiary of the mammoth China Shipbuilding Company. The joint venture began designing high-speed aluminium catamarans, patrol and rescue vessels, and eventually the Chinese Navy adopted the design and technology and developed the *Houbei*.[74] The wave-piercing catamaran-hull gives the *Houbei* considerably better seakeeping[75] as it can cruise in rougher seas than mono-hull patrol craft of similar size. Combined with the boat's greater top speed of more than 50 knots, it gives the *Houbei* greater mission flexibility than the older *Houku*-class, completely phased out by 2007,[76] and *Haungfen*-class boats they are replacing.[77] The relatively low cost of construction, operating and crew-costs allowed the PLAN to rapidly build and deploy the ships. The large number of ships that emerged in a relatively short period of time, being build simultaneously in at least six different shipyards, also implies that the *Houbei*-class has been a high priority for the PLAN.[78]

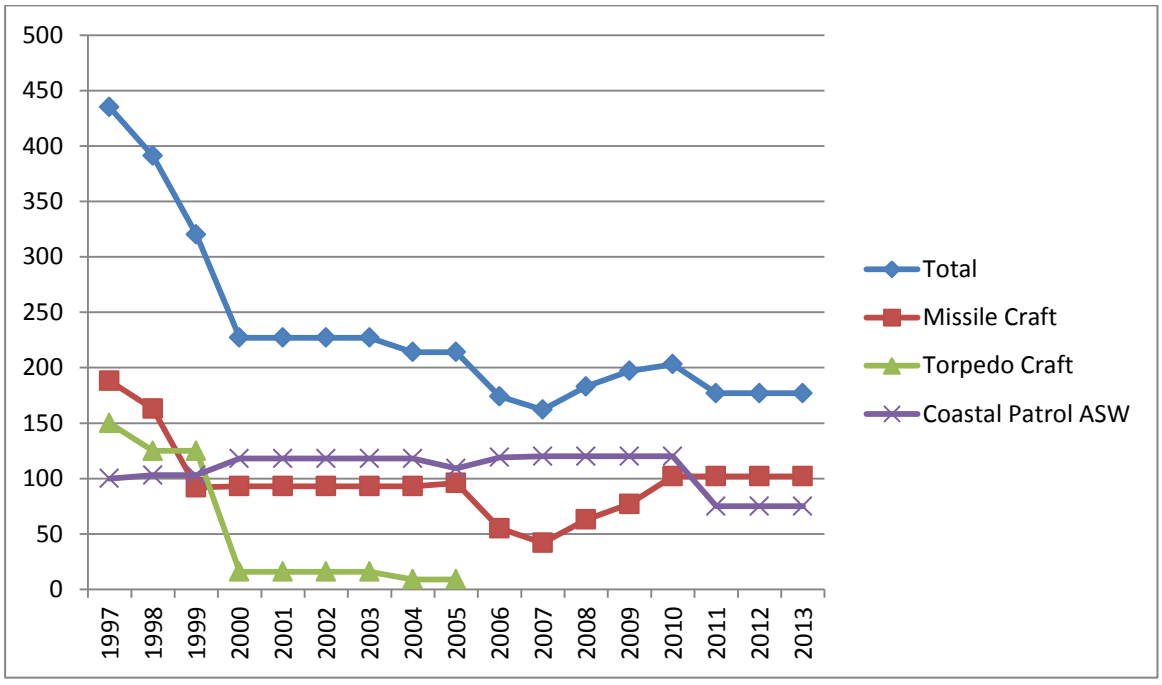
Although the *Houbei*-class is armed with a Russian six-barrel AK-630 30mm close-in weapon system (CIWS) and a FLS-I short range SAM-missile system for self-defence, it is basically an ASCM platform. The *Houbei* is equipped with 8 C-802/YJ-83 (CSS-N-8 Saccade) sea-skimming ASCMs with mid-course guidance and active radar homing to 120 km (65 nm) and later versions up 180 km (97 nm) at 0.9 Mach, indeed a very potent ASCM.[79] Other sources claim that the ship is packing even greater punching power with the newer-version C-803 ASCM with greater range

[72] IISS Military Balance 2013
[73] IHS Jane's Fighting Ships, *China – Patrol Forces,* 12 February 2012
[74] Lague, David, *Insight – From a Ferry, a Chinese Fast Attack Boat,* Reuters, 1 June 2012
[75] Seakeeping is a measure of how well adapted a ship is to the conditions at sea, especially how well the vessels performs in rough weather.
[76] IISS Military Balance 1997-2007.
[77] Office of Naval Intelligence, *The People's Liberation Army Navy – A Modern Navy with Chinese Characteristics,* Suitland, MD, Office of naval Intelligence, August 2009, pp. 18-20.
[78] IHS Jane's Fighting Ships, *China – Patrol Forces,* 12 February 2012.
[79] Ibid, and IHS Jane's Naval Weapon Systems, *Surface-to-Surface Missiles,* 13 August 2012

of up to 135 nm and higher speed.[80] In any case, the large missile-launch houses at the stern of the ship indicate that the *Houbei* could fire different types of missiles.[81]

The *Houbei*-class is well adapted to achieve for coastal defence of China's littoral and to some extent beyond the coastal waters, much more so than China's previous patrol boats. The now mostly obsolete *Huangfen*-class FACs are of too short range, vulnerable because of their large electronic signatures to adequately fulfil such missions. The *Houbei* is well suited for the purpose of single-role ships operating in groups and performing attacks from multiple directions.

Number of units Patrol and Coastal Combatants, 1997-2013:



Patrol and Coastal Combatants, units: *The total number of units is patrol and coastal combatants, excluding inshore and riverine patrol boats, like the Shanghai-class and Haizhui-class that weigh less than a 100 tonnes. Large numbers of these small craft have either been assigned to paramilitary forces such as the People's Armed Police, border guards, or Custom Service, or simply broken up or stored.[82] For comparative reasons, they have therefore been excluded this here.*

The graph shows the development of the number of patrol and coastal combatants. The PLAN had 150 torpedo boats in service in 1997, three years later only 16 remained, and they had entirely been taken out of service in 2006. The coastal patrol craft with ASW mortars saw a 25% reduction from 100 to 75 over the time period 1997-2013.

The number of guided-missile fast attack were more than halved from 188 missile craft 1997 to 92 boats just two years later in 1999 with large numbers of relics from the Soviet Union being scrapped. The number of missile craft were sliced again in a single year from 96 in 2005 to 55 in 2006 a further reduction of 43% in that single year time-span. Then, the numbers of missile start

[80] Patch, John, *A Thoroughbred Ship-Killer,* United States Naval Institute, Proceedings, 136.4, 2010.
[81] Nan Li, *All at Sea – China Develops Fast Attack Craft,* IHS Jane's Intelligence Review, 30 July 2009.
[82] IISS Military Balance 1999, p. 187.

rising again with the advent of the *Houbei* with a total number of guided-missile FACs reaching 102 in 2013.

The total number of patrol-type coastal combatants has gone from 435 to 177 craft, a striking reduction in units of 60%. Evidently, China has not concentrated the efforts of its naval modernisation process on coastal defence and patrol boats.

Concluding on Patrol and Coastal Combatants

The torpedo boats that China had relied on for decades like the *Huchuan*-class has disappeared altogether, Likewise, the ancient Soviet-designed *Huangfen*-class missile crafts have gradually been decommissioned with only 11 remaining in service. It is also evident, that the weak ASW capabilities of PLAN coastal combatants have not been upgraded. China has not deployed any new class of ASW-capable patrol boats in the time period that has been investigated. The anti-submarine deficiency has been an area of particular weakness of in the Chinese Navy. The still only moderate ASW capability of the PLAN is increasingly being handled by frigates, helicopters and marine patrol aircraft.[83] ASW-operations are clearly no longer the role played by "submarine chaser" patrol craft as China did in the 1970s and 1980s.

In whole, the development is clear. The trend is not going towards a large coastal defence force; it is going decidedly in the opposite direction. As has been analysed in detail above, the *Houbei* is a modern and highly capable patrol craft. It is fast, it carries advanced ASCMs designed engage medium to large surface ships, and it has been deployed in large numbers. The near-littoral strength of the PLAN has been upgraded and strengthened by the advent of the *Houbei*-class. However, the graphical representation of the evolution of the PLAN's patrol and coastal combatants above shows an unmistakable trend of decreasing emphasis on China's coastal defence.

V: Balancing the Hegemon and Its Regional Allies - testing H2

Predicted Posture:

- Larger coastal combatants such as corvette-sized ships that can check an opponent further from the Chinese coast to augment the guided-missile fast attack craft deemed enough for strictly littoral combat.
- Surface vessels suitable for autonomous deployment that can meet a potential enemy relatively far off the Chinese coast, as opposed to integrated units with each ship assigned a specific purpose in the group. Guided missile destroyers (DDG) and guided missile frigates (FFG) with expected capabilities including layered anti-air defence systems to

[83] Office of Naval Intelligence, *The People's Liberation Army Navy – A Modern Navy with Chinese Characteristics,* Suitland, MD, Office of naval Intelligence, August 2009, p. 18.

defend themselves against aircraft and anti-ship missiles. In addition, anti-submarine warfare (ASW) capabilities with at least two different kinds of sonar systems, one hull-mounted, another buoy-based (towed-array) and perhaps assisted by helicopter-borne sonar for some kind of triangulation. Shore-based assistance cannot be guaranteed thus necessitating independent defensive systems.

- Increase in numbers of conventional-powered submarines of small to medium size, roughly around 2000 tonnes. China's older submarines are likely to be replaced by more modern classes, armed not only with torpedoes but also with anti-ship missiles to deter enemy forces from venturing close to the Chinese littoral.
- Deployment of an anti-ship ballistic missile (ASBM). An ASBM deterrence would be a unique Chinese capability and if operational would constitute an obstacle for U.S. carriers to operate strike groups from within the first island chain.

Geographical extension: Roughly to the limit of China's exclusive economic zone, about 200 nautical miles (nm) from the Chinese coast, to be able to check an opponent well before they reach Chinese coastal waters.

Balancing the Hegemon and Regional Powers

Hypothesis 2 predicts China to engage in more vigorous balancing behaviour. As mentioned earlier, the U.S. strategic pivot towards the Asia-Pacific region is out of necessity. China's growing military might beckon to be balanced, but perhaps from a Chinese point of view, the necessity of balancing is the other way around. Two diagrams say it all:

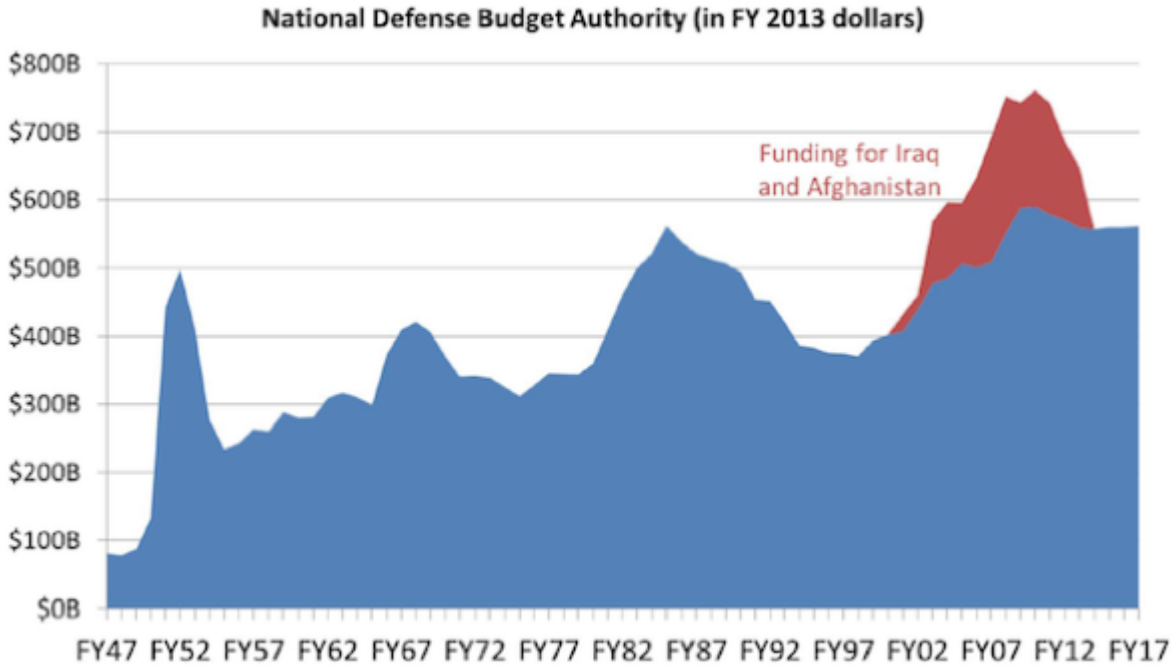


Figure 1 Source: Center for Strategic and Budgetary Assessments

After the end of the Cold War, American defence spending fell sharply, but started rising again around the turn of the millennium. After the terror attacks on the U.S. the 11 September 2001

and the ensuing Global War On Terror, the U.S. defence budget has risen to the same level as it was at the height of the Cold War in the 1980s, even disregarding the contingency funding for the wars in Iraq and Afghanistan.

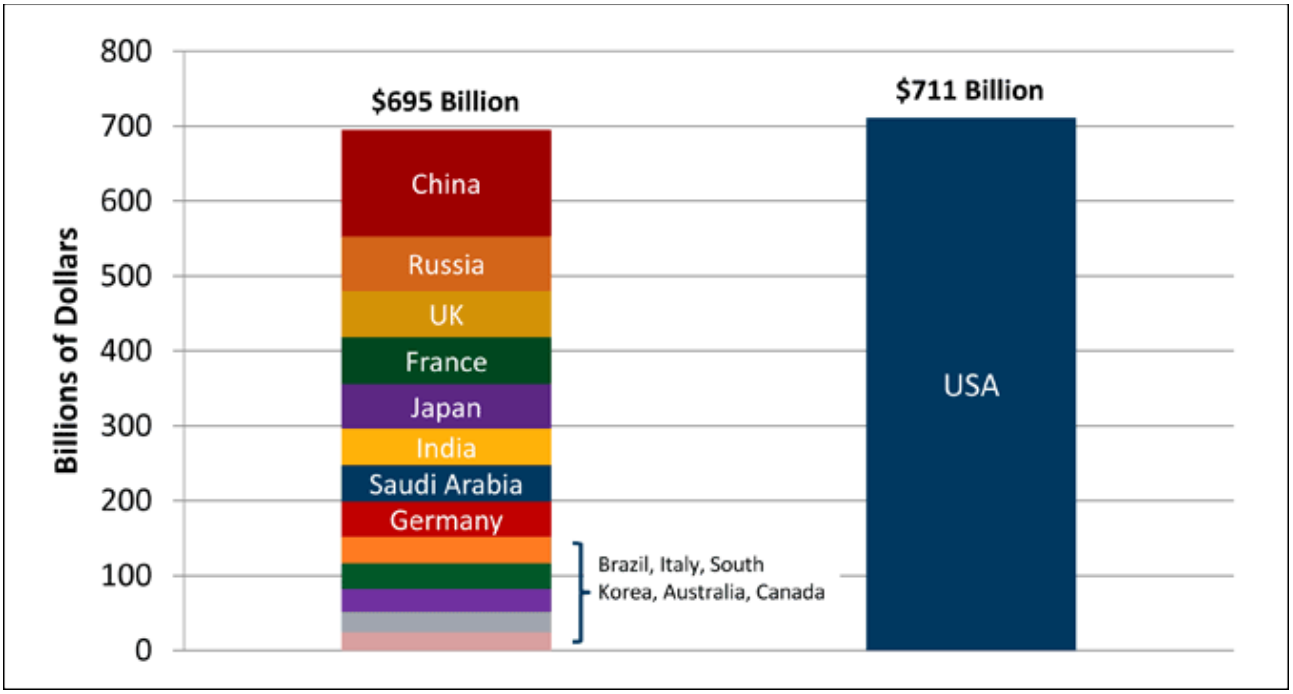


Figure 2 Source: SIPRI

Figure 2 shows that the U.S. defence budget is higher than the combined defence spending of the 13 countries that spends the most on defence after the United States. Such a marked gap between number one and the rest compel other countries to append more on defence themselves. In short, China's growing defence budgets is an expression of balancing against the U.S. and its allies in Northeast Asia in order to retain its position in the balance of power in the region.

As we have seen from the analysis of Hypothesis 1, China has modernised and upgraded its littoral and coastal defence forces, but not in a way that could meaningfully be accounted for by the predicted posture of H1. Still building on defensive realism, H2 envisions China balancing the growth of naval forces in the region by stepping up its game, moving from a pure coastal defence posture to a navy capable of checking an enemy force further from Chinese shores. Even though H2 pictures China as status quo-oriented and not seeking to overturn the balance of power in the region, it will try to keep its position. After all, meeting an opponent on somewhat equal footing in the middle of South or East China Sea is to be preferred over engaging a potential invasion force in the littoral. As such, H2 is reminiscent of Waltz's advice to the prudent statesman of seeking 'an appropriate amount of power.'

Let us now investigate the predicted force posture of such balancing behaviour.

Larger Coastal Combatants

H2 envisage China to deploy larger coastal combatants somewhere between its patrol and fast attack craft, and frigates in terms of tonnage displacement. Until now, the PLAN has not deployed any such surface combatants. However, it soon will. A programme for a corvette-size ship is in progress, the *Jiangdao*-class Type-056. The vessel has been called a "next generation stealth frigate" by Chinese media.[84] Here, it shall be labelled a corvette because of its size and displacement (1500 tonnes).[85] The Type-056 is similar to the *Pattani*-class offshore patrol vessel that China built and sold to Thailand in 2005 and 2006.[86] As might be expected, not much technical information on such a new vessel is available, and consequently this section makes use of media reports regarding the Type-056 and should therefore taken as exploratory observations. Yet, the Type-056 corvette is mentioned in reports for the U.S. Congress and by IHS Jane's which lend some credibility to the specifications given here.

The lead ship of the new class was laid down in 2010, launched in 2012, and commissioned on 25 February 2013. At least 10 additional ships have been launched and 18-20 ships of the class are expected.[87] One analyst mentions as many as 30 vessels likely to be procured,[88]another up to three dozen.[89] The ship is being built at an impressive rate at four different shipyards simultaneously, further indicating that large quantities are indeed in the offing and expected to be commissioned fast, with the additional 10 units expected to be commissioned in 2013-2014.[90] As for weapons, the *Jiangdao*-class features a 76 mm main gun as well as two 30 mm CIWS, an 8 cell HQ-10/FL-3000 short-range SAM system and most likely YJ-83 ASCMs. It has a helicopter deck, but no hangar. The sensor suite includes fire-control radar, surface-search perhaps for the helicopter, and targeting radar for the SSMs. There are also features in the design that indicates that towed array sonar can be fitted.[91] Likely missions for the Type-056 include naval base defence, coastal patrol, and escorting. In addition, it has been suggested that torpedo tubes will also be fitted or perhaps RDC anti-submarine rocket launchers, although this information seems to be speculative.[92]

The *Jiangdao*-class corvette could replace the ageing *Jianghu*-class frigates and *Houxin*-class guided-missile FACs. If that is to be the case, then at least the 30 units mentioned would be necessary, but that would mean a marked upgrade with a multipurpose ships being able to conduct ASW-missions, patrolling, and base defence missions. On the other hand, it could also seem likely that the Type-056 will come in single-purpose variants, with some dedicated to ASW- missions and others to surface combat. Compared to larger surface combatants, the

[84] Xinhua News, *China's New Stealth Frigate Commissioned,* 12 March 2013, http://news.xinhuanet.com/english/china/2013-03/12/c_132228488.htm, accessed 29 April 2013.
[85] IHS Jane's Fighting Ships, *Corvettes, Jiangdao (Type 056) Class,* 11 March 2013.
[86] O'Rourke, Ronald, *China Naval Modernization: Implications for U.S. Navy Capabilities – Background and Issues for Congress,* Congressional Research Service, 21 March 2013, p.30-31. This source also classifies the ship-size as an Offshore Patrol Vessel (OPV).
[87] Cole, J. Michael, *China's navy Goes Stealth,* The Diplomat, 28 February 2013, http://thediplomat.com/flashpoints-blog/2013/02/28/chinas-navy-goes-stealth/, accessed 29 April 2013.
[88] Rosamond, Jon, *IHS Jane's Defence Weekly,* 27 February 2013.
[89] Mazumdar, Mrityunjoy, *Jane's Defence Weekly,* 6 June 2012.
[90] IHS Jane's Fighting Ships, *Corvettes, Jiangdao (Type 056) Class,* 11 March 2013.
[91] Ibid, and Rosamond, Jon, *IHS Jane's Defence Weekly,* 27 February 2013.
[92] Mazumdar, Mrityunjoy, *Jane's Defence Weekly,* 6 June 2012.

Jiangdao-class possesses relatively modern weaponry, but it does seem well suited as a patrol vessel dealing with China's territorial disputes in the South China Sea. It can surely outgun what most other rivals could muster in this area. The atrophied navy of The Philippines surely is no match, and neither Vietnam has much to show with regards to surface combatants.

Concluding on the meaning and implications on the arrival of this new corvette in the PLAN inventory is speculative, since only one boat has been commissioned, although at least 10 more are in build and expected rather soon. But as an add-on to the more than 60 *Houbei*-class FACs, the *Jiangdao*-class corvette is a good guess on how China could have a fleet of coastal and patrol combat ships to be more assertive in the Chinese littoral and to some extent even farther from Chinese shores. But as mentioned, China's new corvette-sized patrol boat is probably a substitute for the aged *Jainghu*-class frigates and *Houxin*-class missile FACs. As such, the *Jiangdao* is more accurately regarded as upgrading and modernising existing capabilities, not an indicator of a tendency in the Chinese Navy as a whole to attain a defensive coastal posture.

Large Surface Combatants Suitable for Autonomous Deployment

For the Chinese Navy to meet and engage enemy ships in open sea relatively far away from the coast, it must be able to deploy large surface ships that can take care of themselves. Operating in fairly small numbers and not forming part of a battle group, such vessels must field a wide range of both offensive and defensive weapons and as well as sensors. At least since the Second World War, it has been clear to all naval strategists that one of the greatest threats to large surface warships comes from above.[93] In the Falkland Wars in 1982 the Argentineans used the French Exocet AShM launched by aircraft to sink the British HMS Sheffield, and Argentine Seahawk aircraft bombing and sinking of the British destroyer HMS Coventry. [94] These are other historical examples of the importance of air attacks on large surface ships operating independently of friendly air cover. In present times, the death from above is dealt out in numerous ways, from maritime strike aircraft, guided anti-ship missiles and anti-ship cruise missiles launched both from aircraft, submarines and other surface combatants. Hence, modern day area air defence destroyers and frigates intended for autonomous deployment need layered air defences.

Layered air defence consists of a ship-launched long-range SAM missile system, a second short-range SAM system and as a last line of defence a close-in-weapon system (CIWS), a Gatling-type rapid rate-of-fire gun for shooting down incoming missiles in its terminal phase.[95] This naturally requires air search and fire-control radars for targeting of the SAMs. The development

[93] The sinking of the massive 35000 tonnes battleship HMS Prince of Whales and HMS Repulse by Japanese fighter bombers and torpedo planes is a classic example. The two huge warships had no friendly planes protecting them and could do little to stop the Japanese onslaught. They were the first capital ships to be sunk by air attacks in high seas, and it shocked the naval world as it happened on 10 December 1941, only days after the Japanese attack on Pearl Harbour, *Naval History & Heritage Command, Online Library of Selected Images,* Washington, Washington D.C., http://www.history.navy.mil/photos/sh-fornv/uk/uksh-p/pow12.htm, accessed 30 April 2013.

[94] BBC, *On this Day, 25 May 1982: Dozens Killed as Argentines Hit British Ships,* http://news.bbc.co.uk/onthisday/hi/dates/stories/may/25/newsid_2502000/2502995.stm, accessed 30 April 2013.

[95] Bradford, W.J., *The Theoretical Layered Air-Defence Capability of a Ship Engaged Against Multiple Anti-ship Capable Missile Attacks,* Department of Defence, Defence Science and Technology Organisation, Aeronautical Research Laboratory, Guided Weapons Technical Memorandum, Victoria, Australia, 1992, p. 1.

of more and more advanced ASCMs that is faster and stealthier, with improved homing, navigation and guidance, as well as better evasive manoeuvrability in its terminal approach has made some doubt the continued usefulness of a gun-based CIWS. Several manufacturers are developing missile-based systems as the inner-most layer of defence against sea-skimming ASCMs.[96]

Autonomously deployed combatants also need protection against attacks from below and need anti-submarine warfare capabilities. This entails torpedoes and ASW mortars, as well as the sensors to detect submarines, hence the need for several sonar systems. Bow-mounted sonar augmented by towed-array sonar, and ideally complemented by helicopter-borne sonar. The helicopter would also carry ASW weapons to engage en enemy submarine.

Lastly, autonomously deployed surface combatants should, of course, also be capable of fighting other surface ships. Certainly its main guns are for this purpose, but more importantly it needs to be equipped with surface-to-surface missiles (SSM). This necessitates adequate radar systems for surface search radar in tandem with the fire-control radar mentioned above.

In the 1970s, the first-generation *Luda*-class (Type-051) guided-missile destroyers (DDG) and *Jianghu*-class (Type-053) guided-missile frigates (FFG) of Chinese indigenous design were built and deployed by the PLAN.[97] The first of class *Luda* DDG was commissioned in 1971 and the last, the *Luda III*-class (Type-051G) variant in 1991.[98] In all 10 ships of the different versions of the *Luda*-class and 12 different *Jianghu*-class frigates are still in service, but they are very much yesterday's principal surface combatants.

Towards a Modern Surface Fleet

China's surface fleet has been vastly expanded both in quantity and quality in the last decade and "the PLA(N) surface force is now one of the largest in the world, and its capabilities are growing at a remarkable rate", according to a report from the American *Office of Naval Intelligence* from 2009.[99] This trend has only accelerated since then, with the commissioning of nine additional *Jiangkai II* frigates a third *Luyang II*-class destroyer,[100] as well as launching two *Luyang III*-class destroyers expected to be commissioned in 2013.[101]

The following section features a lot of highly technical data on China's modern destroyer fleet, in order to analyse the progressive development of capabilities in detail. A 'standard bean count' of adding up numbers of units and standard will not suffice to adequately test the predicted posture in the H2. The frigates will not be examined in such detail.

[96] Scott, Richard, *The Last Line of Defence,* Jane's Navy International, 12 February 2002.
[97] Nan Li,*The Evolution of China's Naval Strategy and Capabilities: From "Near Coast" and "Near Seas" to "Far Seas";* Asian Security, vol. 5, no. 2, 2009, p.
[98] See Appendix XXX.
[99] U.S. Office of Naval Intelligence, People's Liberation Army Navy, *A Modern Navy with Chinese Characteristics,* August 2009. p. 21; U.S. Office of Naval Intelligence, People's Liberation Army Navy, *A Modern Navy with Chinese Characteristics,* August 2009, p. 18.
[100] See Appendix XXX for details on the development of principal surface combatants in the PLAN inventory.
[101] IHS Jane's Fighting Ships, *Destroyers, Luyang III (Type-052D),* 11 March 2013.

Sovremenny-class

In 1996 China ordered two *Sovremenny*-class destroyers from Russia, and they were commissioned into service in 1995 and 1996 respectively. 2002 saw the order of an additional two *Sovremenny*-class destroyers. They remain the biggest surface combatants in the in the PLAN inventory, each displacing 8067 tonnes, and they are ships of quite impressive capabilities, especially its ASCMs which has been noted.[102] The *Sovremenny*-class is fitted with ASW mortars and torpedoes and requisite hull-mounted sonar augmented by ASW helicopters, either one Russian Kamov Ka-28 Helix or the 1 Harbin Zhi-9C Haitun of domestic Chinese design. Its layered air defence is comprised of an outer SAM layer of the 2 SA-N-7 *Gadfly/Uragan* with 44 missiles in all, and homing up to 25 km and an altitude range of 15-14 km. The second SAM layer is the 8 SA-N-11 (*Grisson*), and finally AK630 Gatling-gun CIWS. This is bound together with numerous radar systems for air and surface and fire-control radars.[103] In short, the *Sovremennys* provide good air defence. According to the report from the Office of Naval Intelligence the sophisticated air surveillance systems such as Russian *Top Plate* radar can be linked with SAM systems and radars such as the Chinese-made *Dragon Eye* phased-array enabling the ships to provide are air defence.[104]

That being said, the *Sovremennys* are mostly for surface combat and as mentioned above, it is in this are that their most potent punch is. All four destroyers carry 8 of the Russian-made *Raduga* SS-N-22 *Sunburn* supersonic anti-ship cruise missile. This very highly capable ASCM flies at Mach 3 and accelerates to Mach 4,5 in the attack phase. On the first two *Sovremenny*-class delivered to China the *Sunburn* had a range of 160 km, but on the next two destroyers, an upgraded version reaching as long as 240 km was installed.[105]

The Luyang-class

The *Luyang*-class destroyers are modern area-air defence multirole destroyers capable of autonomous deployment far away from the Chinese coast. Naturally, the *Luyang II* (Type-052C) represents a significant improvement compared to the initial design, and the newly launched *Luyang III*-class yet another upgrade of China's destroyer fleet.

Luyang I (Type-052B)

This is China's first indigenously designed attempt at a true blue-water multirole guided missile destroyer. The two *Luyang I*-class ships equipped with 16 C-802 (YJ-83/CSS-N-8 Saccade) ASCMs with a 120 km range, 6 light weight torpedoes and 100mm calibre guns. It has medium-range layered air defence with SA-N-12 *Grizzly* SAMs (48 missiles) with radar and infra red (IR) homing up to 35 km, and a Type-730A close in weapon system (CIWS). It also features a hangar

[102] U.S. Department of Defence Annual Report to Congress, *Military and Security Developmets Involving the People's Republic of China 2012,* p. 21
[103] IHS Jane's Fighting Ships, *Destroyers – Sovremenny Class (Project 956E/956EM),* 12 February 2013.
[104] U.S. Office of Naval Intelligence, People's Liberation Army Navy, *A Modern Navy with Chinese Characteristics,* August 2009. p. 21; U.S. Office of Naval Intelligence, People's Liberation Army Navy, *A Modern Navy with Chinese Characteristics,* August 2009, p. 18.
[105] IHS Jane's Fighting Ships, *Destroyers – Sovremenny Class (Project 956E/956EM),* 12 February 2013.

with capacity for one naval combat helicopter, either a Harbin Zhi-9A Haitun or Kamov KA-28 Helix that augments anti-submarine warfare (ASW).[106]

***Luyang II* (Type052C)**

The *Luyang II* represents a substantial upgrade compared with the former, on almost all fronts. It incorporates stealth features and has C-602 (YJ-62) ASCMs with increased range of up to 280 km with inertial-GPS guidance and terminal active radar homing. Most significantly though, are the vastly improved area air defence capabilities. The *Luyang II* features the Dragon Eye (Type-346) phased-array air search/fire-control radar and the HHQ-9 VLS SAM. The Dragon Eye radar is comparable to the similar to the U.S. Navy's Aegis system,[107] and HHQ-9 SAMs are designed to be effectively counter high-performance cruise missiles, tactical ballistic missiles anti-ship missiles and aircraft with a range of up to 100 km flying at Mach 3. Little more is known about the system, but it is reported to be able to track 100 targets and engage 50 targets simultaneously (though the *Luyang II* only packs 48 missiles).[108] In addition, the ship's hangar facilities have been enlarged to have capacity for 2 helicopters further improving the destroyers surface and anti-submarine capabilities.[109]

Luyang III (Type-052D)

The first two ships of this new class of destroyers were seen under construction in 2012 at Jiangnan Shipyard in Shanghai. They were laid down in 2010 and then launched for sea trials in August 2012 and expected to be commissioned in 2013. Unsurprisingly, much of the information on this new ship is speculative, but it appears that the ship has bigger main gun of 130 mm as compared to the 100 mm gun featured in the previous *Luyang*-designs. Most noteworthy of the new class is an improvement of Dragon Eye phased-array radar in combination with new VLS system capable of launching surface-to-surface and anti-submarine missiles. In addition, the HHQ-9 features 64 as compared to 48 SAMs, and the air defence capabilities is improved by a FL-3000N short-range SAM system. Moreover, some observers has suggested that a change to the vertical launch systems might mean that the *Luyang III*-class could incorporate a naval version of the DH-10 land-attack cruise missile. A total of 10 ships are suggested as plausible, but this will surely take time before such numbers are commissioned into the PLAN, as lengthy trials of the new class are expected in line with the track record of testing and assessments portrayed above.[110]

Trial-and-Error Development

Alongside the purchase of the four *Sovremenny*-class destroyers from, China has developed and deployed 10 new classes of destroyers and frigates. Some of these are variations of one another,

[106] IHS Jane's Fighting Ships, *Destroyers, Luyang I (Type-052B),* 12 February 2013.

[107] IHS, C4ISR & Mission Systems: Radar, *Surveillance Radar,* 17 December 2012.
[108] IHS Jane's Naval Weapon Systems, *Surface-to-Air Missiles, 17 December 2012.*
[109] IHS Jane's Fighting Ships, *Destroyers, Luyang II (Type-052C),* 11 March 2013.
[110] Tringham, Jane, *China Launches First Type-052D Destroyer,* Jane's Navy International, 5 September 2012; IHS Jane's Fighting Ships, *Destroyers, Luyang III (Type-052D),* 11 March 2013.

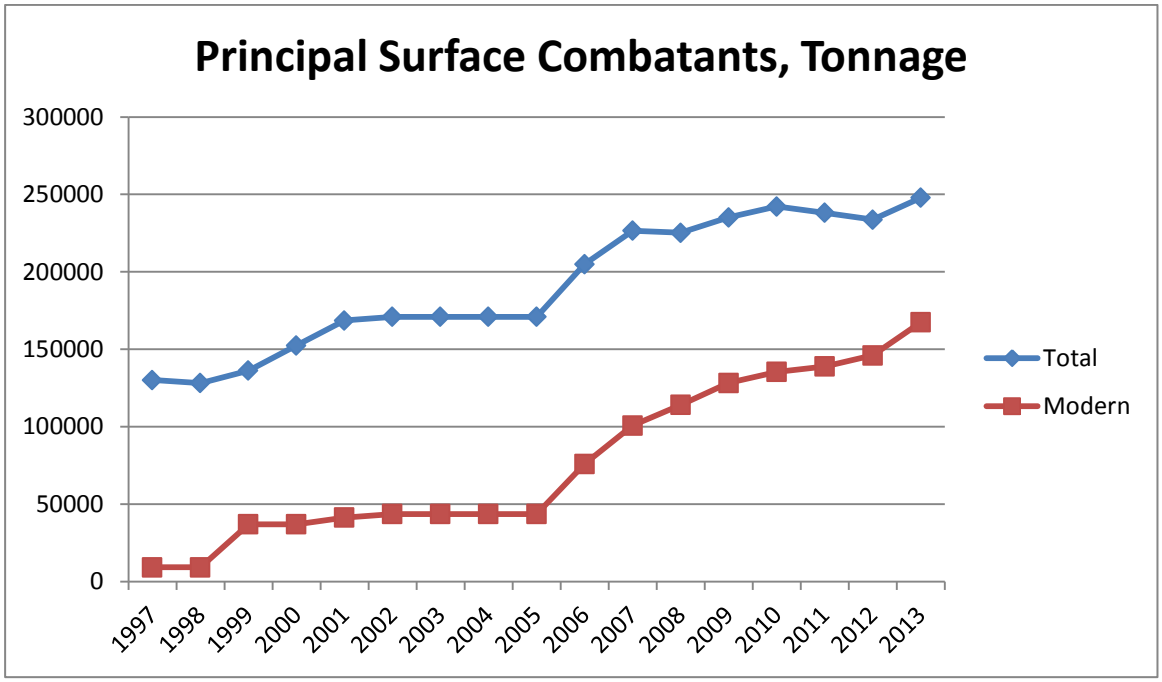
suggesting that the PLAN is building a few in each class in a trial-and-error approach to make use of learning experiences before moving to mass production.

This certainly seems to be the case with the *Jiangwei I* (Type-053H2G) and *Jiangwei II* (Type-053H3). The former was laid down, launched and commissioned in the first half of the 1990s and only four ships were built. The *Jiangwei II*-class was laid down and launched in the second half of the 1990s and into the early 2000s, with 10 ships of the improved design now in service.[111] The *Jiangwei II* has better air defences with improved Surface-to-Air missile (SAM) system and refitting of the anti-air guns, and an upgraded fire-control system.[112]

The same developmental pattern is even more striking regarding the *Jiangkai*-class frigates. The first of the only two *Jiangkai I* (Type-054) ships was laid down in 2001, launched in 2003, and commissioned in 2005. Also in 2005, the first of the *Jiangkai II*-class (Type-054A) was laid down and mass production soon commenced in multiple ships yards. In only five years, the PLAN has commissioned 13 *Jiangkai II* frigates with 7 more in construction and thus comprising a batch of 20 ships of the class.[113]

The *Luyang I*-class and *Luyang II*-class destroyers have undergone a similar model of progress with two of the former being laid down in 2001, launched in 2002, and commissioned in 2004. The latter design followed quite quickly hereafter, with the first of class laid down in 2002, launched in 2003 and also commissioned in 2004, the second was commissioned in 2005.[114] The *Luyang I* was in turn based on the *Luhai*-class design of which a single vessel was commissioned.[115] This was followed by a break of about four years before construction of the third vessel began, corroborating China's careful evaluation of a new class. The testing involved the Dragon Eye (Type-346) phased-array air search/fire-control radar and the HHQ-9 vertical launch system (VLS) for surface-to-air missiles (SAM).[116]

[111] See Appendix XXX for details on the development of principal surface combatants in the PLAN inventory.
[112] IHS Jane's Fighting Ships, *Frigates,* entries for *Jiangwei I* and *Jiangwei II,* both 12 February 2013.
[113] See Appendix XXX for details on the development of principal surface combatants in the PLAN inventory.
[114] Ibid.
[115] IHS Jane's Fighting Ships, *Destroyers, Luyang II (Type-052C),* 11 March 2013.
[116] Tringham, Jane, *China Launches First Type-052D Destroyer,* Jane's Navy International, 5 September 2012.



The graph above shows the aggregate tonnage of the entire fleet of principal surface combatants and modern surface combatants. The term 'modern' includes the *Jiangwei*-class *I* and *II* frigates, the *Jiangkai*-class *I* and *II* frigates, the *Sovremenny*-class destroyers, the *Luzhou*-class destroyers and the *Luyang I* and *II*. It does not include the *Luyang III*-class as it has not been commissioned into service yet. 'Modern' is defined both as the year of build, i.e. how old the designs are, but also on the basis of whether the ships can deemed fit for autonomous deployment, i.e. that they have adequate air defence systems and a hangar with the capacity to bring a helicopter, in most cases for ASW-purposes. As such, they appear in the appendix A with the abbreviation DDGHM for the destroyers and FFGHM for the frigates.[117]

The tendency decipherable from the graph is clear. In terms of overall tonnage displacement the PLAN fleet of principal surface combatants has almost doubled in size. The total tonnage has increased from 130101 tonnes in 1997 to 247916 in 2013, a growth of 90%. This is in itself a remarkable number that speaks volumes of the substantial growth in Chinese naval power. In terms of modernization of the fleet, from old and relatively inept ships the growth is just is truly breathtaking. In 1997, the Chinese could muster four of the *Jiangwei I*-class frigates with a displacement of 9144 tonnes. In 2013 the tonnage displacement of modern destroyers and frigates is 167396, a mindboggling increase of 1730% in tonnage. This is not a typo. The PLAN's inventory of modern surface combatants capable of autonomous deployment as defined above has increased 1730% since the Taiwan Strait Crisis.

The sheer scale of these numbers makes it very hard to see the development and modernization of the Chinese fleet of destroyers and frigates as status quo-motivated balancing behaviour as predicted in H2. The behaviour of China in this area must be one of the most striking examples of power-maximising behaviour.

[117] The two *Luzhou*-class destroyers does not have a hangar, but have been included anyway since they were commissioned as late as 2006 and 2007 respectively.

Conventional-Powered Attack Submarines

The argument raised concerning the growth in quality and quantity of PLAN's SSK submarine fleet vis-à-vis the requirements for fulfilling Hypothesis 1 must be repeated here. H2 does envision a larger number of conventional submarines in order to balance against increasing naval power of the countries in the region. In combination with the modern destroyers and frigates discussed above, a more robust underwater fighting force would have a greater deterrent effect on the U.S. Navy as well as the navies of Japan and South Korea. If push did come to shove, for example in the unlikely but not implausible event of Taiwan declaring independence and a conflict would escalate to the use of force or even war, China would surely stand a better chance with a more submarine forces. But, as argued in H1 so is the case regarding the submarine posture predicted in H2. China has moved past the point of status quo-seeking balancing behaviour in its determined efforts to deploy a much more submarine force. Arguably, *either* a successful *Song*-class programme *or* the 12 *Kilo*-class SSKs armed with ASCMs would suffice from a balancing point of view. The two series moving ahead in unison *and* the development of the *Yuan*-class more than hints at submarine force deployed for a more strategically offensive purpose. The actual submarine force deployed by the PLAN now will be examined closely in the following chapter on Hypothesis 3.

The Anti-Ship Ballistic Missile

The possibility of the development of an Anti-Ship Ballistic Missile (ASBM) by China has understandably attracted a great deal of attention, especially in the United States, and it has been mentioned in numerous American governmental reports.[118]

There is little doubt that the ASBM is based on the DH-21. This is a tried and tested missile in the Chinese inventory.[119] However, the ASBM has long been discussed, and it has probably reached initial operational capability, but whether it could actually hit a moving carrier at sea is unknown. Sometimes the talk of the coming of the Chinese ASBM has reached hyperbole heights. Already in 2005, the Pentagon learned that Chinese engineers were working on an ASBM project. According to a retired American rear-admiral the thought of a ballistic missile able to target U.S. aircraft carriers had some of his colleagues "running around with their hair on fire."[120]

A Chinese ASBM would surely be intended for use against U.S. Navy aircraft carriers, and if operational it would have serious implications for American operations within the first island chain. As such, an ASBM would have a significant deterrent quality with the capability to strike

[118] See, for example, O'Rourke, Ronald, U.S. Congressional Research Service, Report for Congress, *China Naval Modernization: Implications for U.S. Navy Capabilities – Background and Issues for Congress, 2008*, p. 4, 35, and 64; edition of 2013, pp. 2-5, pp. 9-11; U.S. Office of Naval Intelligence, *The People's Liberation Army Navy, A Modern Navy with Chinese Characteristics,* 2009, pp. 26-27; U.S. Department of Defence Annual Report to Congress, *Military and Security Developments Involving the People's Republic of China 2010,* p. 11; edition of 2011, p. 3; edition of 2012, pp. 22- 23 and p. 44;

[119] Hagt, Eric & Durnin, Matheww, *China's Anti-ship Ballistic Missile,* naval War College Review, Vol. 62, No. 4, Autumn 2009, p. 89

[120] The Economist, *Peril on the Sea,* 10 June 2010.

moving aircraft carriers at sea. Together with the several platforms from which the PLAN can deliver ASCMs it is not unthinkable that China could saturate American Aegis area air defences and the point defence systems of the carriers themselves. But the ASBM alone is probably is not the game-changer some have made it to be for a number of reasons.[121]

A ballistic missile launched 1500-2000 km away would take around 12-13 minutes to reach its target, and would need to make corrections to its trajectory in the last 20-30 seconds. An aircraft carrier can move approximately 300-350 m in 20-30 seconds, as it would be aware that the missile is approaching.[122] Furthermore, an ASBM would be a "system of systems" with numerous problems that China most likely have not yet solved, not the least sufficient numbers of advanced satellites for space-based targeting.[123]

In sum, the advent of the ASBM would surely provide China an extra deterrence for the U.S. Navy to consider, and it might effectively make American carrier operations close to Chinese waters more difficult. But the ASBM, if it is demonstrably working and deployed does not seem to be such a game-changing carrier-killer missile as it might seem at first look.

Concluding on H2: Balancing the Hegemon and Its Regional Allies

The coastal defence forces considered in H1, especially the *Houbei*-class (Type-022) FAC armed with ASCMs, augmented by the recently commissioned *Jiangdao*-class (Type-056) corvette and the expected numbers in the next couple of years, together with modern frigates and destroyers and the advanced submarines more than meets the predicted force posture in H2. This again leads to the conclusion, that defensively oriented balancing behaviour is not the end of the line for the strategic ambitions of China in the maritime domain.

The ASBM discussed does seem indeed seem to have a very potent deterrence role to play if it becomes operational. There is little doubt that China is labouring hard to make that happen, and perhaps it already has, but as discussed there are numerous challenges for China to overcome before the ASBM will be the awesome aircraft carrier menace that is sometimes believed.

The vast massive growth of in the size of the fleet principal surface combatants is of great significance. On the one hand, it surely meets the posture predicted in H2, that China would build a surface fleet suitable for autonomous deployment. The PLAN's new frigates and destroyers anti-air warfare (AAW) capabilities of layered air defences protecting the ships themselves are improving, there has been a marked shift to ships that also have hangar capacity for an ASW helicopter augmented the hull-mounted sonar systems and generally improving the protection from submarine attacks. This all makes the ships able to operate far from Chinese coast without air cover from aircraft. More significantly though is the improving capabilities in area air defence, so that the destroyers and frigates are not only capable of point defence, i.e. themselves, but of providing air cover for large areas where other ships like the *Houbei* FAC and *Jiangdao* corvette could operate protected from AShM and aircraft. Additionally it would also

[121] Lennox, Duncan, *China's ASBM Project: Keep Calm and Carry On*, IHS Jane's Defence Weekly, 16 February 2011
[122] Ibid.
[123] Hagt, Eric & Durnin, Matheww, *China's Anti-ship Ballistic Missile,* naval War College Review, Vol. 62, No. 4, Autumn 2009, pp 91-96.

provide diesel-electric submarines air cover from ASW aircraft, conceivably allowing much greater possibility to surface to snorkel depth and recharge batteries As such, the explanatory power of H2 is significantly decreased.

VI: In Pursuit of Regional Dominance - testing H3

Predicted Posture:

- Amphibious assault capabilities to enforce claims on disputed islands such as the Diaoyou/Senkaku Islands, the Spratly Islands, the Paracel Islands, and the Scarborough Shoal. Such amphibious capabilities are operating in groups and do not need to be multifunctional vessels suitable for autonomous deployment.
- Large and advanced submarine force with medium-sized conventional-powered submarines (SSK) up to 3000 tonnes, augmented by nuclear-powered attack submarines (SSN). China will continue the build up of an imposing underwater fighting force equipped with advanced weaponry such as anti-ship cruise missiles.
- Aircraft carrier programme capable of offering limited power projection capabilities, furthering China's status as a dominant major regional naval force more directed against other regional powers and not against the United States.

Geographical extension: China's Near Seas - the Yellow Sea, the East China Sea and the South China Sea, with an A2AD capability within the first island chain.

China has for several years now behaved more assertively in staking its territorial claims in the East and South China seas, although the other littoral countries would surely be more inclined to call China's behaviour belligerent. China's clash with Japan over the Senkaku/Diaoyu Islands is the most serious and potentially most dangerous of the conflicts and maritime disputes in which China is engaged. The dispute is old, but is was reignited on 7 September 2010 when a Chinese fishing boat allegedly rammed two Japanese coast guard ships near the disputed islands. The Chinese captain was arrested and this led to a major diplomatic row between Tokyo and Beijing, and China suspended export to Japan of rare earths and minerals, tiny but crucial components in Japanese high-tech industry.[124] Since then, the dispute has turned into an outright confrontation between China and Japan that has only worsened, most alarmingly when Japan claimed, that a Chinese warship had locked its fire-control radar on a Japanese Maritime Self Defence Force destroyer and helicopter in two separate incidents in January 2013.[125] In April 2013, Japanese

[124] New York Times, *China is Blocking Minerals, Executives Say,* 23 September 2010, http://www.nytimes.com/2010/09/24/business/energy-environment/24mineral.html?_r=0, accessed 7 March 2013.
[125] Japan Times, *Chinese Target-Locked MSDF Ship, Chopper,* 6 February 2013, http://www.japantimes.co.jp/news/2013/02/06/national/japan-says-chinese-warships-locked-weapons-radar-on-msdf/#.UThXr9bEJxs, accessed 7 March 2013.

Prime Minister Shinzo Abe has vowed to drive out any Chinese landing on the islands by force if need be.[126]

China has continued to bicker with the Philippines over the Scarborough Shoal. In May 2010, the Chinese vice minister of foreign affairs reportedly told a Philippine diplomat in Beijing that Manila was "severely damaging the atmosphere of the bilateral relations between China and the Philippines."[127] China is also embroiled with Vietnam over the territorial rights over the Paracel Islands and the Spratly Islands. Tensions flared between China and Vietnam in 1974 when the Vietnamese discovered Chinese troops had occupied the territory and a small naval skirmish ensued. The relationship between China and Vietnam deteriorated even further and 1988 saw another naval battle over the Spratly Islands that left 70 Vietnamese sailors dead. Vietnam still claims the Paracel Islands, but it seems like close to impossible for Vietnam to get them back. Recently, China has opened the islands up as a tourist resort and in late April 2013, a cruise ship with up to 1000 passengers paid a nifty price of more than US$1100 (7000-9000 yuan) for a four-day trip.[128]

The disputes over miniscule islands and barren reefs are not only about more than taking what is rightfully one's own territory. China claims almost the entire South China Sea, based on ancient maps and of sometimes dubious merit. As has so often been the case in international politics and territorial disputes it is about resources. The South China is rich in fishing grounds and both the East and South China Sea are believed to hold vast untapped oil and gas resources.

Moving from the defensive realist world of Waltz to the offensive, the third hypothesis takes off from predictions of China's strategic behaviour building on offensive realism as formulated by Mearsheimer. Both defensive and offensive realism accept security to as the primary concern for states, and recognize that the structural forces in the self-help system of international politics compel states to be strong to be secure. As portrayed, a key difference between these two variants of structural realism is the question of how much power is enough.

Hypothesis 3 envisages China to strive for a position of regional dominance. That entails being recognised as the top dog in the East and South China Seas, pursuing a strategy of anti access area denial strategy within the first island chain and beyond into the Western Pacific. Elements of this strategy are clearly directed towards the U.S. Pacific Fleet and especially to counter its carrier strike groups. Another component of the pursuit of regional dominance is for China to have the naval power to back up its territorial claims in the East China Sea and especially the South China Sea.

Building on the capabilities discussed in the testing H1 and H2 we shall now turn to look at predictions for China's naval posture generated from offensive realism and a resulting strategic behaviour designed for China to achieve regional dominance of the maritime domain in its Near

[126] Westlake, Adam, *PM Abe Vows to Expel any Chinese landing on Senkakus by force,* Japan Daily Press, 23 April 2013, http://japandailypress.com/pm-abe-vows-to-expel-any-chinese-landing-on-senkakus-with-force-2327530, accessed 29 April 2013.
[127] *Dispute Between China and the Philippines Over Island Becomes more Heated,* New York Times, 10 May, 2012 http://www.nytimes.com/2012/05/11/world/asia/china-philippines-dispute-over-island-gets-more-heated.html accessed 2 November 2012.
[128] ABS-CBS News, *Chinese Tourists Sail to Disputed Paracel Islands – Report,* 28 April 2013, http://www.abs-cbnnews.com/nation/04/28/13/chinese-tourists-sail-disputed-paracel-islands-report, accessed 1 May 2013.

Seas. Again, it is important to emphasise that the hypotheses are not mutually exclusive, but layers of strategic scope, military capabilities, and geographical extension. This means, when progressing from H2 to H3, we presuppose the naval forces that we have so far concluded China to have. Not the naval forces in the predicted postures of the two previous hypotheses, but the actual naval forces described and analysed in the previous two chapters.

The beginning of this chapter summarised the capabilities of H1 and H2. Furthermore, in order to achieve the status of dominating the maritime region envisioned in H3 China would need additional capabilities, even higher numbers of advanced conventional-powered submarines as well as amphibious assault ships. Now, we shall investigate the predicted posture of H3.

Amphibious Capabilities

China's amphibious forces are focused on short-range amphibious assault missions for a Taiwan contingency and to pose a credible threat of invasion of Taiwan. The PLAN has a 10.000 man strong marine brigade, and the PLA Army a much larger force of somewhere between 300-500.000 men with some degree of amphibious training. These are stationed in five army groups on the coast opposite Taiwan. They are equipped with a variety of vehicles and weapons, including amphibious tanks and specialised amphibious assault equipment like trucks for preparing landings on Taiwan's expansive mud flats.[129] That being said, the focus here is not on the PLA Army nor on Taiwan invasion preparedness, but on the amphibious forces China is building up to stake for operations further afield.

As examined in chapter IV and V the hefty numbers of the *Houbei*-class (Type-022) FAC, the soon-to-be commissioned large quantities of the *Jiangdao*-class (Type-056) corvette, and remarkable numbers of *Jiangkai II*-class (Type-054A) and *Jiangwei* II-class (Type-053H3) FFGHMs, *Luyang II*-class (Type-052C) the coming *Luyang III*-class (Type-053D) and the large *Sovremenny*-class DDGHMs are beginning to make up a relatively formidable regional surface fleet. Such a fleet, in combination with amphibious assault capabilities constitutes a considerable power-projection capability of the PLAN, and with a conceivably much more offensive purpose than what has been envisaged by H1 and H2.

The PLAN's principal amphibian vessel is the *Yuzhao*-class (Type-071) Landing Platform Dock (LPD) with a displacement of 18,500 tonnes. The existence of the programme was somewhat shrouded in mystery, but the veil was raised with the construction of the first of class in 2006. Since then, two more ships have been built and a fourth vessel is under construction.[130] The Type-071 addresses the PLANs previous shortcomings in sealift and power projection capabilities. With regards to weapons, the *Yuzhao* is very lightly armed with one 76 mm gun and 4 30 mm AK630 guns. Obviously, the firepower it comprises is not its quality, but the power it can project is what matters. The LPD has a capacity for four Z-8 Super Frelon helicopters.[131] It can carry a number of vehicles and 500-800 troops.[132] It can accommodate 4 Utility Craft Air

[129] IHS Jane's Intelligence Review, *Sea Assault – China's Developing Amphibious Capability,* 29 July 2011.
[130] IHS Jane's Fighting Ships, *Amphibious Forces, Yuzhao (Type-071) Class,* 13 February 2013.
[131] Ibid.
[132] IISS Military Balance 2013, p. 290.

Cushion (UCAC), probably the *Jiangsha II*-class of which 10 are in service,[133] or two of the bigger Landing Craft Air Cushion (LCAC).[134]

Concluding on Amphibious Capabilities

China is not amassing an amphibious force to be able to place ground forces in large numbers in the invasion of foreign countries. The three and soon to be four amphibious assault LPDs are starting to look like something that can be used for regional issues such as settling the territorial claims in the South China Sea mentioned in the beginning of the chapter. China could then quite easily project its power to the Spratly or Paracels if it came to a conflict with Vietnam. Not unconceivable is punitive missions against the Philippine island of Palawan. China occupied the Mischeif Reef close to Philippine island of Palawan in 1994, and further production of the Type-071 LPD surely makes such missions within the reach of the Chinese Navy.

In sum, the limited power projection capability of an amphibious force predicted in Hypothesis 3 is if not completely achieved, then at least well in the making.

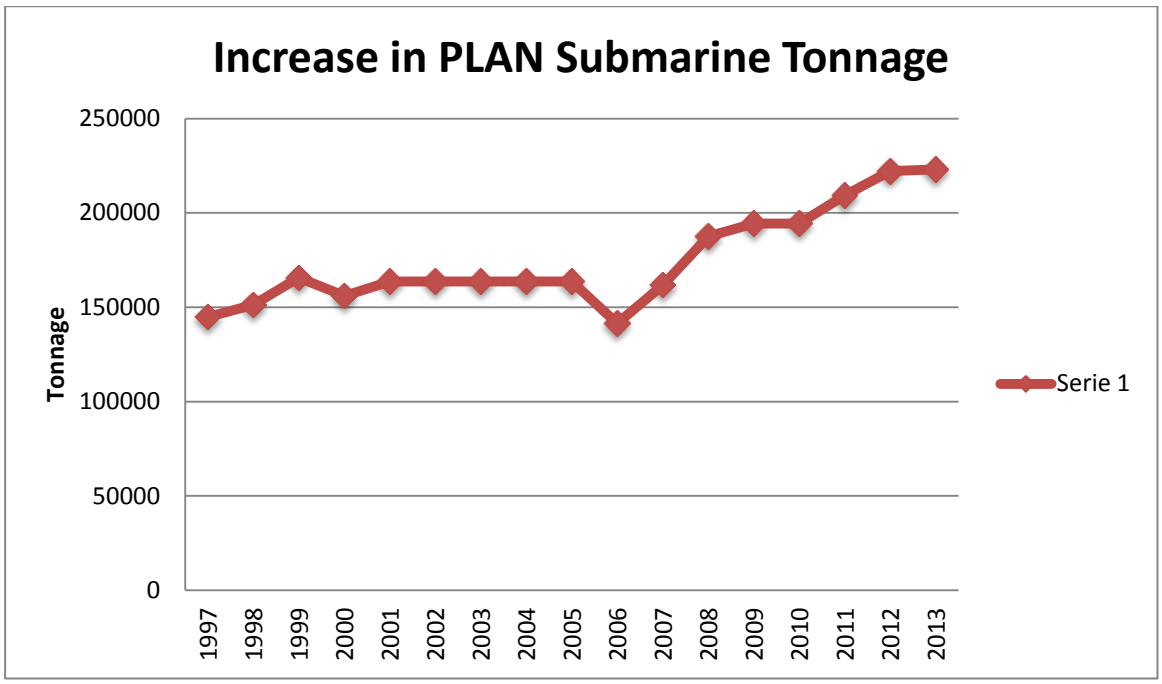
Diesel-Electric Powered Attack Submarines

A significant capability change is taking place in the area of undersea warfare in the PLAN. China has for long been committed to the development of its submarine fleet. It is evident that a remarkable transformation towards more, bigger, and better submarines has taken place and that the progression has not ended, but is an ongoing process. The build-up of modern and advanced conventionally powered attack submarines is one of the most remarkable aspects in the modernisation of the Chinese military, and something that has attracted much attention. At the same time, China has bought large numbers of modern submarines from Russia while developing and deploying even bigger numbers of domestically designed SSKs.

The most striking example was the unprecedented signing of a contract on the delivery of eight new Type 636 *Kilo*-class diesel submarines from Russia in May 2002 equipped with the Klub/Sizzler ASCM described in chapter V on Chinese anti-ship missile capabilities. This deal was in addition to the four *Kilo*-submarines that China had already acquired.[135] Whether out of hope or insight, some Western analysts saw the purchase of the Russian submarines as a sign that China had significant problems with its own *Song*-class diesel powered submarines program.[136] However, that does not seem to have been the case. The five years passing between the launch of the first to two *Songs* did indicate considerable engineering and design trouble, but with the launch of the third and fourth boat with improved design in 2002 suggests that the *Song*

[133] Both IISS *Military Balance 2013* and IHS Jane's Fighting Ships state 10 *Jiangsha II*-class hovercraft are in service, although the later say that numbers are uncertain; IHS Jane's Fighting Ships, *Amphibious Forces,* 11 February 2013; IISS *Military Balance 2013,* p. 290.
[134] IISS Military Balance 2013, p. 290.
[135] *China to Buy 8 more Russian Submarines,* The Washington Post, 25 June 2002, http://www.washingtonpost.com/ac2/wp-dyn?pagename=article&node=&contentId=A38496-2002Jun24&notFound=true, accessed 19 December 2012.
[136] Novichkov, Nikolai, *China's Russian Kilo Buy May Put Song Submarine Future in Doubt,* Jane's Defence Weekly, 12 June 2002, p.3.

programme is moving ahead in unison with the *Kilo* purchases.[137] Indeed, the remarkable incidence where a Chinese submarine surfaced within nine miles of the American aircraft carrier *Kitty Hawk* was accomplished by a *Song*-class submarine.[138] China has since commissioned further three *Songs* in 2004, another three in 2005 and two in 2006, pointing to a certain degree of satisfaction with the programme within the PLAN and Chinese leadership.[139] The purchase of the eight new submarines from Russia does not entail that China is losing faith in its home-build design, but they are to work in unison. The PLAN has now deployed no less than 16 *Song*-class SSKs[140].

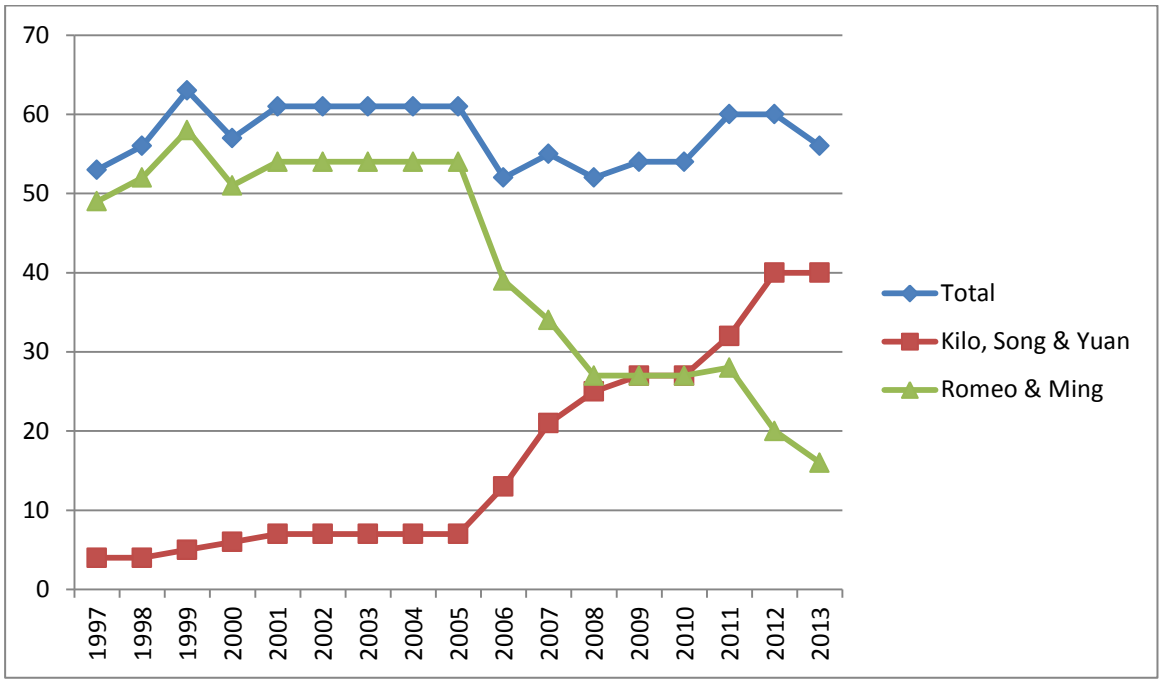


The graph shows the increase in PLAN submarine tonnage. It is true that the number of units fluctuates around 60-70 boats in the investigated period, some years going up and others down. The growth of the combined tonnage of the submarine fleet, however, demonstrates the expansion of the fleet in terms of size of the boats. In 1997, the submarine fleet displaced 144,768 tonnes, and in 2013 it had risen to 222,989, an increase of 54 %.

In addition to the purchase of the *Kilos* and development of the *Song*, China produced a third advanced SSK, the *Yuan*-class. The *Yuan* is bigger than the *Song* displacing more than 3000 tonnes as compared to the *Song's* 2286. The submerged displacement of the *Yuan*-class could not be obtained, but with a surfaced displacement of 2900 tonnes it is most surely of comparable size with the *Kilo*-class that displaces 3125 tonnes.[141] As such, it can be considered ocean going.

[137] Goldstein, Lyle & Murray, William, *Undersea Dragons: China's Maturing Submarine Force,* International Security, vol. 28, no. 4, Spring 2004, p. 169.
[138] *China Sub Stalked U.S. Fleet,* The Washington Times, 13 November 2006, http://www.washingtontimes.com/news/2006/nov/13/20061113-121539-3317r/?page=all, accessed 19 December 2012.
[139] IHS Jane's Fighting Ships – *Submarines, Patrol Submarines*, 11 February 2012.
[140] See Appendix.
[141] IHS Jane's Fighting Ships, *Patrol Submarines, Yuan Class (Type041),* 12 February 2013

Number of conventional-powered attack-submarines, 1997-2013:



The graph above shows the aggregate number of units and the development in over time.[142] The total number of conventional-powered attack-submarines has remained virtually at the same level, with 53 submarines in 1997, 61 for the first of 2000s and going down again to 56 in 2013. In 1997, only 4 of the 53 submarines could be characterised as modern, 3 *Kilo*-class and 1 *Song*-class, the rest of the fleet consisting of the antiquated *Romeo*-class built in the early 1960s and the Chinese *Ming*-class version built from the same platform, the first of which was commissioned in 1971. In 2013 however, the picture is completely reversed. Only 16 *Ming* remain and by now, the PLAN has commissioned 40 modern and relatively big conventional attack submarines capable of firing advanced anti-ship cruise missiles.

The PLAN submarine fleet has taken decisively more offensive posture since the Taiwan Strait Crisis in 1996, with two domestically produced programmes, the *Song* and *Yuan*. As mentioned in analysis of Hypothesis 1 the 16 medium-sized (displacing 2286 tonnes) submarines of the *Song*-class alone would be a replacement for the *Ming*-class. However, the big AIP-equipped *Yuan*-class, displacing more than 3000 tonnes when submerged, is an ocean-going submarine surely not designed for operations in the shallow Chinese coastal waters. As the *Song*, the *Yuan*-class carries the YJ-82 ASCM and quite possibly wake-homing torpedoes. No less than 12 submarines of the class have been commissioned between 2006 and 2012. In tandem with this quite impressive build up is the procurement of the 12 *Kilo*-class, Russia's top-of-the-line diesel-electric submarine. The very stealthy *Kilo* submarine's long-range supersonic *Sizzler* ASCM very likely the super-cavitating *Shkval* torpedo gives the PLAN SSK fleet a formidable offensive punch capability.

[142] Graph produced from the numbers in Appendix XX, excluding the submarines that serve as test platforms.

Concluding on Diesel-Electric Powered Attack Submarine

The trend towards building a fleet of fairly big SSKs is remarkably obvious and corresponds very well with the predictions made in Hypothesis 3. The large numbers in the PLAN inventory of modern SSKs anti-ship cruise missiles and advanced torpedoes constitute a key part of China's concerted effort in acquiring anti-access/area denial to deter or deny the American Pacific Fleet, freedom of movement within first island chain and into the waters beyond. This entails jeopardizing U.S. aircraft carrier strike groups operating out of their military bases in Japan and South Korea and eventually Guam with the goal of making American power projection and intervention riskier and more costly.

The Chinese SSK fleet is certainly an overwhelming force in the South China Sea relative to naval power of the Philippines, Malaysia, and Vietnam that are all claiming part of the sea conflicting with China's to it almost all of it.[143]

Aircraft carrier

In the first half of the first decade in the 21st century many scholars and analysts were of the persuasion that China was not going to have a go at fielding aircraft carriers, let alone restructuring the PLAN to be carrier-centric not the least because of the immense costs involved.[144]

However, they have been proven at least halfway wrong. On 10 August 2011, the *Lioaning* began sea trial in the north Yellow Sea, making into reality what had been a Chinese desire for 80 years. Echoing the the introduction of China's first SSBN, major General Lou Yuan stated that "well begun is have done... the effect of having something is completely different from having nothing."[145] Originally bought under the excuse of turning it into a floating casino the Ukrainian- bought ex-*Varyag* was never filled with blackjack tables and slot machines, but with radars and weapon systems "There would be no gambling with this strategic opportunity.[146]"

Although many has stressed the significance of China's first aircraft carrier, the strategic consequences in the near-term future are perhaps not game-changing. It could surely not hold its own against the U.S. Navy and it is not intended for use against the Americans. Indeed, Chinese naval analysts readily admit that their new pride would be very short-lived if it was deployed against the superior forces of the U.S. Navy. The Chinese carrier does however have major strategic impact for smaller powers in the region. It represents a limited power-projection capability, but together with the rest of the surface fleet discussed above, it could surely provide

[143] Brunei also stake its claim on the oil and gas fields south of the Spratly Islands Brunei also has claims on parts of the disputed territory in the South China Sea, but the tiny country's miniscule navy of 2800 soldiers and 11 patrol craft hardly deserves tobe mentioned, IISS Military Balance 2013, p. 226.
[144] Goldstein, Lyle & Murray, William, *Undersea Dragons: China's Maturing Submarine Force,* International Security, vol. 28, no. 4, Spring 2004, p. 162
[145] Cited in Erickson, Andrew S. & Denmark, Abraham M. & Collins, Gabriel, *Beijing's "Starter" Carrier and Future Steps, Alternatives and Implications,* Naval War College Review, Vol. 65, No. 1, 2012, p. 15.
[146] in Erickson, Andrew S. & Denmark, Abraham M. & Collins, Gabriel, *Beijing's "Starter" Carrier and Future Steps, Alternatives and Implications,* Naval War College Review, Vol. 65, No. 1, 2012, p. 21.

sustained air cover and be a platform for fighter aircraft that could for either maritime or land strikes.

As such, together with the amphibious forces analysed above, and operating together with China's new modern surface fleet and increasingly potent conventional submarines, a single aircraft carrier could further tip the balance of power in the South China Sea, making countries like the Philippines, Malaysia and Vietnam think twice before standing up to China. Likewise, the *Liaoning* could surely make China make more decisively and uncompromisingly in the maritime disputes i the South China Sea. But, the *Liaoning* is probably not suitable for use outside China's region and certainly not if the United States would be likely to use force.

VII: Extra-Regional Ambitions - testing H4

Predicted Posture:

- China wants to be a significant sea power in the Western Pacific and the Indian Ocean. China will continue to deploy long-range ocean going surface vessels suitable for autonomous deployment such as with such as multifunctional destroyers and frigates with layered air defence and sophisticated radar, sonar, and weapons systems.
- Replenishment at sea (RAS) vessels and other support vessels intended to enable continuous deployment far off Chinese shores, indeed in distant regions.
- China will invest heavily in large ocean going submarines. Big nuclear powered attack submarines (SSN) are a major constituent. Nuclear ballistic submarines carrying nuclear nuclear-armed intercontinental ballistic missiles (ICBM) will increase in number and ensure China a credible second strike capability and first-rate deterrence capability.
- China will also pursue its aircraft carrier ambitions with great vigour. China will launch more aircraft carriers in the years to come, and build the support vessels needed to form carrier strike groups that will constitute major power projection capabilities. This is of course coupled with expansion in numbers and quality of naval aviation units.

Geographical extension: The high seas, including the Western Pacific and the Indian Ocean Region.

China in the Indian Ocean Region

In 1405, Admiral Zheng He embarked on a voyage to lead a massive fleet of huge war junks that set out to visit the Western countries as the envoy of Emperor Zhu Di (1360-1424) of the Ming Dynasty. Through the next 28 years, Zheng He conducted seven voyages through South East Asia, the Indian Ocean and into the Red Sea, reaching as far as the coast of Africa, and the expeditions opened up opportunities for trade and cultural exchanges. But perhaps more importantly, the journeys was to display the Ming Dynasty's might and reach.[147] By 1420, the Imperial Chinese Navy was probably the largest in the world, and the fleet commanded by Zheng He is likely to have out-weighed, out-gunned, and out-classed anything that European naval forces could muster. With the death of Zhu Di, a new emperor succeeded to the throne shunning the world overseas, scrapped the navy, and withdrew China from the high seas. Thus, Chinese merchant ships were at the mercy of Indonesian, Japanese, and Vietnamese pirates, and left the Indian Ocean and water ways to East Asia open to the European colonial powers of Spain, Portugal, and the Netherlands. The disappearance of the Ming Dynasty navy enabled the European to roam unchecked and ushered in the decline of China as a naval power, and ultimately led to the exploitation of China heralded by the colonial powers and the interventions of Germany, Britain, Japan, and Russia in the 20th.[148] Six centuries later, Chinese war ships are once again venturing into the Indian Ocean.

China and India, Asian Elephants Trumpeting at Sea

Usually, elephants don't go swimming in the ocean and are naturally not very fond of salt water, but on the Andaman Islands in the Bay of Bengal in the Indian Ocean, elephants are known to take to the sea.[149] Now, other kinds of traditionally land-based giants are taking to the ocean.

In 2009, Chinese two *Luyang* II-class destroyers traversing the Indian Ocean on their way to participate in the anti-piracy missions off the Somali coast played a game of cat and mouse with an Indian *Kilo*-class submarine, reportedly probing each other´s sonar weaknesses, involving the Chinese destroyers to scramble its ASW helicopters and allegedly ordering the helicopters to arm its anti-submarine torpedoes.[150] Chinese media reports said that the Chinese warship forced the Indian submarine to the surface, but this was vehemently denied by the Indian Navy.[151] In July

[147] www.cultural-china.com, *Zheng he's Voyages to the Western Sea,* http://history.cultural-china.com/en/34History206.html, accessed 16 April 2013. Cultural-china.com is a website with the stated purpose of promoting awareness of Chinese culture around the world, initiated by the Shanghai News and Press Bureau.
[148] Vancouver Maritime Museum Online Exhibition, *Watery Kingdom, China's Mariners from Antiquity to the Ming Dynasty,* http://www.vancouvermaritimemuseum.com/?p2=/customcode/vmmuseum/page2.jsp&page2=239, accessed 16 April 2013.
[149] BBC World Service Online, *Rajan the Swimming Elephant,* 5 March 2010, http://www.bbc.co.uk/worldservice/programmes/2010/03/100305_outlook_swimming_elephant.shtml, accessed 22 April 2013.
[150] BBC News Online, *India Denies China Sub Reports,* 5 February 2009, http://news.bbc.co.uk/2/hi/7868863.stm, accessed 22 April 2013.
[151] Pubby, Manu, *Indian Submarine Spooked Chinese Warship: Chinese Media,* Indian Express, 4 February 2009, http://www.indianexpress.com/news/indian-submarine-spooked-warship-chinese-media/419210/, accessed 22 April 2013; Pandit, Rajat, *Indian Sub Stalked Chinese Warship?,* The Times of India, 5 February 2009, http://articles.timesofindia.indiatimes.com/2009-02-05/india/28029822_1_submarine-indian-navy-warships, accessed 22 April 2013.

2011, the roles were reversed when a Chinese warship intercepted the Indian Navy *INS Airavat* amphibious assault ship. The PLAN ship asked the Indian vessel identify itself and explain what it was doing in the South China Sea after leaving Vietnamese waters, after having made a scheduled port call.[152]

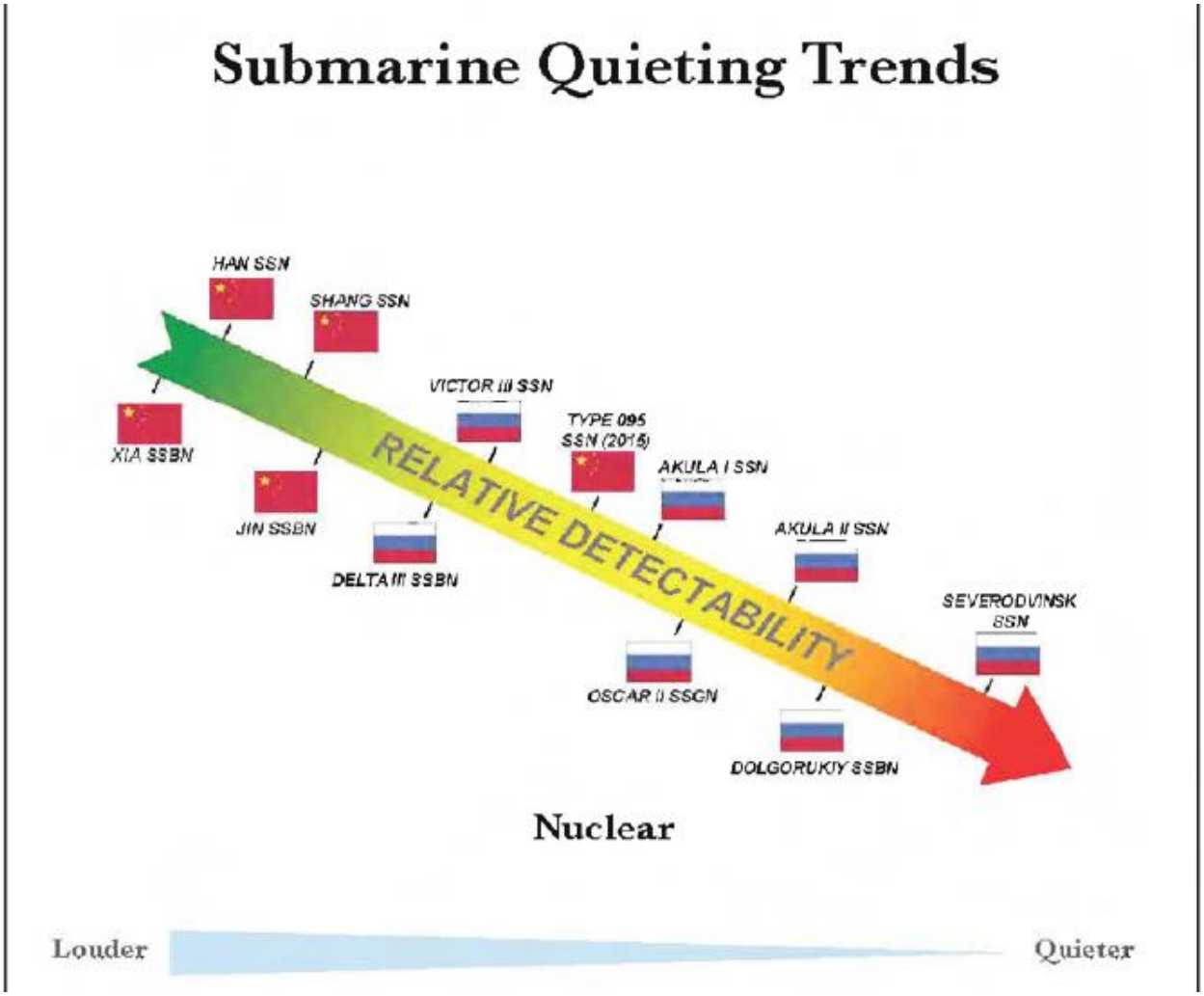
As China rises to become a major global power its military footprint will increasingly be felt around the world around the world. China´s navy has for a while made a thrust into the Indian Ocean and is building strategic partnerships with littoral countries of the IOR. Naturally, much of China´s the strategic manoeuvring is concerning India, and the two are jockeying for strategic depth and influence in "each other´s" seas. The steps China is taking to enhance its interests in the Indian Ocean has apprehended security and strategic circles in India, fueling a common security competition pattern in the IOR. To a large extent, it is China´s naval power and thrust into the Indian Ocean that is fuelling Indian naval posturing.[153] Tensions have been mounting between the two powers and several episodes have seen the India and China facing off at sea.

Nuclear-powered Submarines

In order to be a true blue-water navy and project power over long distances, H4 envisions China to invest massively in nuclear-powered attack submarines (SSN). The advantage of SSNs over conventional-powered submarines is mainly the vastly superior endurance. Nuclear-powered submarines can remain submerged for much longer periods of time since they do not have to surface to recharge batteries, and they are able to attain higher underwater speed.[154] Additionally they should have superior overall stealth capability because of the long submerged cruise range. However, generally speaking conventional-powered submarines are quieter when running on batteries than SSNs which tend to make more machine noise.[155] The engineering challenge of SSNs is daunting, and nuclear-powered submarines are also vastly more expensive.

The PLAN's first SSN was the *Han*-class (Type-091), a relatively small SSN displacing 5639 tonnes commissioned in 1984. More *Han*-class followed and eventually China deployed five of the class. However, two have been decommissioned and now the PLAN only has three *Han*-class SSNs in service.[156] China's next-generation SSN, the *Shang*-class (Type-093) was laid down in 1994, but it took a whole of 12 years before it commissioned into service in 2006. A second boat followed the year after and two additional vessels are in build.[157]

[152] Bland, Ben & Shivakumar, Girjia, *China Confronts Indian Navy Vessel*, Financial Times, 31 August, 2011.
[153] Pant, Harsh V., *China Shakes Up the Maritime Balance in the Indian Ocean,* Strategic Analysis, 36.3, 364-368, 2012.
[154] Erickson, Andrew S. & Goldstein, Lyle, *China's Future Nuclear Submarine Force,* Naval War College Review, Vol. 60, No. 1, Winter 2007, p. 63.
[155] Bateman, Sam, *Perils of the Deep, the Dangers of Submarine Proliferation in the Seas of East Asia,* Asian Security, Vol. 7, No. 1, 2011, p. 66
[156] See appendix XX.
[157] IHS Jane's Fighting Ships, *Submarines – Attack Submarines,* 12 February 2012.



Figur 3 Relative noise levels of nuclear submarines. Source: U.S. Office of Naval Intelligence, 2009

The graphical representation above is from the report by U.S. Office of Naval Intelligence from 2009 mentioned earlier and it clearly shows the Chinese submarines lagging far behind in perhaps the most important asset of a submarine, its stealth, and consequent risk of being detected.

The nuclear-powered submarine force of China can be seen as a bellwether on China's strategic behaviour with regards to power projection capabilities and naval policies in general.[158] The desire to field both SSBN and SSNs is clearly there, but requisite skills do not, at least gauged by the low number of nuclear-powered submarines and their capabilities. Some American naval strategists clearly believe that China has substantial problems with its SSBNs and SSNs. They note that it is of interests that China has not deployed other nuclear submarine platforms after the *Shang*-class and *Jin*-class. Especially the noise levels of the boats are significantly higher than American or Russian designs, and they state that "China's naval strategists are not naive and do not believe its submarine fleet will close the gap in the near- or even mid-term."[159] There is a new SSN in the offing though, the Type-095. This will be China's third-generation SSN based

[158] McVadon, Eric A., *China's Maturing Navy,* Naval War College Review, Vol. 59, No. 2, p. 92
[159] Goldstein, Lyle & Knight, Shannon, *Coming without Shadows, Leaving without Footprints,* Proceedings, U.S. Naval Institute, Vol. 136, Issue 4, April 2010, pp. 30-35,

on the *Shang*-class design. The U.S. Department of Defence predicts up to five of the class,[160] and as can be seen on the graph above regarding the relative quietness submarines, the Type-095 is featured with and expected arrival of 2015.

As a yardstick for how mature China's nuclear-powered submarine is the numbers deployed. Some assessments of the possible numbers of PLAN SSBN and SSNs from a decade ago have proved to wildly inaccurate. A Russian estimate from 2003 proposed Chinese intensions of acquiring 10 SSBNs and 12 SSNs by the end of the first decade of the 21st century,[161] and in 1999, a Chinese naval strategist envisaged that China must field 12 SSBNs and no less than 30 SSNs to augment 36 conventional submarines.[162] Said strategist must be sorry now with a PLAN inventory of 4 SSBNs and 5 SSNs. Discounting the relic *Xia*-class and *Han*-class, China can only muster 5 nuclear-powered submarines in total.

Concluding on Nuclear-powered Submarines

China is not even remotely close to fielding a large nuclear-centred submarine fleet of the predicted posture of Hypothesis 4. Held up with the demonstrated impressive build up of advanced conventional-powered submarines discussed in H3, the trend is surely not going in the direction of a large fleet of SSNs. However, a small caveat is perhaps in its place. The fact that China is fielding any nuclear-powered submarines at all is surely much more than nothing. The commissioning of a sole *Xia*-class SSBN was a question of having or not having an SSBN, in spite of its noisy performance, radiation leakage and short range of its single warhead JL-1 SLBM. The *Jin*-class is not wrongly viewed in the same light of having or not having a continuously deployed sea-based nuclear deterrent. It is another, though moderate, climb up the ladder towards great power status. Likewise with the *Shang*-class SSN, they do constitute a modest capability in the domain of nuclear-powered underwater combatants. At least, the 4 *Shangs* mean that China is in the SSN game, and the coming of the Type-095 is further testament to be sure that China remain a nuclear-powered submarine player.

Large Surface Combatants for Autonomous Deployment

For China to gain entrance to the exclusive club of countries with a power projection capability beyond its own region, H4 predicted the continuous deployment of more long-range oceangoing surface combatants suitable for autonomous deployment such as the multifunctional destroyers and frigates with increasingly advanced layered area air defence, anti-surface warfare and weapons systems previously discussed. As discussed in H2, China clearly moved ahead in this field with breathtaking pace. Though not perhaps capable of a true blue-water surface fleet, the trend in this direction is so overwhelming that it gives credence to the predicted force posture i H4 as well. Perhaps the *Luyang I*-class destroyer and the *Jiangkai I*-class frigate will not be able to keep up in a Chinese bit for extra-regional strategic ambitions, but the *Luyang II*-class

[160] U.S. Department of Defence Annual Report To Congress, *Military and Security Developments Involving the People's Republic of China,* 2012, p. 23.
[161] Permyakov, Dmitriy, cited in Goldstein, Lyle & Murray, William, *Undersea Dragons: China's maturing Submarine Force,* International Security, Vol. 28, No. 4, Spring 2004, p. 173.
[162] Han Tang, cited in ibid.

probably is, and if the *Luyang III*-class will keep up the exponential modernization and upgrade of capabilities and be deployed in large numbers. Beijing is surely well on its way.

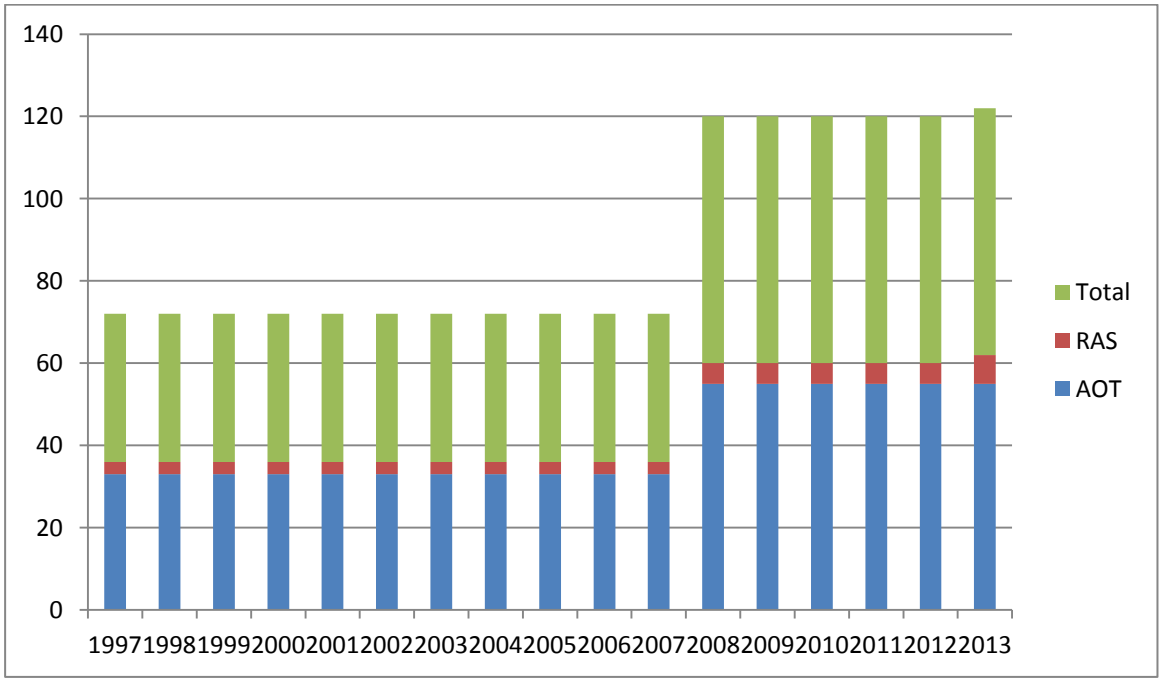
However, the PLAN would also need the requisite support ships to keep its destroyers deployed and operational in distant waters, especially replenishment-at-sea oilers on will be needed. Hence, we shall look at the development in the logistic and support ships.

Logistics and Support Ships

The modern destroyers and frigates that the PLAN now fields enable Beijing in distant waters, exemplified by China's participation in anti piracy missions in the Gulf of Aden. The fact that China did contribute to maritime security operations off the Coast of Africa is testament to the increasing prowess of the PLAN. Yet, possessing the surface combat ships that do the actual patrolling and potential fighting is inadequate without the logistics and support vessels enabling long-term deployment in distant waters. As an army marches on its stomach, navy ships are in need of being restocked. The crucial element such auxiliary boats play in modern navies is even more pronounced if access to overseas bases is not an option. China does not have any naval bases, or any other military bases for that matter, in other countries. It is, therefore, essential especially to have ships capable of carrying out replenishment at sea (RAS) in order to sustain operations farther away from the Chinese coastal waters.

The Chinese navy has not had this capability until very recently. The PLAN has been deploying a large auxiliary fleet for a long time in a range of different classes, running the full spectrum of logistics support, repair, hydrographic survey and research types and a number of small oilers and tug boats.[163] Here, the focus will be on replenishment oilers with RAS capability.

Number of oilers, 1997-2013:



[163] Wertheim, Eric, *The Naval Institute Guide to Combat Fleets of the World 2005-2006,* p. 121, Annapolis, MD, Naval Institute Press, 2005.

The diagram shows the total number of oilers in the Chinese navy. The vast majority of these transport oilers are old ships. Its replenishment consisted of coastal and relatively short-range oil tankers (AOT) or water tankers (AWT), such as the *Guangzhou*-class, built in the 1970s and 1980s, of which six are in service today (two of which oilers, the remaining four are water tankers),[164] the *Fulin*-class commissioned in 1972, reportedly some equipped with a single underway replenishment rig, of which more than 20 were constructed (14 AOT, 5 AWT) and the remaining going into commercial service,[165] and the *Fuzhou*-class built between 1964-1972 with 18 boats still in service today (11 AOT, 7 AWT).[166]

Replenishment at Sea

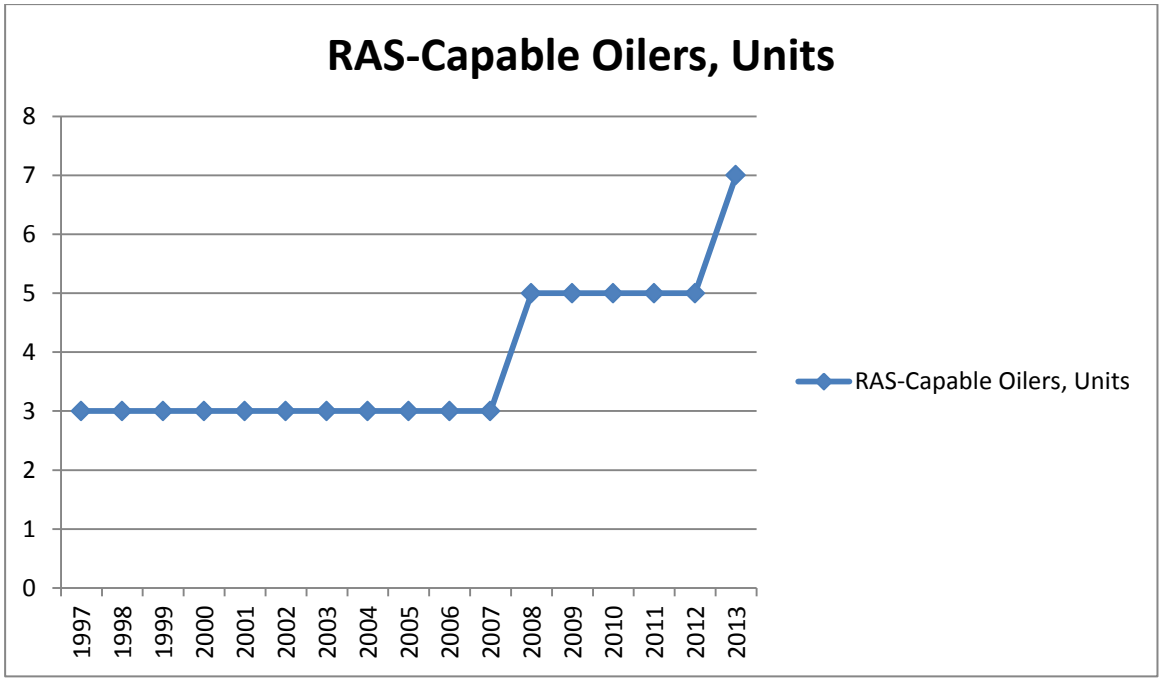
The first class of ships built for the Chinese Navy to conduct underway replenishment was the *Fuqing*-class. The ship became operational in 1979 and only two were commissioned into the PLAN. A third was converted to commercial use in 1989, and a fourth boat was sold to Pakistan in 1987. The two *Fuqing*-class RAS-capable oilers remain in service today.[167]

China acquired the RAS-capable *Nanyun*-class (*Komandarm Fedko*-class) fleet replenishment craft (AOR) from Russia in 1992 for a reported $10 million. The boat was laid down for the Soviet navy in 1989 and delivered in an almost complete state in Dalian Ship Yard for fitting out in 1993.[168] The single boat was commissioned by the PLAN in 1996 and remains in service today. The boat has RAS rigs on both sides and refuelling at the stern, as well as a helicopter landing and small hangar, a range of 12.000 km, and a cargo capacity of at least 9.630 tons of fuel.[169]

Until 2007, these three relatively old boats were the only ocean-going replenishment oilers in PLAN inventory, a major weakness in any of its blue-water aspirations. However, the PLAN has deployed the two first boats of a modern, indigenously designed RAS-capable supply ship, the *Fuchi*-class (Type 903). These boats was laid down in 2002, launched in 2003, and commissioned in 2004. An additional two boats were laid down in 2010 and launched in the spring of 2012, and is expected to be commissioned into the PLAN in 2013.[170] The *Fuchi*-class apparently bearing a noticeable resemblance with the one *Similan*-class (Type R22T) tanker built for Thailand by China State Shipbuilding Corporation in 1994. The RAS-capable tanker compliments Thailand's *Chakri Naruebet* aircraft carrier and the *Naresuan*-class frigates, giving

[164] IHS Jane's Fighting Ships, *Auxiliaries,* 15 February 2013.
[165] Wertheim, Eric, *The Naval Institute Guide to Combat Fleets of the World 2005-2006,* p. 124, Annapolis, MD, Naval Institute Press, 2005; IHS Jane's Fighting Ships, *Auxiliaries,* 11 March 2013.
[166] Ibid; IHS Jane's Fighting Ships, *Auxiliaries,* 15 February 2013.
[167] HIS Jane's Fighting Ships, *Auxiliaries, Fuqing Class,* 14 February 2013.
[168] Wertheim, Eric, *The Naval Institute Guide to Combat Fleets of the World 2005-2006,* p. 124, Annapolis, MD, Naval Institute Press, 2005.
[169] IHS Jane's Fighting Ships gives the fuel cargo capacity as mentioned, but the Naval Institute Guide catalogs a cargo capacity of 23.000 tons of fuel water and solid stores, not specifying how much of each. IHS Jane's Fighting Ships, *Auxiliaries,* 11 February 2013; Wertheim, Eric, *The Naval Institute Guide to Combat Fleets of the World 2005-2006,* p. 124, Annapolis, MD, Naval Institute Press, 2005.
[170] IHS Jane's Fighting Ships, *Auxiliaries, Fuchi (Type 903) class,* 14 February 2013; IISS, *Chapter Six: Asia, The Military Balance 2013,* p. 290.

the Thai Navy full deployment capability.[171] With the commissioning of China's first aircraft carrier this is worthy of notice. China's new and modern frigates and destroyers along with the *Liaoning* air craft carrier will be substantially more valuable and versatile with the four *Fuchi*-class RAS-capable ships.



The graph illustrates the described development in RAS-capable oilers, 1997-2013. The lack of overseas bases and few modern RAS-capable boats remain a shortcoming in China's blue-water navy ambitions, but the launch and soon-to-come commissioning of the additional *Fuchi*-class ships more than doubles the number of AOR ships in this class in the PLAN's inventory. This development bears testament both to the fact that Beijing is keenly aware of its weaknesses in this area, and that the PLAN is addressing the issue by launching new ships. Worth mentioning in this context is that the two *Fuchi*-class ships already in service have been part of the ongoing anti piracy missions off the coast of the Horn of Africa. Such missions allow the PLAN to get accustomed to the replenishment tasks essential to sustaining its destroyers and frigates in distant waters.

China's Mission to the Gulf of Aden

China has been taking part in the international naval mission to combat piracy in the Gulf of Aden off the coast of East Arica and the Arabian Peninsula. Beijing has maintained a flotilla in the ongoing Gulf of Aden mission for more than four years now. Piracy has been a serious maritime security issue in these waters, threatens maritime shipping in general, and it has also plagued Chinese ships directly. In late 2008, the Chinese ship Zhenhua saw off an attack by

[171] IHS Jane's Fighting Ships, *Auxiliaries, Similan (Hudong) class (Type R22T),* 13 March 2013; *Frigates, Naresuan class (Type25T),* 3 April 2013;

Somali pirates with water cannon and homemade Molotov-cocktails.[172] In a bizarre incident widely reported in international media, a Chinese cargo ships was allegedly saved by a huge flock of thousands of dolphins that surfaced and blocked a group of Somali pirates as they were raising towards the Chinese vessel.[173] The 25 crewmembers of the bulk carrier De Xin Hai were not so fortunate as to have cetaceans as guarding them and were held captive for 70 days before being released by their pirate captors. Reportedly, a $4 million ransom was paid to secure the release though a statement by the Chinese foreign ministry mentioned a ransom being paid.[174] Surely, guarding one's ships against such attacks has a palpable impact on the security situation for merchant ships in the region. As mentioned, the majority of China's trade is seaborne as is its oil imports, so it makes good sense for a stronger China to seek to protect its shipping. In addition, it is a signal of China's entrance on the global stage as a "responsible stakeholder" shouldering some of the burden of protecting common goods such as safe passage on the seas. This echoes the addition to the Deng Xiaoping's 24 character strategy that though a rising China should pay heed to the strategy's central message of biding its time and modernize before sticking its head out, China should none the less start "making some contributions."

But the anti-piracy missions also have an arguably more valuable role to play for Beijing. It allows the PLAN to gain valuable experience with out-of-area operations. The training and experience gained is crucial if China want to operate with confidence in the "Far Seas." Missions far away from home bases requires the autonomously deployable combat ships that China has built, but it also requires the replenishment-at-sea logistical skills carried out over long distances. Even more so since China does not have any overseas bases.

Concluding on H4: Extra-Regional Ambitions

China has moved somewhat in the direction of building a fleet for out of area operations, but not nearly in the same extremely revisionist degree envisioned by H4. The predicted focus on a submarine fleet containing numerous SSBNs and an attack submarine fleet centred on SSNs has clearly not been the case. China does not possess a serious nuclear submarine programme, and the tendency has clear been to invest in conventional-powered submarines as demonstrated in the hypotheses. However, the PLAN has laboured hard at building up a fleet of modern destroyers and frigates suitable for autonomous deployment which has also been discussed in the previous hypotheses. H4 predicted the China would need to field a fleet of support vessels capable of conducting RAS-operations and maintaining a large fleet for out of area operations. The PLAN has showed a tendency in addressing this long-standing deficiency, but China has not deployed nearly enough RAS-capable support ship to back up the prediction in H4. In sum, China is not

[172] The Telegraph, *Chinese Ship Uses Molotov Cocktails to Fight off Somali Pirates,* 19 December 2008, http://www.telegraph.co.uk/news/worldnews/piracy/3849969/Chinese-ship-uses-Molotov-cocktails-to-fight-off-Somali-pirates.html, accessed 14 April 2013.
[173] Xinhua, *Thousands of Dolphins block Somali Pirates,* 14 April 2009, http://news.xinhuanet.com/english/2009-04/14/content_11184581.htm; also reported in the Australian newspaper The Daily Telegraph, http://news.xinhuanet.com/english/2009-04/14/content_11184581.htm, accessed 14 April 2013 and various other media outlets.
[174] Voice of America News, *Somali Pirates Release Chinese Ship after Payment,* 28 December 2009, http://www.voanews.com/content/somali-pirates-release-chinese-ship-after-payment-80202317/416741.html, accessed 14 April 2013.

behaving as a tremendous revisionist and H4 is not backed up by data sufficient to support the predicted posture.

VIII: Conclusion

This thesis asked one of the most basic questions in international politics, certainly so within the structural realist theoretical tradition. It asked whether China is a revisionist power. The answer is yes.

The defensive realism of Kenneth Waltz sees all great powers as inherently status quo-oriented. The structural forces compel the strongest states in the system to have a keen eye on the balance of power and to retain their position or only incrementally increase it. The search for security is the most important motivating factor explaining state behaviour, and the international system is a self-help system and great powers can look to no other to provide for their security. Nevertheless, security is quite plentiful because the status quo orientation of the great powers will restrict their appetite for power. Being too strong frightens the other great powers and will drive them to form a balancing coalition and eventually contain the revisionist or bring about its downfall.

On the other hand, the offensive realism of John Mearsheimer sees the same structural forces to cause the great powers to be revisionist of nature. The quest for security obliges states to maximise their power. There is no knowing when enough power is enough and thus the hunger for power is insatiable. States pay a great deal of attention to the balance of power, but they are always looking for ways to change it in their favour, and the only way to be sure that others will not bring endanger ones safety is to be stronger than them. Hence, the strategic behaviour of great powers is innately revisionist.

On the basis this fundamental divide this thesis generated four hypotheses to explain the strategic behaviour of China in the maritime domain by measuring the capabilities of the People's Liberation Army Navy. The predicted posture in each hypothesis portray where the main thrust of naval capability development and modernization would be demonstrable.

Hypothesis 1 predicted a naval posture of on the basis of defensive realism of to secure the realm, the naval equivalent of digging trenches. H1 sat predicted three areas where the focus of China's modernization process would be centred – a small force of nuclear-powered ballistic missile submarines for deterrence, small and short range conventional-powered attack submarines, and coastal surface combatants to patrol and defend the Chinese littoral.

The empirical data examined found evidence for sea-based nuclear deterrence with an SSBN fleet of a size and composition as predicted. Few in number, not that impressive, but just enough to give China nuclear second strike capability

However, regarding the coastal patrol craft expected to be the decisive surface force for a strategy of strictly coastal defence, the data showed the a tendency in the opposite direction. The fleet of patrol craft has indeed been upgraded with a new and vastly more capable ship, but the overall number of coastal defence ships declined decisively.

The third predicted key component of a very defensively oriented force posture was a submarine fleet centred small, short-range submarines optimised for littoral combat. Modernization of the Chinese submarine fleet has been overwhelmingly towards more, bigger long-range with offensive weaponry, moving reality further away from the predicted posture. Therefore, H1 must be rejected as having the least explanatory power

Hypothesis 2 proposed a naval posture of a more assertive but nonetheless defensive composition. Motivated not by revisionism, but by the preponderance of American power and the growing naval strength of regional powers, China would engage in more vigorous balancing to retain its position.

The predicted posture consisted of larger littoral defence ships capable operating and checking an opponent further away from Chinese shores. Such ships are not operationally deployed by the Chinese Navy, but the data suggested a new corvette to be out into service in large numbers in the near-term. However, potential numbers of future ships does not constitute reality, and the testing of the hypothesis relies on behaviour in the investigated period of time. Consequently that particular prediction is soundly rejected.

Secondly, another aspect of the predicted force posture was surface vessels suitable for autonomous deployment. The investigated data showed a growth of modern and capable destroyers and frigates that has been nothing short of staggering. From a near-zero starting point, the increase in terms of tonnage displacement has taken place at such a breathtaking pace that it bears repeating. The surface fleet of the PLAN's modern destroyers and frigates grew by 1730%. On the one hand, the data utterly meets the prediction. Actually, so much so that it far surpasses the expected size of the surface fleet, and it seems hard to explain this behaviour from a defensive realist stance. Such a stunning increase in capabilities in such a short time span must be labelled power-maximizing behaviour if the term is ever to have meaning.

The third predicted posture concerned the composition of the fleet of conventional submarines in the Chinese Navy. Again, the evidence found more went above and beyond the predicted posture. One of the domestically produced SSKs was found to be a prudent choice as the replacement of older classes and thus met the prediction. But the advent of a substitute in tandem with the deployment of big foreign-bought and highly advanced SSKs in addition to an indigenously produced large SSK third being rapidly instated the navy in fairly large volumes. The point raised about the growth of surface combatants must be repeated here, as the increase in the Chinese submarine fleet cannot be explained as status quo-seeking behaviour.

The last point raised was the introduction of an anti-ship ballistic missile. Maybe the Chinese ASBM has already been deployed, although it is not known for certain. H2 envisions the ASBM to be used as deterrence only, and the data examined showed that the missile's range is probably too short range to deny U.S. carriers to operate within the first island chain.

Hypoethesis 3 envisioned China to be revisionist of nature and attempting to build a navy with the aim of gaining regional dominance.

The first element of the predicted posture regards the build up of amphibious forces for a limited power projection capability. The data shows that China is indeed moving in that direction with

three large ships for this purpose already commissioned and a fourth in build. Operating in regional waters, the amphibious force in the making supports the trend of a Chinese seeking to revise the balance of power in the region.

Especially so in the light of the second prediction. The posture predicts an impressive submarine fleet of numerous and large conventional submarines. As has been clearly evident, China has build exactly that in the period of time investigated. The current submarine force corresponds well with the prediction in H3 to become a dominant naval power in the region.

Thirdly, the introduction of an aircraft carrier has come to fruition. On its own, the single carrier is not the tool of great power projection, and it is not something that will push the Americans out of Northeast Asia. But, it will conceivably offer China great leverage in the maritime disputes with the other littoral countries in the South China Sea

Seen as a combined force, building on the findings in H1 and H2, the Chinese Navy surely look determined to dominate its maritime domain. With the new missile-armed patrol boats and impressive submarine fleet operating under the cover of China's air defence surface fleet and the advent of an aircraft carrier provide China which such a navy. Therefore, Hypothesis 3 is found to have a high degree of explanatory power regarding China's strategic behaviour in the maritime domain.

Hypothesis 4 operated from the envisaged China to be an extremely revisionist power. Not satisfied as being the dominant force in the region, China was further expected to have extra-regional ambitions and build a true blue-water navy. China would not yield and relentlessly maximise its power and develop capabilities to push into the Indian Ocean and the Western Pacific.

The predicted posture of H4 entailed a fleet of SSBNs remarkably larger than the very modest nuclear-deterrence force expected in H1. This has by no means been the reality. The data does not support any tendency for China to invest heavily in a large number of SSBNs. Even more so, the evidence has showed China seek to base its fleet of attack submarines on nuclear-powered boats. Evidently, China has invested heavily in conventional-powered SSKs as pointed out above.

The second element of the posture of H4 was larger on more surface combatants suitable for autonomous deployment. As pointed out on the conclusion of H2, this has certainly been the case. China is not in a position to maintain a fleet of modern destroyers and frigates, but it has evidently gone out of its way to build up one as fast as possible. As noted above, this has indeed at a breathtaking pace.

In order to maintain a surface fleet in distant waters H4 predicted China to build of a fleet of support ships with long-range replenishment capabilities. China has showed determination to move ahead in this area, but from the data collected, China is still far from having the capabilities in this area as predicted.

The overall conclusion of this thesis, based on the empirical evidence investigated, is that Hypothesis 3 generated by offensive realism has the most explanatory power regarding China's strategic behaviour in the maritime domain.

So yes, China *is* a revisionist state.

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References

ABS-CBS News, *Chinese Tourists Sail to Disputed Paracel Islands – Report,* 28 April 2013, http://www.abs-cbnnews.com/nation/04/28/13/chinese-tourists-sail-disputed-paracel-islands-report, accessed 1 May 2013.

BBC News Online, *India Denies China Sub Reports,* 5 February 2009, http://news.bbc.co.uk/2/hi/7868863.stm, accessed 22 April 2013

BBC World Service Online, *Rajan the Swimming Elephant,* 5 March 2010, http://www.bbc.co.uk/worldservice/programmes/2010/03/100305_outlook_swimming_elephant.shtml, accessed 22 April 2013

BBC, *On this Day, 25 May 1982: Dozens Killed as Argentines Hit British Ships,* http://news.bbc.co.uk/onthisday/hi/dates/stories/may/25/newsid_2502000/2502995.stm, accessed 30 April 2013

Bland, Ben & Shivakumar, Girjia, *China Confronts Indian Navy Vessel*, Financial Times, 31 August 2011.

Bradford, W.J., *The Theoretical Layered Air-Defence Capability of a Ship Engaged Against Multiple Anti-ship Capable Missile Attacks,* Department of Defence, Defence Science and Technology Organisation, Aeronautical Research Laboratory, Guided Weapons Technical Memorandum, Victoria, Australia, 1992

Buckley, Chris, *China's new President Nods to Public Concerns, but Defends Power at Top,* New York Times, 14 March 2013, http://www.nytimes.com/2013/03/15/world/asia/chinas-new-leader-xi-jinping-takes-full-power.html?pagewanted=all&_r=0, accessed 26 April 2013

Carr, E.H., *The Twenty Years' Crisis, 1919-1939,* London, Macmillan, 1946

Chen Jian, *Mao's China and the Cold War,* 2001, University of North Carolina Press, Chapel & Hill, London, pp. 169-170

China Holds Landmark Naval Parade to mark PLA Navy 60th Anniversary, SINA English, 23 April 2009, http://english.sina.com/china/p/2009/0423/236046.html, accessed 18 December 2012

China Sub Stalked U.S. Fleet, The Washington Times, 13 November 2006, http://www.washingtontimes.com/news/2006/nov/13/20061113-121539-3317r/?page=all, accessed 19 December 2012

China to Buy 8 more Russian Submarines, The Washington Post, 25 June 2002, http://www.washingtonpost.com/ac2/wp-dyn?pagename=article&node=&contentId=A38496-2002Jun24&notFound=true, accessed 19 December 2012

Cohen, Eliot A. (1998), *Toward Better Net Assessment: Rethinking the European Conventional Balance,* International Security, vol. **13**, no. 1

Cole, J. Michael, *China's navy Goes Stealth,* The Diplomat, 28 February 2013, http://thediplomat.com/flashpoints-blog/2013/02/28/chinas-navy-goes-stealth/, accessed 29 April 2013

Erickson & Goldstein (2009), *Gunboats for China's New "Grand Canals?" Probing the Intersection of Beijing's Naval and Oil Security Policies,* Naval War College Review, vol. 62, no. 2

Gill, Bates; Green, Michael; Tsuji, Kiyoto &Watts, William, *Strategic views on Asian regionalism, Survey results and Analysis,* Center for Strategic and International Studies, p. 4-7, Washington DC., February 2009.

Gilpin, Robert, *No One Loves a Political Realist,* p. 7-8, Security Studies, 5/3, pp. 3-26, 1996

Goldstein, Lyle & Murray, William, *Undersea Dragons: China's Maturing Submarine Force,* International Security, vol. 28, no. 4, Spring 2004

Goldstein, Lyle & Murray, William, *Undersea Dragons: China's Maturing Submarine Force,* International Security, vol. 28, no. 4, Spring 2004

Gries, Peter Hays (2005), *China's New Nationalism: Pride, Politics, and Diplomacy*, University of California Press, Berkely

Hardy, James & Pape, Alex, *IHS Jane's Defence Weekly*, 3 January 2013.

Hobbes, Thomas, *Leviathan,* London, 1651.

Hyde-Price, Adrian, *European Security in the Twenty-first Century, The Challenge of Multipolarity,* Abingdon, Oxford, 2007, p. 35.

IHS Jane's Fighting Ships – *Submarines, Patrol Submarines*, 11 February 2012.

IHS Jane's Fighting Ships, *Amphibious Forces, Yuzhao (Type-071) Class,* 13 February 2013.

IHS Jane's Fighting Ships, *Auxiliaries,* 15 February 2013.

IHS Jane's Fighting Ships, *Auxiliaries, Fuchi (Type 903) class,* 14 February 2013; IISS, *Chapter Six: Asia, The Military Balance 2013,* p. 290.

IHS Jane's Fighting Ships, *Auxiliaries, Similan (Hudong) class (Type R22T),* 13 March 2013; *Frigates, Naresuan class (Type25T),* 3 April 2013.

IHS Jane's Fighting Ships, *China – Patrol Forces,* 12 February 2012.

IHS Jane's Fighting Ships, *Corvettes, Jiangdao (Type 056) Class,* 11 March 2013.

IHS Jane's Fighting Ships, *Destroyers, Luyang I (Type-052B),* 12 February 2013.

IHS Jane's Fighting Ships, *Destroyers, Luyang II (Type-052C),* 11 March 2013.

IHS Jane's Fighting Ships, *Destroyers, Luyang III (Type-052D),* 11 March 2013.

IHS Jane's Fighting Ships, *Frigates,* entries for *Jiangwei I* and *Jiangwei II,* both 12 February 2013.

IHS Jane's Fighting Ships, *Patrol Forces, Houxin (Type 037/1G) Class,* 13 February 2013.

IHS Jane's Fighting Ships, *Submarines – Strategic Missile Submarines,* 11 February 2013.

IHS Jane's Fighting Ships, *Submarines – Strategic Missile Submarines, Typhoon Class*, 25 February 2013.

IHS Jane's Fighting Ships, *Submarines – Strategic Missile Submarines, Ohio Class,* 9 April 2013.

IHS Jane's Fighting Ships, *Submarines, Chang Bogo (Type-209/1200) Class,* 22 February 2013.

IHS Jane's Naval Weapon Systems, *Surface-to-Surface Missiles,* 13 August 2012.

IHS Jane's World Navies, 13 February 2013.

International Institute for Strategic Studies, Military Balance 1997-2013

Japan Times, *Chinese Target-Locked MSDF Ship, Chopper,* 6 February 2013, http://www.japantimes.co.jp/news/2013/02/06/national/japan-says-chinese-warships-locked-weapons-radar-on-msdf/#.UThXr9bEJxs, accessed 7 March 2013.

Kagan, Robert (2008), The Return of History and the End of Dreams, Atlantic Books, London, p. 25.

Kauppi, Mark V., *Thycudides: Character and Capabilities*, p. 142, in Frankel, Benjamin (ed.), *Roots of Realism,* London, Frank Cass and Company Limited, 1996.

Kautilya's Arthashastra, written about 300 BC, R. Shamasastry's English translation, 1915; available at http://www.sdstate.edu/projectsouthasia/Docs/index.cfm.

Lague, David, *Insight – From a Ferry, a Chinese Fast Attack Boat,* Reuters, 1 June 2012.

Machiavelli, Nicolo, *The Prince,* written c 1505, published 1515, English Translation W.K. Marriot, available at http://www.constitution.org/mac/prince.pdf.

Mazumdar, Mrityunjoy, *Jane's Defence Weekly,* 6 June 2012.

Mearsheimer, John J., *Structural Realism,* p. 72, in Dunne, Tim; Kurki, Milja & Smith, Steve (eds.), *International Relations: Theories, Discipline and Diversity,* Oxford, Oxford University Press, 2007

Mearsheimer, John J., *The False Promise of International Institutions,* International Security, Vol. 19, No. 3, Winter 1994-1995

Mearsheimer, John J. - *The Tragedy of Great Power Politics,* New York, N.W. Norton, pp.30-31, 2001.

Medeiros, Evan S., *The New security Drama in East Asia, the Responses of U.S. allies and Security Partners to China's Rise,* Naval War College Review, vol. 62, no. 4, Autumn 2009, p. 38.

Morgenthau, Hans J., *Politics among Nations: The Struggle for Power and Peace,* New York, Alfred A. Knopf, 1948. DIN SIDE 10

Morgenthau, Hans J., *Politics among Nations: The Struggle for Power and Peace,* p. 7, New York, Alfred A. Knopf, 1948.

Nan Li, *All at Sea – China Develops Fast Attack Craft,* HIS Jane's Intelligence Review, 30 July 2009.

Nan Li, *Evolution of China's Naval Strategy and Capabilities: From "Near Coast" and "Near Seas" to "Far Seas";* Asian Security, vol. 5, no. 2, 2009, pp. 144-169

Nathan, Andrew J & Scobell, Andrew: *How China Sees America: The Sum of Beijing's Fears,* Foreign Affairs Vol. 91 Issue 5, Sept./Oct. 2012.

New York Times, *China is Blocking Minerals, Executives Say,* 23 September 2010, http://www.nytimes.com/2010/09/24/business/energy-environment/24mineral.html?_r=0, accessed 7 March 2013.

New York Times, *Dispute Between China and the Philippines Over Island Becomes more Heated,* New York Times, 10 May, 2012 http://www.nytimes.com/2012/05/11/world/asia/china-philippines-dispute-over-island-gets-more-heated.html accessed 2 November 2012.

Novichkov, Nikolai, *China's Russian Kilo Buy May Put Song Submarine Future in Doubt,* Jane's Defence Weekly, 12 June 2002, p.3.

O'Rourke, Ronald, *China Naval Modernization: Implications for U.S. Navy Capabilities – Background and Issues for Congress,* Congressional Research Service, 21 March 2013, p.30-31. This source also classifies the ship-size as an Offshore Patrol Vessel (OPV).

O'Rourke, Ronald, U.S. Congressional Research Service, Report for Congress, *China Naval Modernization: Implications for U.S. Navy Capabilities – Background and Issues for Congress, 2008*, p. 4, 35, and 64; edition of 2013, pp. 2-5, pp. 9-11; U.S. Office of Naval Intelligence, *The People's Liberation Army Navy, A Modern Navy with Chinese Characteristics,* 2009, pp. 26-27; U.S. Department of Defence Annual Report to Congress, *Military and Security Developments Involving the People's Republic of China 2010,* p. 11; edition of 2011, p. 3; edition of 2012, pp. 22- 23 and p. 44.

Office of Naval Intelligence, *The People's Liberation Army Navy – A Modern Navy with Chinese Characteristics,* Suitland, MD, Office of naval Intelligence, August 2009, pp. 18-20.

Osborn, Andrew & Foster, Peter, *USSR Planned Nuclear Attack on China in 1969,* The Telegraph 13 May 2010, http://www.telegraph.co.uk/news/worldnews/asia/china/7720461/USSR-planned-nuclear-attack-on-China-in-1969.html, accessed 28 April 2013.

Pant, Harsh V., *China Shakes Up the Maritime Balance in the Indian Ocean,* Strategic Analysis, 36.3, 364-368, 2012.

Patch, John, *A Thoroughbred Ship-Killer,* United States Naval Institute, Proceedings, 136.4, 2010.

Pubby, Manu, *Indian Submarine Spooked Chinese Warship: Chinese Media,* Indian Express, 4 February 2009, http://www.indianexpress.com/news/indian-submarine-spooked-warship-chinese-media/419210/, accessed 22 April 2013; Pandit, Rajat, *Indian Sub Stalked Chinese Warship?,* The Times of India, 5 February 2009, http://articles.timesofindia.indiatimes.com/2009-02-05/india/28029822_1_submarine-indian-navy-warships, accessed 22 April 2013.

Purser III, Benjamin S. & Chase, Michael S., *Waypoint or Destination? The Jin-Class and China's Quest for a Sea-BasedNuclear Deterrence,* Vol. 12, Issue 15, 4 August 2012, pp. 11-12.

Randall L. Schweller, 'Neorealism's Status-Quo Bias: What Security Dilemma?' *Security Studies*, 5(3), 1996, pp. 90–121.

Richardson, Dough & Isby, David C., *China yet to Deploy DF-41 and JL-2, IHS Jane's Missiles & Rockets,* 30 April 2013.

Rosamond, Jon, *IHS Jane's Defence Weekly,* 27 February 2013

Samuels, Richard J (1994), *Rich Nation, Strong Army: National Security and the Technological Transformation of Japan,* Cornell University Press, New York

Scott, Richard, *The Last Line of Defence,* Jane's Navy International, 12 February 2002

Skypek, Thomas A., *Evaluating Military Balances Through the Lens of Net Assessment: History and Application,* Journal of Military and Strategic Studies, vol. **12**, issue 2, 2010

Snyder, Glenn H., *Mearsheimer's World – Offensive Realism and the Struggle for Security,* International Security, Vol. 27, No. 1 (Summer 2002)

Swaine, Micheal D. & Tellis, Ashley J., *Interpreting China's Grand Strategy, Past, Present, and Future, Chapter Three: The Historical Context,* RAND Corporation, Santa Monica, 2000

Takahashi, Kosuke, *Japan to Boost Submarine Fleet in Response to China's Moves,* IHS Jane's Defence Weekly, 22 October 2010.

The Sino-Soviet Border Clashes, globalsecurity.org, http://www.globalsecurity.org/military/world/war/prc-soviet.htm accessed 6 November 2012

The Telegraph, *China Blocked Exports of Rare Metals to Japan, Traders Claim,* 24 September 2010, http://www.telegraph.co.uk/finance/china-business/8022484/China-blocked-exports-of-rare-earth-metals-to-Japan-traders-claim.html, accessed 7 March 2013

The Telegraph, *Chinese Ship Uses Molotov Cocktails to Fight off Somali Pirates,* 19 December 2008, http://www.telegraph.co.uk/news/worldnews/piracy/3849969/Chinese-ship-uses-Molotov-cocktails-to-fight-off-Somali-pirates.html, accessed 14 April 2013

Thucydides, *The Peloponnesian War, The Melinian Dialogue, (Book 5, Chapter 17),* available at Internet Classics Archive at MIT, http://www.wellesley.edu/ClassicalStudies/CLCV102/Thucydides--MelianDialogue.html. To be precise, this translation by Richard Crawley actually reads "the strong do what they can and the weak suffer what they must". I have chosen to use the more common translation, as found in Perry, Marvin & Chase, Myrna & Jacob, James & Jacob, Margaret and Von Laue, Theodore H., *Western Civilization: Ideas, Politics, and Society, Volume 1: To 1789, p. 70,* Wadsworth, Boston, Tenth edition, 2012.

Transformation and Refinement of Chinese Military Doctrine: Reflection and Critique on the PLA's View, in Seeking Truth From Facts, A Retrospective on Chinese Military Studies in the Post-Mao Era, edited by Mulvenon, James C. & Yang, Andrew N.D., RAND 2001.

Tringham, Jane, *China Launches First Type-052D Destroyer,* Jane's Navy International, 5 September 2012.

U.S. Department of Defence, Annual Report to Congress, *Military Power of the People's Republic of China 2007*

U.S. Department of Defense Annual Report to Congress, *Military and Security Developments Involving the People's Republic of China,* Annual Report to Congress, 2010

U.S. Department of Defence Annual Report to Congress, *Military and Security Developments Involving the People's Republic of China,* Annual Report to Congress, 2011

U.S. Department of Defense Annual Report to Congress, *Military and Security Developments Involving the People's Republic of China,* Annual Report to Congress, 2012

U.S. Office of Naval Intelligence, People's Liberation Army Navy, *A Modern Navy with Chinese Characteristics,* August 2009

US Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21st Century Defence,* January 2012

Vancouver Maritime Museum Online Exhibition, *Watery Kingdom, China's Mariners from Antiquity to the Ming Dynasty,* http://www.vancouvermaritimemuseum.com/?p2=/customcode/vmmuseum/page2.jsp&page2=239, accessed 16 April 2013

Voice of America News, *Somali Pirates Release Chinese Ship after Payment,* 28 December 2009, http://www.voanews.com/content/somali-pirates-release-chinese-ship-after-payment-80202317/416741.html, accessed 14 April 2013

Waltz, Kenneth N., *Theory of International Politics,* Reading, Massachusetts: Addison-Wesley, 1979.

Waltz,Kenneth N., *The Origins of War in Neorealist Theory,* Journal of Interdisciplinary History, Vol. 18, No. 619, 1988

Wertheim, Eric, *The Naval Institute Guide to Combat Fleets of the World 2005-2006,* p. 121, Annapolis, MD, Naval Institute Press, 2005.

Westlake, Adam, *PM Abe Vows to Expel any Chinese landing on Senkakus by force,* Japan Daily Press, 23 April 2013, http://japandailypress.com/pm-abe-vows-to-expel-any-chinese-landing-on-senkakus-with-force-2327530, accessed 29 April 2013.

Whiting, Allan Suess, *China's Use of Force, 1950-96, and Taiwan,* International Security, Vol. 26, No. 2, Fall 2001

Wohlforth, William C., *Realism and Foreign Policy,* in *Foreign Policy – Theories, Actors, Cases*, Smith, Steve; Hadfield, Amelia & Dunne Tim (eds.), Oxford, Oxford University Press, 2008

www.cultural-china.com, *Zheng he's Voyages to the Western Sea,* http://history.cultural-china.com/en/34History206.html, accessed 16 April 2013.

Xinhua News, *China's New Stealth Frigate Commissioned,* 12 March 2013, http://news.xinhuanet.com/english/china/2013-03/12/c_132228488.htm, accessed 29 April 2013

Xinhua, *Thousands of Dolphins block Somali Pirates,* 14 April 2009, http://news.xinhuanet.com/english/2009-04/14/content_11184581.htm

Appendix A: Abbreviations

A2AD – Anti-Access/Area Denial

AIP – Air Independent Propulsion

ASCM – Anti-Ship Cruise Missile

ASBM – Anti-Ship Ballistic Missile

AShM – Anti-Ship Missile

ASW – Anti-Submarine Warfare

ASuW – Anti-Surface Warfare

CCP – Chinese Communist Party

CDS – Combat Direction System

CIWS – Close-In Weapon System

DDG/H/M – Guided Missile Destroyer/ with Hangar/with Surface-to-Air Missile defence

FAC – Fast Attack Craft

FFG/H/M – Guided Missile Frigate/with Hangar/with Surface-to-Air Missile defence

ICBM – Intercontinental Ballistic Missile

KMT - Kuomintang

LACM – Land-Attack Cruise Missile

LCAC – Landing Craft Air Cushion

LPD – Landing Platform Dock

MRBM –Medium Range Ballistic Missile

PLA – People's Liberation Army

PLAN – People's Liberation Army Navy

PLAAF - People's Liberation Army Air Force

PRC – People's Republic of China

RAS – Replenishment At Sea

SAM – Surface-to-Air Missile

SLBM – Submarine-Launched Ballistic Missile

SLOC – Sea Lines of Communication

SRBM – Short Range Ballistic Missile

SSM – Surface-to-Surface Missile

SSK – Conventinal-powered attack submarine

SSBN – Nuclear-powered Ballistic Missile submarine

SSN – Nuclear-powered attack submarine

UCAC – Utility Craft Air Cushion

VLS – Vertical Launch System

Appendix B: Tables

Submarine of the People's Liberation Army Navy

Class	Units, 2013	Displacement	Laid down/Launched/Commissioned
Golf-class SS (SLBM test platform)	1	2,388	NA/1966/NA
Romeo-class, SSG (test platform)	1	1,830	Built in 1962
Qing-class SSB (SLBM test platform	1	5,000 est.	NA/2004/NA
Ming-class SSK (4 Type 035/ 12 Type 035G/ 4 Type 035B)	16	2,147	NA/1971-1979, 1996-2002/last of class 2002
Song-class SSK (Type 039/039G)	16	2,286	1991-2003/1994-2004/1999-2006
Yuan-class SSK (Type 039A/B)	12	2,900 (surfaced)	NA/2004-2011/2006-2012
Kilo-class SSK (Project 636/636N/877)	12	3,125	1996-2003/1997-2005/1998-2006
Han-class SSN (Type 091)	3	5,639	1980-1987/1983-1990/1984-1990
Shang-class SSN (Type 093)	2 (2 in build)	6,096	1994, 2000/2002,2003/2006, 2007
Xia-class SSBN (Type 092	1	6,604	1978/1981/1987
Jin-class SSBN (Type 094	3 (1 in build)	Unknown[175] 10,000 est. used for comparison	2001-2004/2004-2009/2007-2012

[175] IHS Jane's does not list tonnage displacement for the Jin-class. Various other sources give differing estimates. www.sinodefence.com estimate 8-9,000 tonnes submerged, while www.globalsecurity.org assesses displacement to be 11,000 tonnes submerged. Both these websites are referenced in academic articles, see, for example: Lyle, GoldStein & Murray William, *Undersea Dragons: China's maturing Submarine Force,* International Security vol. 28, no. 4, 2004, p. 166, note 20, and p. 170, note 37.

	SSBN	Units	Combined Tonnage	SSN	Units	Combined Tonnage	SSK[176]	Units	Combined Tonnage	Total Units	Total Tonnage
1997	1 *Xia*	1	6,604	5 *Han*	5	28,195	3 *Kilo* 13 *Ming* 1 *Song* 36 *Romeo* (1 *Golf*, 1 *Romeo*)	55	109,969	61	144,768
1998	1 *Xia*	1	6,604	5 *Han*	5	28,195	3 *Kilo* 16 *Ming* 1 *Song* 36 *Romeo* (1 *Golf*, 1 *Romeo*)	58	116,479	64	151,278
1999	1 *Xia*	1	6,604	5 *Han*	5	28,195	4 *Kilo* 17 *Ming* 1 *Song* 41 *Romeo* (1 *Golf*, 1 *Romeo*)	65	130,924	71	165,723
2000	1 *Xia*	1	6,604	5 *Han*	5	28,195	5 *Kilo* 17 *Ming* 1 *Song* 34 *Romeo* (1 *Golf*, 1 *Romeo*)	59	121,239	65	156,038
2001	1 *Xia*	1	6,604	5 *Han*	5	28,195	4 *Kilo* 19 *Ming* 3 *Song* 35 *Romeo* (1 *Golf*, 1 *Romeo*)	63	129,856	69	163,655
2002	1 *Xia*	1	6,604	5 *Han*	5	28,195	4 *Kilo* 19 *Ming* 3 *Song* 35 *Romeo* (1 *Golf*, 1 *Romeo*)	63	129,856	69	163,655
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[176] Submarines in parentheses are test platforms, mainly for SLBM trials. The *Qing*-class however, is believed also to be a test bed for air-independent technology as well as the JL-2 and/or projected JL-3 SLBM. In addition, it is speculated that the single *Qing* may be used to test the DF-21D ASBM, IHS Jane's Fighting Ships, *Submarines – Auxiliary Submarines,* 12 February 2013.

							Romeo (1 *Golf*, 1 *Romeo*)				
2005	1 *Xia*	1	6,604	5 *Han*	5	28,195	4 *Kilo* 19 *Ming* 3 *Song* 35 *Romeo* (1 *Golf*, 1 *Romeo*)	63	129,856	69	163,655
2006	1 *Xia*	1	6,604	4 *Han*	4	22,556	3 *Kilo* 19 *Ming* 9 *Song* 20 *Romeo* (1 *Golf*, 1 *Romeo*)	53	112,197	58	141,357
2007	1 *Xia*	1	6,604	4 *Han*	4	22,556	10 *Kilo* 20 *Ming* 9 *Song* 15 *Romeo* 2 *Yuan* (1 *Golf*, 1 *Romeo*)	58	132,692	63	161,852
2008	1 *Xia* 2 *Jin*	3	26,604	4 *Han* 2 *Shang*	6	34,694	12 *Kilo* 19 *Ming* 10 *Song* 2 *Yuan* 8 *Romeo* (1 *Golf*, 1 *Romeo*)	53	126,248	62	187,546
2009	1 *Xia* 2 *Jin*	3	26,604	4 *Han* 2 *Shang*	6	34,694	12 *Kilo* 19 *Ming* 13 *Song* 2 *Yuan* 8 *Romeo* (1 *Golf*, 1 *Romeo*))	56	133,106	65	194,404
2010	1 *Xia* 2 *Jin*	3	26,604	4 *Han* 2 *Shang*	6	34,694	12 *Kilo* 19 *Ming* 13 *Song* 2 *Yuan* 8 *Romeo* (1 *Golf*, 1 *Romeo*)	56	133,106	65	194,404
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2012 [177]	1 *Xia* 3 *Jin*, (1	4	36604	3 *Han* 2 *Shang*	5	29109	12 *Kilo* 20 *Ming* 16 *Song*	62	156494	71	222207

[177] Curiously, IISS Military Balance 2012 counts 68 tactical submarines, but only lists 59. Presumably, the 9 "missing" boats are the decommissioned *Romeo*-class SSKs

	boat in build						12 *Yuan* (1 *Golf*, 1 *Romeo*)				
2013	1 *Xia* 3 *Jin*, (1 boat in build	4	36604	3 *Han* 2 *Shang*	5	29109	12 *Kilo* 16 *Ming* 16 *Song* 12 *Yuan* (1 *Qing*)	57	148688	66	214401

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