The Maritime Strategy of Regional Powers
China, India, Iran, and Brazil from 2001 to 2015

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Fakultät für Wirtschafts- und Sozialwissenschaften

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Alexandr Burilkov

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Vorsitzende/r: Prof. Dr. Cord Jakobeit
Erstgutachter/in: Prof. Dr. Michael Brzoska
Zweitgutachter/in: Prof. Dr. Henner Fürtig

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ABSTRACT

The topic of this dissertation is the maritime strategy of four regional powers – China, India, Iran, and Brazil – from 2001 to 2015. These are regional powers by virtue of their prominence in military power, influence, and economics in their given region, but are also rising powers that have greatly increased the size of their armed forces and accelerated the modernization of said armed forces since the end of the Cold War and the post-9/11 era. The purpose of the dissertation is to test the explanatory power of neoclassical realism regarding the growth of the maritime power and the shape of maritime strategy in these four regional powers.

Neoclassical realism is a strand of realist theory that accepts the neorealist dictum that the systemic balance of power is the chief explanatory variable in the international system and relations between states, but also introduces state-level intervening variables, in effect unpacking the monolithic "black box of the state" as posited by earlier types of realism. Thus neoclassical realism bridges the gap between realism and foreign policy analysis. The dissertation tests two neoclassical models. The first is Lobell's complex threat assessment model, which posits that a state's foreign policy executive is far more sensitive to sudden shifts in power rather than broad trends, and that this executive balances threats at the international, regional and domestic levels. Furthermore, it may only effectively balance in the presence of a foreign policy coalition composed of domestic elites. The second is Taliaferro's model of the resource extractive state. This model posits that each state has a certain capacity to extract or mobilize resources from its territory, defined as state power. Furthermore, each state faces a certain level of threat determined by distance, intent, and offensive capabilities. Thus, states choose different approaches in dealing with rivals. States with high state power and high threat emulate the most successful states in the international system, states with high state power and low threat innovate for the far future, and all other states persist in existing strategies, unwilling or unmotivated to do more.

Modern maritime theory has three broad classes of strategy. The most basic is coastal defense, which uses few resources and contents itself with protecting the shore and fulfilling constabulary duties; this strategy requires few ships and specialized systems, and corresponds to a strategy of persistence in Taliaferro's model. Next up is sea control, which focuses on defeating the enemy, gaining control of the sea, and projecting power ashore. This strategy is based on carriers and a powerful surface navy, and it corresponds to a strategy of emulation, as it copies American maritime strategy. Finally there is sea denial, which seeks to deny access to large tracts of ocean to opposing forces using submarines and long-range aircraft. This is a strategy of innovation, as it draws upon entirely new technologies and institutions.

In the analysis, Brazil and India were found to pursue emulatory strategies, while China and Iran, focused upon the perceived threat of superior American power projection, and chose to implement sea denial and thus innovative strategies, much like the Soviet Union and interwar Germany did before when faced with superior maritime power. Furthermore, the Brazilian foreign policy executive was constrained in implementing its chosen strategy, as elites deserted it in the wake of recession and corruption scandals starting in 2010. Thus a strong level of support was found for Lobell's method, but significantly less so for Taliaferro's, as states with high state power and high threat were actually likely to adopt innovation, especially in the case of continental powers facing a superior maritime rival.

Aside from testing the models, there are a number of other valuable conclusions. Prestige remains a very valid motivation for foreign policy, and maritime power remains the premier choice for regional powers to express their new status, though today that is less through gunboat diplomacy and more through humanitarian intervention and peacekeeping. Furthermore, if prestige maximization does not tempt a state to "overbalance", the lure of industrialization through military modernization might. This is most evident in China, where advances in electronics and other industrial fields are driven through dual-use technology and the promotion of an advanced military, especially the navy and naval aviation.

ZUSAMMENFASSUNG

Thema dieser Dissertation sind die maritimen Strategien von vier Regionalmächten - China, Indien, Iran und Brasilien - von 2001 bis 2015. Bei diesen Staaten handelt es sich aufgrund ihrer herausgehobenen regionalen militärischen, politischen und wirtschaftlichen Stellung um Regionalmächte, gleichzeitig aber auch um aufsteigende Mächte, die seit dem Ende des Kalten Krieges ihre Streitkräfte umfassend aufgestockt und modernisiert haben. Ziel der Dissertation ist die Untersuchung der Erklärungskraft des Neoklassischen Realismus für den Anstieg der Seemacht und die Ausgestaltung der maritimen Strategien dieser vier Regionalmächte.

Bei Neoklassischem Realismus handelt es sich um eine Variante der Theorie des Realismus in den Internationalen Beziehungen, die das Neorealistische Diktum systemischen Machtgleichgewichts als Haupterklärungsvariable für XYZ akzeptiert, gleichzeitig aber auch intervenierende Variablen auf Länderebene einführt, wodurch die von älteren Spielarten des Realismus' postulierte "Black Box" staatlichen Handelns der Untersuchung geöffnet wird. Hierdurch wird die Lücke zwischen Realismus und außenpolitischer Analyse geschlossen.

Die Dissertation untersucht zwei Neoklassische Modelle. Beim ersten handelt es sich um das Modell der komplexen Bedrohungseinschätzung nach Lobell, demzufolge die außenpolitische Führung eines Staates weitaus sensibler für plötzliche Machtverschiebungen als für allgemeine Trends ist, und zudem Bedrohungen auf internationaler, regionaler und innenpolitischer Ebene austariert. Zudem kann eine solche Reaktion auch nur erfolgen, wenn eine von innerstaatlichen Eliten gebildete außenpolitische Koalition existiert.

Beim zweiten verwendeten Modell handelt es sich um Taliaferros Konzept des ressourcenextrahierenden Staats. Diesem Modell zufolge hat jeder Staat eine gewisse Kapazität, Ressourcen aus seinem Territorium zu gewinnen oder zu mobilisieren, was als staatliche Macht definiert wird. Weiterhin sieht sich jeder Staat einer gewissen Bedrohung durch andere Staaten ausgesetzt, die sich aus deren Offensivkapazitäten, ihrer Distanz, und der

Einschätzung ihrer Absichten ergeben. Als Folge wählen Staaten unterschiedliche Ansätze, um sich Rivalen zu erwehren: Staaten mit großem Machtpotential und hohen direkten Bedrohungen emulieren die erfolgreichsten Staaten im internationalen System, Staaten mit großem Machtpotential und niedriger Bedrohungslage prägen innovative, zukunftsgerichtete Strategien, und alle anderen beharren auf ihren bestehenden Strategien, da sie nicht willens oder in der Lage sind, diese zu ändern.

Analog hierzu nennt die moderne Maritime Theorie nennt drei Arten von Strategien. Die grundlegendste ist die Küstenverteidigung, die wenig Ressourcen benötigt und sich damit begnügt, die Küste zu schützen und Polizeiaufgaben wahrzunehmen; diese Strategie benötigt wenige Schiffe oder Spezialsysteme und korrespondiert damit der Strategie des "Beharrens" in Taliaferros Modell. Etwas anspruchsvoller ist die Seekontrolle, die sich auf das Besiegen des Gegners, der Gewinnung von Kontrolle über die See, und der Machtprojektion in Küstengebieten konzentriert. Diese Strategie basiert auf dem Einsatz von Flugzeugträgern und einer mächtigen Eskorte und korrespondiert der "Emulation" des derzeitigen Ansatzes der US-Marine. Schließlich steht auch eine sogenannte "Denial"-Strategie zur Auswahl, die darauf abzielt, durch den Einsatz von Unterseebooten und Langstreckenraketen gegnerischen Kräften den Zugang zur See zu verwehren. Hierbei handelt es sich um eine innovative Strategie, die sich neuen Technologien und Institutionen bedient.

Auf Grundlage der Untersuchung zieht die Dissertation den Schluss, dass Brasilien und Indien eine Strategie der Emulation verfolgen, wohingegen sich China und Iran angesichts der wahrgenommenen Bedrohung einer überlegenen amerikanischen Kapazität zur Machtprojektion auf die Implementation einer innovativen "Denial"-Strategie verlegten, was dem Verhalten der Sowjetunion und Deutschlands zwischen den Weltkriegen gleicht. Außerdem war die außenpolitische Führung Brasiliens in der Implementierung ihrer bevorzugten Strategie eigeschränkt, da sich innenpolitische Eliten seit 2010 in der Folge einer Rezession und Korruptionsskandalen von ihr abwandten. Demzufolge stützt die Untersuchung die Annahmen des Lobellschen Modells, jedoch weniger der von Taliaferro vorgeschlagenen Alternative, da Staaten mit großen Machtpotential und hoher Gefährdung sich tatsächlich für

die Ausübung von Innovation entschieden, besonders im Falle von Kontinentalmächten, die sich einen überlegenen Gegner zur See gegenübersahen.

Neben der Überprüfung dieser Modelle lassen sich eine Reihe weiterer, wertvoller Schlüsse ziehen: Prestigegewinn bleibt eine hochrelevante Motivation der Außenpolitik, und der Aufbau einer Flotte bleibt die erste Wahl, durch die Regionalmächte ihren neugewonnenen Status zur Schau stellen, auch wenn dies heutzutage nicht mehr durch "Kanonenbootdiplomatie", sondern durch humanitäre Interventionen und Friedenssicherung stattfindet. Und auch wenn die Maximierung des eigenen Prestiges einen Staat nicht zu überzogenen Reaktionen auf äußere Bedrohungen verleitet, so könnte dies dennoch durch den Anreiz einer Industrialisierung durch militärische Modernisierung geschehen. Dies wird besonders im Falle Chinas deutlich, wo Innovationen in der Elektrotechnik und anderen Industriezweigen durch militärisch nutzbare Technologien und den Aufbau fortgeschrittener Streitkräfte verfolgt werden, besonders der Marine und der seegestützten Luftstreitkräfte.

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1.   INTRODUCTION

1.1   Maritime power in the 21st Century

A decade into the 21st Century, the century of nanotechnology, drones and the Internet, more than eighty percent of all commercial traffic continues to rely on old-fashioned and bulky cargo ships. The exercise of power above and below the waves remains crucial as it confers not only military capabilities such as amphibious operations and long-range fire support but also the ability to command the commons of the ocean (Posen 2003), thus severing an opponent's lines of communication and flow of vital commercial and strategic resources. In essence, a powerful navy enables strong and sustained power projection beyond simple defense of the homeland.

The purpose of this volume is to uncover the motivations that drive states to identify external maritime threats, and the maritime strategies they adopt in order to deal with regional and international systemic factors, most notably the relative distribution of capabilities and the balance of power that is the result. The comparative lack of studies that examine subsets of foreign policy in these new powers is identified as the research gap. The volume adopts theory testing as the principal approach. Two models from neoclassical realism are chosen – the complex threat assessment model and the resource extraction model. Two sets of hypotheses are constructed from these models, and tested by examining the maritime strategy of China, India, Iran, and Brazil in the period 2001-2015, i.e. the post 9/11 period.

Recognition of the value of a strong navy is widespread, despite pronounced variance in the approaches to building a coherent maritime force and strategy. China, India, Brazil and Iran are a sample of emerging regional powers with active and significant interest in naval warfare. The timeframe begins in 2001 and so examines in detail more a decade of rapid and varied developments in maritime capabilities and strategy. I explore questions of adaptation to changes in a state's security environment, ranging from other states at the regional or global

level to factors other than war such as resource flows, non-traditional security challenges and the role of technology.

This raises the question of identifying the factors at work in strategy formulation. If maritime strategy acts as a subset of foreign policy, then it can be framed as a time-dependent function of systemic incentives and internal factors (Rose 1998), where the balance of threat (Walt 1985), the security dilemma (Jervis 1976; Glaser 2004) and strategic culture (Gray 1999) play key roles. Heightened power should translate into visible changes in maritime strategy, especially in the form of transitions to blue-water strategic approaches, the pinnacle of which is power projection.

Research into specific foreign policy outcomes in emerging regional powers is extensive, examining everything from leadership strategies (Destradi 2010) to economic strategies (Kappel 2010). Meanwhile, realism so far mainly focuses on single-case analysis of grand strategy in great powers (Walt 1989; Posen 1996; Mastanduno 1997). Bridging this theoretical gap would yield valuable theoretical insight. Given the growing prominence of maritime issues in peace as well as war, there is an expansive niche for a comparative approach to maritime strategy in regional powers. The underlying question is whether these new powers, constrained as they are, will nevertheless follow the examples and progression of the established Western powers.

Furthermore, the sophistication of theoretical explanations of foreign policy behavior ought to be put to the test, especially through more unusual cases, such as regional powers that may not be much more than regional powers, rather than the great powers that are so often the focus of realist studies. The four cases therein are sufficiently varied to do so, and to understand whether these new powers will conform to expectations when formulating their maritime strategies, and by extension, with respect to their grand strategy.

1.2   Maritime theory

Maritime activity is as ancient as civilization. However, formalized and systematic scholarly treatment of maritime strategy is much more recent, truly beginning in the twilight

days of the 19th Century through the works of Mahan and Corbett, one American, the other British, but both theorists hailing from their countries' naval establishments, and both keenly interested in developing a scientific theory of seapower, strategy, and maritime activity. Through their work a number of seminal truths were identified; the importance of trade and its attendant lines of communication, the peculiar nature of the sea as a space that cannot be permanently held by military forces, only temporarily occupied by fleets, and the vital role of commerce to national prosperity, and thus the necessity of a powerful fleet to control the sea, project force ashore, and protect the national interest.

The strategy of sea control championed by Mahan and Corbett became the standard, and stayed so until World War II, when rapid technological change, especially regarding submarines, long-range aviation, and the nascent field of guided munitions (the first being the German Fritz X, employed with some success in the Mediterranean), showed tantalizing glimpses of an alternative strategy – sea denial. This strategy was first championed, strictly theoretically, by the French *Jeune Ecole* in the second half of the 19th Century. At a time when tensions between France and Britain were still high, these naval renegades argued that it was a waste of resources for France to try to outmatch Britain in the construction of capital ships, especially the new ironclads. Instead, they argued for swarms of the new torpedo boats, in order to mercilessly hunt enemy commerce, persistently disrupt their lines of communication, and whenever possible, aggressively attack their squadrons before fleeing back to safe French ports. Thus French coasts would be kept clear, and the sea near them turned into a forbidden zone for the British. Though they were rather unsuccessful in pushing their ideas in France at the time, the lessons of World War II, and the nascent confrontation between East and West, convinced the Soviets to resurrect sea denial. By the 1970s, this also merged with another rising trend in military thought – force transformation.

Transformation in force structure is the practical end result of taking advantage of the Revolution in Military Affairs (RMA): a general trend of qualitatively superior weapons systems, especially guided weapons and the pervasive influence of information technology in high-intensity interstate war (Gray 2004). Much of the initial thinking on the RMA had already been

done in the 1970s and 1980s by the visionary Gen. Ogarkov and others in the Soviet Armed Forces who, drawing upon general systems theory like the work of Herman Kahn at RAND, promulgated a military-technical revolution (MTR) and sought to develop a fast-paced doctrine of *deep operations* so as to defeat NATO forces in the event of war in the North German plain (Adamsky 2010).

The MTR was seen as fundamentally changing ground and air war, with little thought given to the navy itself, which was suborned to Army goals as was typical in Soviet times. The serious deficiencies in economic and technological power faced by the Soviet Union, along with the breakout of the Soviet War in Afghanistan, which proved to be radically different from armoured warfare in Europe, meant that the concept was never fully fielded by the Soviets. Ironically, it was their American adversaries that fully embraced the concept, first as Assault Breaker, then as AirLand Battle.

In a maritime riposte to Ogarkov and others who focused on the air-land aspect of the MTR, prominent Soviet Admiral S. G. Gorshkov recognized the unique universality of naval forces, and amongst their many abilities that to do that most ancient of tasks, the protection of lines of communication (Gorshkov 1976). His thought is reflected in Soviet, and later Russian, programs to diversify the Russian Navy's assets and go beyond sea denial of NATO forces; during Soviet times, this meant midsize carriers and an emphasis on naval aviation. By the 1980s, the Soviet fleets relied on a combination of large, missile-armed surface combatants, diesel-electric and nuclear submarines, and long-range naval aviation. However, the navy was never truly able to escape either its subordination to the army or its technical constraints, focusing more on "bastion" defence of the Okhotsk and Black Seas and the disruption of NATO carrier groups and logistical supply lines in the North Sea in support of Soviet ground forces in the West European theatre. Gorshkov's ideas did not find traction in China until the Deng Xiaoping period and the emergence of a new type of dynamic naval leadership relatively unconstrained by the ideological orthodoxy that dominated the armed forces during the Mao period.

Once again, the US was first to pick up on Soviet concepts through its Office of Net Assessment, which promulgated a revolution based on the evolution of weapons technology, information technology, military organization, and military doctrine among advanced powers (Gray 2004). The US experiences in the 1991 Gulf War and the 1999 Kosovo War seemed to support the view that a power equipped for such network-centric warfare could easily defeat one that was not. Though this view has dimmed recently with respect to ground warfare, it remains strong in the maritime area, where technology remains dominant. There, force transformation manifests through the introduction of doctrines that emphasize joint operations with other maritime assets and ground, air, and space forces; the introduction of information technology for ever-greater awareness and communication speed; the development of drones and other unmanned technology; and finally, for doctrines tailored to sustainably manage non-traditional security issues ranging from piracy to natural disasters. A navy that is capable of using the above-mentioned can be said to successfully have achieved force transformation (Till 2009).

What quickly becomes evident is that force transformation is not cheap, fast, or easy. Furthermore, it leads to two important conclusions. The first is that the cost of currently engaging in emulating the practices of the most successful states in the international system has dramatically increased. The US Navy is currently the most powerful, and it is based upon a conventional strategy of a carrier-based surface fleet, modified according to force transformation principles. In order for another state to emulate, that state would have to field carriers and adopt a host of other new technologies, and the end of the Cold War also means in large part the end of military aid (Brzoska 2004). The second conclusion is that the explosive growth of certain technologies, especially in communications, miniaturization, IT, and robotics, once again allows for the kind of uncertainty in the face of change that characterized the rise of the first modern alternative maritime strategy – the French *Jeune Ecole.*

What remains unclear is the conditions under which states, especially those with more limited resources, would choose either strategy. What is also unclear is the precise configuration of a modern strategy of sea denial, and the way that it would develop, should it

take root in a sufficiently powerful state. The last attempt, in the Soviet Union, resulted in a hybrid strategy with elements both of sea denial and sea control; what hence?

1.3   Neoclassical realist models

Maritime strategy is a subset of grand strategy, and the process of formulating maritime strategy is thus not entirely dissimilar from grand strategy. I focus specifically on testing two main assumptions of neoclassical realist theory regarding the formulation of strategy. One is that the foreign policy executive (FPE) of a given state constructs a complex threat assessment of external vulnerabilities, based not only structural factors such as the balance of power, but also domestic factors and interests (Lobell 2009) Based on the severity of this threat assessment, and in tandem with state power, defined as the extractive and mobilization capacity of the state with respect to its potential power, the FPE will formulate a grand strategy (and by extension, a maritime strategy) that either persists in pursuing a previously existing strategy, or seeks to emulate the leading states of the system, or alternatively, decides to innovate and construct an altogether novel strategy (Taliaferro 2006).

The second assumption is that in any given state, there are two broad coalitions composed of societal elites that compete for domestic status and influence. These are the internationalist coalition, composed of outward-looking economic and financial elites, and the nationalist coalition, composed of inward-looking labor leaders, inefficient industry, and agriculture, as well as state bureaucrats and colonial bureaucrats. Unlike the FPE, which is assumed to be pragmatic in its threat assessment, these coalitions first assess how any given foreign policy would affect their status with respect to the other domestic coalition. If a policy threatens to undermine their position, they would not support it, even if this also leads to inappropriate foreign policy behavior, meaning over- or underbalancing (Lobell 2009).

Thus, if both coalitions agree with the assessment of the FPE, a foreign policy is in place, the FPE is unconstrained, and is able to balance correctly; when balancing, it will gauge available state power against perceived threat, and accordingly choose to persist in its current

strategy, to emulate the most successful states in the system, or to innovate and create entirely new institutions and technologies that enhances its long-term security. Instead, it is possible that only the coalition that supports the FPE agrees with the FPE's assessment, as the policies advocated by the FPE would damage the opposition's domestic position; in this case, the FPE would face some constraints, and may incorrectly balance. When formulating strategy in this case, it may deviate from the optimal choice between persistence, emulation, and innovation. Finally, the model also presents a situation where the FPE's chosen policy is not endorsed by its supporting domestic coalition, as it would damage their domestic position. In this case, the FPE faces extensive constraints, and is likely to incorrectly balance. When formulating strategy in this scenario, it is likely to deviate from the optimal strategic choice (Lobell 2009).

What remains underexplored in neoclassical realism is a link between the models presented by neoclassical realist scholars and concrete, generalizable policies. Furthermore, scholarship on military innovation tends to draw on pre-Cold War instances of innovation, such as the appearance of the mass army during the Napoleonic times. Therefore, the purpose of this volume is to test two neoclassical models through the prism of a generalizable policy – maritime strategy. Modern maritime strategy can be divided between coastal defense (the policy of persistence), sea control (the policy of emulation), and sea denial (the policy of innovation). Therefore, maritime strategy provides a good testbed for these two neoclassical realist models, to uncover whether neoclassical assumptions about domestic constraints, threat perception, and military innovation function in four regional powers with rather different historical trajectories.

2.   MARITIME STRATEGY AND SEAPOWER

2.1   Attributes of the sea

With the exception of a few wholly land-bound civilizations, notably in the steppes of Central Asia, the sea has played a role, even if merely as a medium for trade. It is a paradox, as people may depend on it for survival and prosperity, but may not live, except for the most extreme of circumstances, in its vast and hostile expanse.

The sea is the most common and interconnected environment of the planet. The vast oceans that cover more than seventy percent of the globe represent vital arteries of communication that are far easier to traverse than land. It may be said that such lines of communication are a natural product of the sea, but this is not the sole reason why people have turned to sea over the centuries, nor why they will continue to do so in the foreseeable future. Four attributes of the sea drive human interest in it and shape our interactions and our strategies in profiting from exploitation of the sea. These attributes are the sea as a resource, as a means of transportation, of information, and of dominion (Till 2009); though it is possible for these attributes to result in cooperation, there is also innate tension, and this is a microcosm of the tensions conceptualized as inherent to the international system by realist theory. These attributes also largely drive the nature and components of maritime strategy, as well as its marked differences from the strategy of land and air warfare, especially as maritime strategy has such a prominent peacetime and commercial component lacking in its more violent land-bound counterpart.

2.1.1   Resource

The earliest use of the sea as resource is fishing; in its most primitive form, it means the gathering of shellfish from the shore or estuaries (Till 2009). From these humble beginnings, coastal civilizations rose to great prominence, most notably colonial superpowers such as Portugal and the United Provinces of the Netherlands, which could not have achieved such prominence without compensating for their limited land and population without expertly

relying on the bounty of the sea. Though fishing is certainly more risky and yet less unreliable than farming, especially in pre-modern times, the innovation required also proved beneficial to scientific and technological progress.

Today the sea remains a crucial resource, even nutritionally, as around twenty percent of protein is still drawn from fishing alone, not accounting for aquaculture (Till 2009). Fishing ranges from traditional subsistence fishing to major industrial operations, but one thing is certain – that it is a vital economic activity, and the complexity of international regulations on fishing, and the acrimonious international disputes about fishing rights only serve as vivid reminders of this fact.

Furthermore, the discovery of vast reserves of hydrocarbons – oil and natural gas – in the ocean further intensifies extraction of resources and the resulting competition for access to and control of these resources. Not only useful as a mere export or source of energy, they are critical to a wide variety of industrial processes. Furthermore, the emergence of new powers, such as the BRICS, continues to increase the demand for energy, therefore for these resources, and increasing technological sophistication means that ever-greater portions of the oceans, even inhospitable and almost-inaccessible sections such as the deep ocean floor, will become open to resource extraction.

2.1.2   Transportation and exchange

Though fishing may provide nutrition, the most reliable path to maritime prosperity is that of trade. Maritime trading systems are ancient, as the earliest examined, centering on the Nile, may very well be more than ten millennia old (Till 2009; Cole 2001). The Atlantic formed one nexus of maritime trade, with great explorers and colonizers from the Phoenicians, to the Norse, down to the Portuguese, the Dutch, and the British reaching across the globe. Further east, the Chinese similarly spread across the sea, establishing vast trade networks that reached as far south as the Spice Islands of Indonesia, and as far west as the Swahili-dominated coast of East Africa (Till 2009; Deng 1997). These networks persist even today in the shape of Chinese merchant clans in Southeast Asia, especially in port cities in Malaysia and Singapore.

The sea was a vast unknown, often dangerous, but there were good reasons for the development of maritime commerce, namely its speed compared to land-bound activity. Rivers powered water mills and sent goods out to sea, where opportunities beckoned (Mahan 1900). Just as an extreme example, at the height of the Roman Empire, it would take less than a month to send supplies from Italy to the outlying province of Britannia by sea and river, whereas the same trip by land would multiply difficulties and time by a factor of three at least.

As a result of this sustained trade and maritime activity, dense webs of inter-regional, regional, and sub-regional maritime links formed, spanning the globe. These links only tightened and deepened due to technological progress, especially the advent of steam power, and the invention of the standardized container; today, the carrying capacity of any cargo vessel is measured in TEU (twenty-foot equivalent unit) a fairly standardized measure that describes the volume of the smallest size of intermodal container, and the largest vessels operating today, the Maersk Lines *Emma* series, carry 45,000 TEU's worth of containers, with an impressive turnaround of less than 24 hours in properly equipped European, North American, or East Asian ports. This efficiency is as much an enabler of globalization and the modern economy as more visible innovations, such as IT and robotics. As stated in the introduction, 95 percent of trade is still conducted by sea, and the volume has tripled since the 1970s.

Maritime trade is deeply international in character. The typical cargo ship, laden with many thousands' worth of TEU, flies a flag of convenience, is probably owned by a multinational company, and may very well be crewed and insured in a third country (Till 2009; Coulter 2003). The reasoning behind such organizational complexity is simple: it keeps costs low, enables just-in-time logistics that are essential to modern commerce, and fuels the massive export engine of East Asia, as well as sating European and North American thirst for cheap consumer products. Thus, maritime commerce becomes one of the prime agents of globalization.

No statement on maritime commerce would be complete without expounding upon its highly beneficial role as a catalyst of interdependence. Just as much as in the past, it enables

trade where otherwise land barriers would make it expensive and difficult; it is easier for Chinese companies, for example, to ship goods to Pakistan by sea than by land, even though the two are neighbors and connected by a mountain road, the Karakoram highway, that was constructed at considerable cost in the seismically active mountains of Kashmir. Maritime commerce thus fuels economic interdependence, and is this is perceived to lessen the chance of conflict, since all, especially preeminent maritime powers, would have a stake in preserving such a beneficial arrangement (Mahan 1900).

It should be noted that this process is not always smooth, nor deterministic. Though in general the benefits of free trade upon the seas encourage cooperation, mercantilism is a recurrent historical feature, and this is best understood in the distinction between the idea of *mare liberum* (open sea), first conceptualized by the Dutch jurist Hugo Grotius, during the Netherlands' halcyon days as a colonial power, and that of *mare clausum* (closed sea), the restrictive and exclusionary understanding of the sea practiced by the colonial empires of Spain and Portugal, especially after nominally carving up the Western hemisphere in the 1524 Treaty of Tordesillas. Though *mare liberum* is the dominant legal construct regarding international waters, not all states are completely satisfied with this status quo; most notably, Chinese thinkers have articulated notions of overlapping Chinese EEZ in the South China Sea that would effectively render it a closed Chinese lake.

2.1.3   Information

The sea is not only useful for nutrition and prosperity; it can also act as a conduit for the dissemination of exotic goods and ideas. Though this particular attribute of the sea is nowhere near as prominent today as it once was, it remains an important historical factor. Just as conquistadores and Jesuits spread Christianity and what they perceived as the superior Iberian culture to the New World, so did the Arabs spread Islam and a vast trading network spanning for the Gulf of Aden to the Spice Islands, with all the power of a potent cultural transmission belt that has left its mark on the culture and architecture of Southeast Asia. Thought the hardheaded and pragmatic considerations of trade and colonization were definitely primary, exploration and colonization also held a romantic belief of discovery and taming the unknown

that was at least partially responsible, along with improved ships, for the growth of maritime exploration.

Today, information from the sea is more specialized. On the one hand, scientific research continues in the form of sophisticated research in oceanology, marine biology, and climatology. Though practical research in these disciplines is complex and technically rigorous, it is increasingly understood to be essential, especially considering the problems that may be engendered by climate change, and the constant threat of extreme weather and tectonic activity for many coastal communities. On the other hand, the principles of maritime scientific research, which ought to be open to all, are also applicable to commercial interests. The race to discover and claim deposits of valuable undersea resources, especially hydrocarbons, is intense, and the process is fraught with difficulties. Finally, the modern navies of the great powers are highly dependent on extensive knowledge of all aspects of sea, from currents to the precise topography of the seafloor. This is especially true for navies that make extensive use of nuclear submarines; as an example, the US has not hesitated to spend significant time and resources to map the Atlantic and Pacific, so as to ensure smooth sailing for the submarine element of its nuclear triad. The dual nature of information, on the one hand inclusive and based on the free flow of ideas and scientific knowledge, and on the other hand exclusive and desiring to gain an advantage through information asymmetry, inevitably leads to the fourth and final attribute of the sea.

2.1.4 Dominion

Where there is coast, humans have usually settled, and where there are coastal settlements, there are invariably fortresses. Such strongholds are just as useful from protection from the elements and from sea-borne raiders as they are as a springboard for maritime exploration, piracy, and conquest. The proliferation of coastal castles in the British Isles, the Atlantic coast, and Scandinavia during the Viking Age is but one example; during the Age of Discovery, the Portuguese and Spanish, and later the Dutch and English, all came by sea, and controlled their vast maritime empires though series of coastal fortresses and garrisons that allowed them to leverage their superior technology and yet small numbers against their local

competitors, which most often could simply not be beaten in continental campaigns. For these colonial endeavors, superior fleets were key, so as to protect lines of communication, ferry supplies and troops, and most important for the elite back home, bring back the exotic goods from the colonies.   The Italian merchant republics adopted similar strategies in the Mediterranean, and for this are immortalized today in the coat of arms of the Italian Navy, showing Pisa, Genoa, Venice, and Amalfi. The republics were very successful, leveraging their immense wealth gained through trade with the Levant in order to construct powerful galley navies that continually challenged Ottoman power in the Eastern Mediterranean; certainly neither Genoa nor Venice could ever hope to challenge the Ottomans on land, but at sea, they could frustrate their designs much more effectively. These empires may best be defined as *thalassocracies*, a Greek term meaning "rule from the sea" and defined as an empire at sea, which is as pertinent when it was originally coined for the city-state of Athens in Classical Greece as it is today.

The greatest maritime empire in history is the British Empire, which succeeded in no small part due to its navy and merchant marine. The 19th Century British quest to ensure a balance of power on the continent, so that its maritime holdings and the British Islands could not be threatened, is a classic example of realism in international relations. First the British, then followed by others, developed the basics of modern maritime strategy, and of a theory of seapower; a set of concepts that recognized the role and importance of gaining control of the sea, projecting power ashore in peace and war, protecting and disrupting trade, and finally, maintaining good order at sea (Till 2009).

Though European maritime empires were certainly very successful, it must be noted that the Arabs are another example of success via the sea, most notably the sultanate of Oman. Though eventually supplanted by the Portuguese, the Omanis were adept shipbuilders, and not above using their ships, often partially based on successful Portuguese designs, to exact tribute and compliance from recalcitrant princes along Oman's trade routes along the coasts of the Indian Ocean, as well as the African Great Lakes region. And where Arab explorers went by sea,

soon missionaries, soldiers, and traders followed, thus irrevocably changing the political and cultural landscape of East Africa and South Asia.

The importance of achieving dominion over the sea has not reduced, even as the prospect of major interstate war has. During the Cold War, the North Atlantic would have been a critical battlefield of a NATO-Warsaw Pact war, as the British and American navies would have had to secure it in order to ship American troops to the mainland, whereas the Soviet Union had elaborate plans predicated on denying NATO fleets the ability to operate in the North Sea, and even totally shutting down convoys between North America and Europe; given the relative weakness of NATO ground troops on the continent, success in this hypothetical conflict would certainly have greatly depended on naval warfare. In a more recent example, China has taken a very strong interest in controlling the South China Sea, and is rapidly updating its existing facilities on Hainan Island while constructing artificial islands in the contested areas of the sea itself, in order to be potentially able to use them as immobile, unsinkable aircraft carriers and submarine tenders. Such a concentration of entrenched force would make it difficult for competitors to assert their own exclusive claims to the area.

2.1.5   Attributes to strategy

Categorizing the attributes of the sea and exploring their historical development and role is fine, but what truly concerns us is their impact on the formulation of maritime strategy. What the four attributes do is to determine what is of interest to states regarding the sea, possible ways to profit from exploiting the sea, the perils of doing so, and the relationships with others in a maritime context. Resources, trading, and the pursuit of information contribute directly and indirectly to prosperity. Dominion acts in two ways. For offensively-minded states, it tantalizingly offers the possibility of conquest. For others, it inevitably stresses the necessity of defending one's coastline (Till 2009).

The attributes also guide the appropriate policies and capabilities to be used. The pursuit of resources, trading, and information are mostly dependent on civilian capabilities – cargo vessels, ports, fisheries, offshore platforms, and research arrays – and mostly conducted during peacetime. Dominion compels the use of naval capabilities – surface platforms,

submarines, marines, naval aviation, and shore support – and is mostly conducted in wartime, though plenty of training also occurs in peacetime, and the role of the fleet in "gunboat diplomacy" remains, though greatly lessened compared to the 19th C.

Naval capabilities can also be employed in a number of non-traditional, non-interstate warfare or competition roles. One such traditional role, which is recently resurgent, is counter-piracy, where the public good of good order at sea is provided by multinational maritime operations; linked is counter-terrorism, which has a maritime component, especially in the Gulf of Aden. Furthermore, human security issues can also be addressed by naval assets. Disaster relief and humanitarian aid, when conducted in coastal areas, is an established mission of capable enough navies, such as the US Navy, and are greatly enhanced by the strategic lift ability of helicopter carriers and amphibious assault ships fielded by several navies worldwide. This is demonstrated time and again in the aftermath of natural disasters such as typhoons in the Pacific and hurricanes in the Atlantic.

In sum, resources, trading, and information compel the development and use of civilian maritime assets, though these can certainly be enhanced and protected by the navy, whereas dominion compels the development and use of fleets and supporting land, air, and space systems. Ultimately, maritime strategy in this volume is to be defined as the use of seapower for the purpose of achieving foreign policy goals (Till 2009; Liddell Hart 1967). The chief focus is on fleets and their support structures; this also means that whenever relevant, much attention is to be paid to peacetime commercial, industrial, and scientific policy (CISM) that is relevant to the maritime context, and to the pursuit of seapower. A number of concrete examples are highly relevant in the case studies – Petrobras' central role in Brazilian politics, Indian promotion of domestic defense procurement through DRDO, mercantilist Chinese efforts to build an uninterrupted maritime highway all the way to East Africa, and Iran's dogged reverse engineering and preservation of Chinese lifeline with regard to defense procurement.

2.2 Maritime theory

Though there always has been opposition from naval quarters, the instruction of maritime strategy and naval thought, and the development of maritime science, have been and remain essential to seapower, though it may be taxing to study it alongside all the complexities of actually operating upon the sea, a hostile and unforgiving environment. Furthermore, popular perception of naval operations through the ages tends to fixate on great personalities, such as Admiral Nelson, that appear to have ignored the rules, and by extension, the body of maritime learning (Till 2009). Nonetheless, maritime theory is a thriving field with a long tradition.

As mentioned in the introduction, the RMA and the accompanying force transformation have altered to a great degree military thought, but in one thing these forces are certainly incremental, and that is in the ever-increasing technicality and rationalization of warfare. Such complexity cannot be managed, or even understood, without recourse to theory. As Clausewitz pointed out even in the 19th Century, theory exists not as inflexible dogma, but as a body of insight and guiding principle, to be adapted as fit to new and unexpected circumstances, while offering the comfort of precedent (Heuser 2002).

In the vein of this statement, this section seeks to explore maritime thought through the ages, focusing most on the late 19th Century and early 20th Century, when much scientific thought was developed, and the two main competing approaches to maritime strategy, that is sea control and sea denial, were first articulated, and secondly on the period starting with the late 1970s, when the first tentative steps of the MTR and the RMA were taken in the USSR and the USA respectively. The increased focus in this period on technology and rationalization allows for the introduction of practices and theories on non-naval maritime activity, meaning the fields of CISM policy mentioned earlier in the chapter. Finally, some of the thought regarding non-traditional naval tasks will be examined, focusing on counter-terrorism, counter-piracy, and the place of humanitarian operations within the framework of traditional naval operations.

But first, what is strategy? The popularity of the term has certainly diluted its meaning. A comprehensive definition would label strategy as the plan for exploiting the capacity for

armed action and coercion, supported by the economic, diplomatic, and societal instruments of power, in order to pursue and achieve foreign policy goals, be it by overt, covert, or tacit action (Osgood 1962). This is a deeply realist perspective, recognizant of the anarchic nature of the international system and the necessity and logic of pursuing power for the purpose of survival, or perhaps, for its own sake, were one an offensively-minded realist, such as Mearsheimer. This definition is also fairly old, dating to 1962, but it nonetheless already recognizes the importance of non-military means and instruments that either strengthen one's capabilities and position, or enable more efficient forms of influence; in maritime matters, gunboat diplomacy, so ardently pursued by the European Great Powers at the turn of the 19th Century, remains perhaps the pinnacle. This also makes clear that strategy is far more than mere intellectual exercise, as it should be under ideal circumstances a blueprint for accomplishing political objectives. Or, as Clausewitz noted, war is to be the continuation of politics by other means.

Once the nature and purpose of strategy are established, the natural follow-up question is, does strategy actually matter? For a substantial number of officer corps, narrowly focused on the minutiae of tactical and operational matters, this is not always clear, though naval academies certainly try to educate them otherwise. Certainly, it could be argued that some of the most famous maritime theorists, especially Mahan, profited from already-existing trends, in his case the creation of the American Great White Fleet, rather than were the impetus for it. But even in that case, the influence of theory eventually makes itself felt.

There is also the question whether strategy is something permanent, or rather, something to be modified and rethought as technology and the political environment change. Colin Gray offers an emphatic endorsement of the timelessness of strategy when he states that understanding modern strategy is to understand it for all ages (Till 2009; Gray 1999; Reeve 2001), but his forceful statement is by no means the only one. Mahan formulated this more than a century ago, and even philosophers in Antiquity agreed that at the highest level, the drivers of strategy are timeless. In that vein, strategy is at its core rather universal. Though one may argue that navies of different rank operate according to slightly modified rules, due to the constrained capabilities of said smaller navies, in the end, the drivers of strategy remain the

same. In that vein there is the question of culture as well. Though it may seem that it ought to play a role, in the end, the necessity of developing effective seapower tends to override cultural constraints, at least for states successful in maritime affairs (Brodie 1965). As mentioned before, the long struggle in the Indian Ocean between the Portuguese and their Omani rivals offers a striking example; though their cultural circumstances were very different, in the end, both pursued rather similar strategies, based on control of the sea, protection of trade, the construction of fortified maritime outposts, sustained colonization efforts, and even almost similar shipbuilding techniques and vessel designs.

However, it must be noted that local conditions do have some impact on strategy. Of particular relevance is geography, as it tends to condition favored approaches and systems, and further influences the need for a navy, or for promoting maritime trade and industry. Here emerges the traditional distinction between land and sea powers, as well as the peculiar position of island states, by definition dependent on seapower. This remains relevant today, especially in crowded inland seas and around maritime chokepoints (Scholvin and Burilkov 2011). Potential capabilities are another important differential, as weaker states may have less impetus to pursue ambitious maritime strategies, and may content themselves with simply defending their coasts and modestly promoting commerce.

Furthermore, an obvious question regards the distinctiveness of maritime strategy with respect to the other constituents of national power, especially other military branches. The traditional answer is that it is indeed unique, and that only disaster can be the consequence of ignoring that; the classic example is the perennial naval weakness of the Soviet Union, only remedied when the Soviet Navy was able to break free of the limitations of centrally imposed land-oriented doctrine and develop its own distinctive approach, though this did not fully take place until the 1970s, when incidentally the Soviet Navy began to be perceived as a more potent threat by NATO planners (Slade 1993). For many decades this also hampered Chinese maritime planning.

Maritime strategy is indeed distinctive, and this is due to the characteristics and attributes of the sea, as laid down earlier in the chapter. Specifically, the sea is unownable,

hostile, three-dimensional (in that action can occur on the surface, below the surface, and in the air), and for the most part, global, as it interlinks continents. Furthermore, maritime forces are rather different from land forces in one critical aspect, and that is the platform-centric nature of maritime operations. What this means is that maritime operations are based on ships, submarines, fixed platforms, and aircraft, all of which are expensive platforms, and represent significant investments, especially of personnel in the case of larger vessels such as capital ships. Unlike land warfare, where engagements can last many months and losses tend to take the form of a slow but steady trickle of casualties, maritime engagements often result in sudden and severe losses. In fact, maritime engagements have a decidedly decisive nature, which is why governments and naval establishments may be loath to risk battle at all; this cautiousness is personified in the fleet-in-being strategy, a form of sea control contingent in preserving one's fleet as a floating threat without actually risking it in pitched battle.

It must be noted that though there is much recognition today of the distinctive nature of maritime strategy, there is a trend of wishing to bring together the various components of military power – land, sea, air, and space – together for the purpose of achieving goals. Though this may seem simply a belated recognition of what grand strategy ought to be in the first place, this focus on joint operations is actually rather new, and as well, rather dependent in advances in communication and information technology in the latter half of the 20th Century. Though the Americans are great proponents of joint ops, the Soviets also recognized this fact and the need for a unified military science (Chernavin 1982). More recently, the lines have blurred even further, as economic and industrial interests become more organically integrated into grand strategy, as exemplified by China's focus on cyber operations and the construction of a logistical web in South and East Asia. Finally, the appearance of hybrid warfare on Europe's doorstep is yet another demonstration of a strategy of joint operations that integrates various components of power in a confrontational posture, and not necessarily with open outright conflict in mind.

2.2.1   Mahan and the blue-water navy

Before examining the contributions of Mahan, that leading theorist that continues to influence maritime thought and to do so far beyond his native land, as evidenced by renewed Chinese interest in his writings, one should also briefly look at maritime thought before Mahan. Though there may be the temptation to wonder if such existed at all before Mahan, this would be dismissive of much maritime practice, including outside the West, and would furthermore ignore the historical origins of Mahan's works.

The importance of trade, and of protecting it, was already well-understood by Italian thinkers during the Renaissance, not surprising considering the reliance of the great Italian republics on maritime trade, as well as their merciless struggles with Barbary corsairs and Ottoman sultans. This was also broadly recognized in the Islamic world, especially regarding the Indian Ocean.

In France and Britain, maritime thought focused on how to best attain command of the sea, but in the narrow sense of winning naval battles. The overriding maxim regarded taking all of one's force, finding only an inferior part of the enemy's force, then maneuvering through wind and wave in order to maximize firepower. Furthermore, once this were presumably achieved, the focus shifted to how best to transport and land one's troops into enemy territory; this was of special interest to the British, who in the words of Sir Edward Grey, Foreign Secretary at the eve of the Great War, have long considered the British Army to be a projectile to be fired by the British Navy.

The Industrial Revolution and the subsequent rapid pace of technological innovation gave renewed impetus to the need for and pursuit of a more scientific understanding of maritime matters and naval strategy. The French were enthusiastic innovators, not surprising given the British tended to get the worst of them in the 18th Century. Driven by the energetic Admiral Paixhans, the inventor of explosive shells for artillery, the French developed and constructed a substantial navy of the new ironclads, armed with rifled guns. These soon became the standard for any first-rate navy, and represent a remarkable case of vertical innovation (Park 2010); that is, improving upon an already existing concept, in this case the capital ship. In Russia, with its many coasts and limited resources, one Admiral Makarov

offered a different path, based on exploiting the speed and stealth of the new torpedo boats, first fielded in the 1850s, to neutralize enemy capital ships and raid the adversary's line of communications and maritime commerce. Unlike the French example, this is a case of horizontal innovation, where entirely new ideas and technologies are developed (Park 2010).

This debate presages the explosion of ideas at the turn the 19th Century, and it is therefore necessarily to present it in order to give the proper historical context to Mahan's body of work. Born into a naval family, he published his most important and acclaimed book, *The Influence of Sea Power on History 1660-1783*, in 1890, less than a decade before the dramatic entry of the United States in the club of Great Powers as a result of its overwhelming victory, in no small part due to its brand-new Great White Fleet, over the Spanish Empire in the Spanish-American War of 1899. Writing prolifically from his post as lecturer at the US Naval War College, Mahan built strategy into maritime thought, where previously only tactics were of interest, and linked maritime operations both to the broader context of grand strategy suggested by Clausewitz, and to the theory and practice of international politics (Till 2009). To him, control of the sea and the attendant naval supremacy meant predominant influence in the world, which is the chief among material elements of national power and prosperity (Mahan 1890).

Mahan proposed a simple model, which is that trade produces wealth, which leads to maritime power. This maritime power in turn protects trade, creating a virtuous loop. Aside from trade, maritime power depends on geography, ports, size of territory, population, and the character of the people and of the government. Maritime power itself could be quantified by the number of battleships fielded by a nation, ideally all of a standard type, as well as by the ability of that nation to effectively concentrate said battleships effectively against opponents (Mahan 1890).

This highlights the premium that Mahan placed upon the battleship, or later the dreadnaught, as the arbiter of seapower. Nothing else but these heavy capital ships could be relevant to victory. A blue-water navy was the only desirable tool for attaining seapower. The outcome of the much sought-after decisive battle would not be solely decided by the quantity

of battleships. Also relevant would be the effectiveness of training and command, the morale of the crews, the ability to gain an advantageous tactical disposition, and an offensive spirit that sought out and aggressively pursued the enemy. This aggressiveness was on par for his time – pre-WWI Europe and North America – and reflects Clausewitz, who also placed a premium on the destruction of enemy forces, though in Clausewitz' case on land.

Mahan was willing to be flexible and recognize that battle was not always necessary, or perhaps desirable. He thought that it was possible to have scenarios where one naval force was so overwhelmingly superior that the other side would be cowed into submission and battle would be infrequent, if it happened at all (Mahan 1890). This was often the case for gunboat diplomacy, and in Mahan's time the Americans often used the US Navy, in conjunction with the Marines, to enforce their interests upon recalcitrant Latin American nations. Justified by the Monroe doctrine and the Roosevelt Corollary, these interventions inevitably saw little to no naval resistance, even from shore defenses, so overwhelming was the US Navy at the time by comparison.

Mahan also conceded two important limiters of the unlimited pursuit of battleships. One was that a numerically inferior force could still be valuable, especially if properly used and positioned, so that it could achieve temporary and localized superiority, and therefore eventually victory. Another linked point was that war ought ultimately to be profitable, and that the best victories are the ones that expend the least blood and treasure (Mahan 1899).

Mahan's prescriptions did not end at seeking decisive battle and neutralizing, or preferably, utterly destroying an opponent's battleships. Once that was done, he advised for a close commercial blockade, in order to choke off the opponent's commerce and achieve decisive strategic effects. At a time when every Great Power sought to have a place in the sun, meaning significant colonial investments, this was no idle threat indeed, and the blockade upon Germany during WWI, which eventually contributed to the German surrender, was due to British seapower and showed that Mahan was correct in his assessment.

The obvious critiques of Mahan have always centered on his obsessive, almost one-dimensional focus on decisive battle on the high seas. He did tend to ignore amphibious

operations, coastal defense, and coastal and riverine operations. He made one effort to address it all, interestingly enough in his first book, *The Gulf and Inland Waters*, where he analyzed maritime and riverine operations and strategy during the American Civil War. In the end his conclusion was that the North's effective operations in the Gulf of Mexico and the Mississippi River was due to the North's decisive control of the sea, which severely limited the South's freedom of action. As always, his prescription was for taking the offensive and gaining control of the sea (Mahan 1883).

Theorizing is all well and good, but the true impact of military science should be assessed by its influence on the practice of the art of war. In Mahan's case, his impact was far-reaching even during his lifetime, and continues yet. It must be noted that in Mahan's case, as well as contemporary thinkers and the many others that came later, influence does not mean they are directly responsible for shifts in strategy; it may be the case they merely influenced its course, perhaps even indirectly. Furthermore, the success of Mahanian concepts across the globe inevitably led local theorists to give distinctly national spins on the pure, undiluted dogma of Mahan.

In any case, Mahan's influence can already be easily discerned in his home country. Concurred with his writings, the United States abandoned the maritime strategy it had pursued since independence. This was actually a rather innovative strategy for its time, especially when promulgated in the late 1790s, as it ran counter to established naval wisdom, which favored set-piece engagements between large ships of the line, most of which would be the standard 3rd rates (74 guns). Instead, the fledging US Navy focused on coastal defense through a network of hardened forts, and on commerce raiding by individual ships or small squadrons. To this end, successive generations of American shipwrights developed innovative frigates that were fast, yet significantly better armed than European conventional wisdom suggested such small ships ought to be.

This all went out of the window during Mahan's time. The US abandoned coastal defense and commerce raiding, focusing instead on acquiring a first-rate battleship fleet to contest the high seas, not incidentally at a time when very soon the US would be stretching

10,000 miles from tip to tip, across the Pacific and the Atlantic, as a result of its victory over the Spanish.

The Japanese also took Mahan's lessons to heart. After the victory of pro-Imperial forces in the Boshin War, which resulted in the dissolution of the shogunate and the nominal restoration of the emperor as ruler of Japan, the newly-empowered nationalist ex-samurai that held true power in Japan adapted their former slogan of *sonno joi* (revere the Emperor, expel the barbarians) into a new slogan for a new Japan – *fukoku kyohei* (enrich the state, strengthen the military), which included full modernization of both the army and the navy, in order to contain Western imperialism and enable Japanese imperialism in East Asia (Holcombe 2001). Japan became an extremely successful emulator in the latter half of the century, adapting its constitution and legal system from the Prussian model, its army on the British, and its navy on the American, and in a way strongly influenced by the precepts of Mahan. The success of the Japanese fleets, first against China in 1889, then against Imperial Russia in 1905, further emboldened emulators of Mahan elsewhere amongst the Great Powers, especially in France and Britain.

Though one could expound at length about Mahanian and post-Mahanian thought, suffice to say that navies constructed according to Mahanian principles were victorious during both World Wars. Even the emergence of nuclear weapons did little to dampen American, British, and French enthusiasm for the offensive posture, the high seas battle fleet, and the pursuit of control of the sea. The development of carriers, which eventually supplanted the battleship and left it as little more than a glorified shore bombardment platform, seemed to reinforce the potential of a well-constructed blue water navy; it is true that the submarine campaigns conducted by Germany during both World Wars were troublesome, not the least from a Mahanian theoretical perspective, but the solution, when faced by a possible Soviet submarine campaign against NATO supply lines, was simply to use overwhelming force, through carriers, to attack the source, meaning the bases inside Soviet territory (Till 2009; Palmer 1988). This also shows how well carriers had already slotted into the role of primary capital ship, eclipsing the battleship. It is thus that vertical innovation functions with respect to seapower;

as the battleship replaced the cruiser, the cruiser the ironclad, and the ironclad the wooden ship of the line, so did the carrier become supreme.

The Soviets did not fully ignore the precepts of Mahan and the blue-water navy, especially, ironically enough, during the long twilight of Soviet power. Admiral S.G. Gorshkov, the most active maritime thinker in the late USSR, often argued for a blue-water navy, even going as far as postulating that his Imperial predecessors had in fact invented the concept of sea control decades before Mahan (Gorshkov 1976). Though this may seem the kind of slightly nationalist historical hyperbole so common in Eastern Europe, it is nonetheless true that Imperial officers did seriously think about and partly embrace Mahanian principles shortly before the fall of the Romanovs, and furthermore, that under Gorshkov's direction, the Soviet Navy subsequently began to diversify away from its highly peculiar strategy of "bastion defense" and towards a more forward and offensive posture. This shift was recognized by NATO, and in the last American naval strategy before the end of the Cold War, in 1986, the US Navy recognized the importance of two fundamental guiding principles – one, that an offensive posture must be adopted and battle sought with the enemy, and two, that doing so should be complementary to the protection of the vital SLOCs (sea lines of communication) upon which the resupply of NATO and the entire basis of the international system of trade both depended. As stated, this was as fundamental an endorsement of Mahanian principles as ever (Watkins 1983). Thus, Mahan's legacy lives on, as the first great prophet of blue-water and of the strategy of sea control. I shall examine the second next.

2.2.2   Corbett and command of the sea

A contemporary of Mahan, the British Sir Julian Corbett drew on an impressive corpus of historical fact through his work. He peppered his lectures at the Naval War Colleges with references to his works of maritime history on the Seven Years' War, the post-Tudor Royal Navy, maritime warfare in the Mediterranean, some on the Russo-Japanese War, and his masterpiece, *Some Principles of Maritime Strategy*, published first in 1911 (Till 2009). This particular work ended up by far the most prominent in a string of works by a number of authors that were attempting to influence the reform of the Royal Navy at the eve of the Great War.

Corbett sought to discover the universal and eternal principles of strategy; that is partly why much of his work focuses on campaigns during the age of sail. Far from anachronistic, it serves much of the same purpose any history of past campaigns does, that is to create a body of generalized experience that commanders may draw upon (Corbett 1911); rather than highly specific instructions, this would take the shape of advice on the permanent nature of seapower and its contributions to national strategy.

Corbett also sought to contextualize naval operations. To him, any operation, and any strategy that would use this operation, ought to be related to and in service to a particular foreign policy goal. In this Corbett differs from Mahan, who places a premium on obtaining seapower almost for its own sake. Corbett rather favored the political dimension. Given the political nature of war, a fact already established by Clausewitz, maritime operations would advance one's own political goals, and hinder those of rivals, and this should be the case both in peace and in war, as maritime strategy should always be made to reflect national objectives. Thus Corbett also focused to a significant degree on limited maritime wars, limited maritime conflict, and peacetime maritime confrontation, arguing such tasks were more controllable, and their political dimension more pronounced (Heuser 2002). Furthermore, he argued that by their nature, maritime operations were less prone to escalation, as the platform-centric nature of maritime conflict lessened the chance of violent and unpredictable escalation due to the psychological stress of committing ground troops. Therefore, a wise foreign policy executive would be well-served by favoring maritime operations for their cost-effective nature. In 1911, at the height of the age of gunboat diplomacy, when the *Panthersprung* in Morocco threatened to plunge Europe in a general war, this was not immediately obvious, though the various maritime crises did indeed not start the Great War; it took a crisis in the Balkans, and the subsequent commitment of Austro-Hungarian ground troops, to do so. In the end Hungarian grenadiers proved to be more difficult to withdraw than a squadron of gunboats.

In fact, Corbett's great contribution to maritime theory, aside from his unrelenting focus on the political dimension and purpose of maritime conflict, is his vision that strategy should be seen in a joint context, and that maritime strategy ought not to be thought of in a vacuum, but

also in relation to land strategy; he plainly stated that no Great Power could be defeated by naval action alone, but only by a joint effort of navy, army, and political and diplomatic pressure (Corbett 1907). He conceptualized two different kinds of states – one, the maritime state with a global empire, such as Britain, and perhaps the United States, and the other, the continental power, in his case Germany. But Corbett argued that even for a maritime state such as Britain, the objective of maritime strategy still ought to answer the question of what exactly British seapower could allow British and allied land power to do against Britain's enemies. In this he drew on the long British tradition as the aloof maintainer of the European balance of power, that "perfidious Albion" that carefully used its maritime power to defeat even great conquerors like Napoleon by flouting their embargoes, using the fleet to support rebels in the Peninsular War, and eventually leading a grand coalition to victory. It is no surprise that Corbett preferred the term "maritime strategy" rather than the narrow "naval strategy" favored by Mahan, since Corbett's work always focused on the synergy of power for political purposes.

Specifically, naval strategy referred in the narrow sense to the business of moving fleets and winning naval engagements. Maritime strategy, on the other hand, decided the role of the fleet relative to land forces in a grander scheme. On this relationship Corbett dealt the most closely in his work on the Russo-Japanese War, pitting a continental power, Russia, against a maritime power, Japan, in a battle over the Korean Peninsula and the southern parts of Manchuria (Corbett 1914). He effusively praised the Japanese conduct of the war, where army and navy were effectively under joint command, the glory-seeking impulses of the army were suborned to the harsh and difficult reality of conducting amphibious operations on the Korean peninsula, and close integration between the two services paralyzed the Russian military network in the Far East and eventually led to a dazzling Japanese victory. On the other hand, he reserves harsh criticism for the Imperial Russian command, where army and navy were not linked in the least, and the navy sent the Baltic fleet on a long voyage to fight in the Sea of Japan without any clear idea of how this would contribute to operations against the Japanese, or even with arrangements to resupply that fleet once it got into theater. In the end this point was moot as the Japanese destroyed the Russian fleet at the Battle of Tsushima, but the criticism stands. Interestingly enough, the Japanese seem to later have forgotten the lessons of

this war, and the deadly rivalry between cliques in the IJA and IJN, and their conduct of two entirely separate wars with little to no cooperation in no small part led to Japan's defeat in WWII.

One could interpret Corbett as advocating a maritime strategy, and therefore as questioning the need for a wholly separate naval strategy, focused solely on the sea; this is especially true as allegedly, there are few to no naval strategic objectives, the navy is but a means to an end, and the destiny of states is ultimately decided on land. The Soviet General Staff was the most enthusiastic proponent of this reading of Corbett. In the Soviet view, the navy did not exist for its own sake, but rather for two very specific and narrow purposes – one, to act as part of the nuclear triad through its ballistic missile nuclear submarines, and two, to spread across the North Sea, interdict the resupply of NATO ground forces from the US, and therefore enable the Soviet ground forces to rapidly advance and secure victory in continental Europe before significant reinforcements were brought over across the Atlantic. In this reading the Soviets drew on German experiences in the World Wars, and on their position as a continental state. As I shall more closely examine later, the Soviets did expend significant resources for a strategy of denial, and it is not surprising that in order to counter this, the US created the highly innovative REFORGER program that prepositioned heavy equipment in West Germany, so that in the case of war, personnel could be rapidly flown to the front and mated with its equipment, bypassing the expected Soviet naval assault.

Even in his time Corbett faced his criticism. His response was to point out that there did indeed exist purely naval objectives, the most prominent being commerce raiding, embargo, and blockade. Furthermore, he continually expounded on the virtues of maritime operations regarding limited war and conflict. In this he drew on the attributes of the sea, pointing out the stopping power of water (Mearsheimer 2001) which makes effective and large-scale retaliation troublesome, and the vast and empty nature of the sea as isolating and containing the fighting from a geographical standpoint. Those who had command of the sea could choose the time, the place, and the nature of the fight, a luxury of maritime states that continental powers could

only aspire to, as it did so much to minimize liability if things went wrong, unless, of course, a foolish admiral were to decisively lose a battle.

Naturally, Corbett advocated the British maritime way as the most superior. In his view it allowed a maritime state to make limited interventions for limited objectives in unlimited wars (Corbett 1911). Coupled with that other great weapon of 19th Century Britain, the financial sector, it acted as a tremendous force multiplier and granted truly outsized influence to the British Empire, and later on for rather similar reasons, to the US. Corbett stated that in his view, this was the most cost-effective way of war, especially when coupled with a highly specialized land force, trained to seize distant overseas possessions from adversaries and outflank land powers on the European continent.

Corbett advocated winning command of the sea. This idea is fundamentally the same as Mahan's prescription to win control of the sea. Both state that offensive action and decisive battle are necessary in order to do so. However, Corbett also recognizes that it may be difficult to bring an enemy to battle. This is no small problem. In the early 20th Century, a number of European navies inferior to the British, notably the French and the Germans, had tacitly adopted a strategy of fleet-in-being, where the fleet was built on the blue-water model, dominated by battleships, but would avoid battle, and in extreme cases, stay in port, simply in order to continue to exist as a credible threat. This is exactly what the German Navy did through most of the Great War. While the submarine arm was very active, the prodigiously expensive *Hochseeflotte* only saw action once, when it clashed with the British Grand Fleet at Jutland in 1916. The battle was inconclusive and the *Hochseeflotte* retired to its ports, never to fire its guns in anger again during the war; one may even argue that its greatest strategic impact was to signal the end of the war, when sailors from the fleet in Kiel mutinied in autumn 1918.

Corbett foresaw that problem, and advocated that the enemy be either neutralized outright or forced to battle, and this would be ideally done through blockade. A blockade implied limited and localized command of the sea, where one's own SLOCs were secure while the enemy's lay prostrate, and one's land forces could be moved about without interference;

though an enemy fleet may continue to exist, it would be unable to respond effectively, but its continued existence implied the limitation of command of the sea. But for the officers and the Admiralty, blockade was but a secondary concern, when facing an enemy unwilling to risk the decisive battle traditionally favored by the offensively-minded Royal Navy. Corbett argued this offensive streak ought to remain rational, as decisive battle ought to be considered but a means to an end. Given that Britain's enemies could be expected to sensibly adopt a fleet-in-being strategy, and that even the British Empire in its heyday, as Corbett rightfully and repeatedly pointed out, could not be expected to maintain absolute command of the sea everywhere at once, one should keep the objective of command of the sea in mind, but carefully consider when to pursue it, what it brings, and when another approach, such as a blockade, may be more valuable. As the example of the Great War shows, the Entente was not able to gain absolute command of the sea, as the *Hochseeflotte* continued to exist, but had temporary and localized command of the sea, thus enabling operations like the Dardanelles, the Balkan campaign, and the constant resupply of the BEF in France. The wisdom of these operations is a subject for another tome altogether. Furthermore, the blockade on Germany eventually had a severe impact and played an important role in the surrender of the Central Powers.

Corbett also focused on the role of the sea as a transport corridor, both for commercial purposes, though he did stress the importance of supplying the war economy, and for the projection of force ashore. In this aspect he truly takes Mahan's ideas further and formalizes the two pillars of a strategy of sea control – command of the sea and force projection. To advocate for force projection, Corbett drew on historical precedent, as was his custom. Drawing on examples of British actions in the Seven Years' War, the Peninsular War, and the Crimean War, he argued that amphibious operations, if properly managed, could decide the outcome of wars.

During and after the Great War, he received harsh criticism for his advocacy of force projection, mainly due to the failure of the Gallipoli campaign. However, Corbett remained resolute, pointing out that such operations could improve the strategic balance elsewhere from a static main theater, and that advances in technology rendered the planning and coordination

of amphibious operations easier (Corbett 1920). In advocating force projection, a concept beyond mere command of the sea, Corbett was ahead of his time. Even in the case of the Great War this is correct. The Gallipoli landings failed, but the attendant landings at Salonika did not, and from this springboard the Entente launched its decisive Balkan offensive in late 1918 (Glenny 2000). As Bulgarian and German defenses crumbled almost overnight, one could begin to appreciate the value of force projection as well as of pure command of sea, in this case the Aegean and Mediterranean. Furthermore, the island-hopping campaign adopted in the Pacific during WWII is clearly based on a positive reading of Corbett's work, and in the end defeated Imperial Japan in detail.

Later British theorists further promoted this British way of war, indirect by its very nature, striking unexpectedly and one by one removing overseas possessions, magnifying the power of a small but professional army through a powerful navy and a dense web of maritime transport and commerce. Writing at the eve of WWII, Liddell Hart summarized it so, again stressing the importance of avoiding continental commitments while maintaining adequate maritime spending. He also advocated strongly a for mechanized ground forces, a feature of his work that he is better remembered for (Liddell Hart 1967).

There is always the debate whether Corbett's approach is simply too British, or perhaps only suited to isolated island states, which would extend it to Japan and perhaps the US. However, its abstract value does not lie in its specific prescriptions oriented at the British military audience of the early 20th Century, but rather in offering a way for inferior forces to leverage the maximum, most cost-effective advantage from a joint approach of land, sea, and air power. If Mahan is the theorist of the blue-water navy, the glorious horde of first-rate capital ships, triumphing through sheer weight of numbers and firepower, then Corbett is the theorist of that smaller kind of navy that is today known as a green-water navy – capable, with the tools necessary to project some force and attain localized sea control, but nonetheless reliant on finesse and maneuver. The most prominent examples today are a number of capable maritime powers, such as the Italians and the South Koreans (Till 2009). However, other navies dwell in the hazy zone where their capabilities are extensive enough to be called blue-water

navies, but remain largely driven by the more modest impetus of localized sea control; this regional focus for a conventional strategy of command of the sea is explored in detail in the Indian case study in Chapter 7, as well as the Brazilian case study in Chapter 8.

2.2.3 Dissidents and innovators

So far, it would appear that there is a relatively broad consensus in maritime circles on the correct way to approach strategy. Gain command of the sea, protect SLOCs and trade, conduct force projection, and ensure that it is tied to well-defined political goals, and one shall prosper. However, from time to time there emerge more radical schools of thought on maritime strategy.

The first of these naval renegades are the French *Jeune Ecole*. Originating in France's fierce rivalry with Britain, and the humiliating naval defeats French fleets had suffered at British hands during the *Ancien Regime* and the Napoleonic Wars, this school of thought contended that contesting the high seas was an inappropriate and counterproductive use of French seapower (Till 2009; Roskund 2007). Instead, France ought to mercilessly conduct commercial war, the most cost-effective war, since it would cheaply strike at what was simultaneously the heart of British power and its greatest vulnerability – maritime commerce. The *Jeune Ecole* entered a fierce public debate on the nature of French seapower, made fiercer still by the relative success of mid-19th Century French shipbuilding programs that produced a number of the new ironclads. For a while even, these ideas were ascendant, and France initiated an intensive program of research, development, and construction of the new technological marvels that would allow it to pillage British commerce – the naval mine, the torpedo, the torpedo motor boat, the pocket cruiser, and the submarine. In a way, this was merely a new manifestation of an already-existing French phenomenon, where military thinkers would reject the value of great battle fleets and instead advocate commerce raiding; this had also brought success against the British and the Dutch in the past, especially during the American Revolution, and in the Americas, the South had had some modest successes attacking Union commerce.

The methods advocated by the *Jeune Ecole* raised into question the fundamental basis of the blue-water navy and the supremacy of the battleship as premier surface combatant, for

after all, what value was this monstrously expensive vessel, if it could be sunk at will by mines or torpedo boats, even in harbor? How could commerce survive, if predatory cruisers plied the trade lanes, sinking any and all without distinction? Incidentally, this had been declared illegal by the 1856 Declaration of Paris protecting merchant ships, but the theorists of the *Jeune Ecole* brushed such legalities aside, thus setting the stage for the unrestricted submarine warfare used in both World Wars (Till 2009; Marder 1972).

It must be noted that the *Jeune Ecole* did not labor under any illusions that they could actually defeat the Royal Navy in its entirety, not did it expect to starve Britain in a sort of protracted maritime siege. The purpose of commercial war was instead to attack the intricate global network that empowered the British industrial juggernaut, normally a source of British power and pride, but now subverted as a new weakness residing in any 19th Century industrial state. It was expected that financial and shipping losses would be so damaging for Britain's moneyed classes, especially the emerging class of industrialists and City of London bankers, that they themselves would eventually force the British government to the peace table under circumstances favorable to France. In many ways, this strategy was a forerunner of modern asymmetric warfare.

The instability of late 19th Century Third Republic France, and the attendant parade of rapidly rotating Ministers of Marine, prevented the consistent and coherent implementation of *Jeune Ecole* ideas. Other European powers were also affected by homebrew imitators. In the German Empire, the great debate over colonialism and the construction of the *Hochseeflotte* did result in quite a bit of attention paid to submarines and other methods of commerce raiding. In Austria, left weakened as a result of military defeats, and facing a resurgent Italian state and its powerful Mediterranean navy, there were voices advocating for scrapping the traditional fleet and replacing it with raiders that could more effectively fight in the narrow confines of the Adriatic; in general though, this came to naught as tensions between Austria and Italy lessened prior to the war, and furthermore, the conservatism inherent to the Habsburg monarchy instinctively opposed radical innovation in military matters, and in any case the activism of Archduke Franz Ferdinand ensured that Austria would construct a battleship

fleet like any other European power (Hubmann 1972). These ideas found traction in Russia as well, not surprising given its history of maritime struggle in the Baltic, where unorthodox methods were often employed; after all, the role of oar-powered galleys as capable commerce raiders lasted well into the 18th Century in the Baltics, and the Russians fielded many in their heyday.

As for the British, more often than not the objects of this radicalism, these developments caused much worry. This lessened over time though, as the radical horizontal innovation that had made the ideas of the *Jeune Ecole* possible was eventually countered by vertical innovation that introduced a new kind of ship, the torpedo boat destroyer, basically a steam- or oil-driven version of the frigate, updated procedures for convoying that incorporated the latest advances in radios, and updated procedures for containing and hunting submarines, which were still primitive and needed to travel surfaced except for a very short window of submerged attack.

Changing historical circumstances eventually sank the *Jeune Ecole* into semi-permanent obscurity, though this eventually changed during the Cold War and beyond. For one, the French and the British became allies, significantly affecting French grand strategy, shifting its focus to war with Germany, which entailed a totally different set of challenges, and shifting the maritime focus to their respective colonies.

Second, as mentioned above, the technological impulse that created the tools of the *Jeune Ecole* was eventually repurposed to defend against it. Though torpedoes and mines remained dangerous – and prior to the Great War, the Balkan Wars, where Ottoman ships were repeatedly damaged in night attacks by Bulgarian torpedo boats, demonstrated the danger – there nonetheless existed the growing perception that the danger was overstated, and could be countered by improved ship designs and better in-fleet communication and coordination; even a technology as simple as multiple spotlights on large vessels already mitigated the risk of night torpedo attacks. Though this may seem like a narrow example, this cycle has repeated itself. Improved submarines incorporating snorkels for long dives were countered by sonar. The invention of anti-ship missiles in the 1950s was followed by improvements in radars and the

design of rapid-fire semi-automated gun turrets that could shoot down incoming missiles *en masse*.   Missile boats had to contend with helicopters and aircraft, and so the cycle of innovation and counter-innovation continues eternal, much as it did in that microcosm in the eve of the Great War.

Third, the very underpinning of the *Jeune Ecole*, the idea that commerce raiding could be decisive, was challenged by more conventional ideas of command of the sea as a tool for commercial blockade. Here the lessons of the American Civil War were decisively used. Opponents of the *Jeune Ecole* argued that the South may have had some individual successes in harassing Union commerce, it was the Union blockade, gained through conventional command of the sea as part of the Anaconda Plan, which instead utterly throttled Southern commerce and inevitably led to defeat for the Confederacy (Till 2009; De Lanessan 1903). Furthermore, there were already normative and moral objections to unrestricted commercial war, a perplexing conundrum that has plagued every navy that tried to implement it, and played a significant and therefore negative role in bringing the US on the side of the Entente during WWI.

The final objection related to the flexibility of commerce raiding. A navy configured for commercial raiding could in fact not really conduct any other kind of operations, being highly specialized in training, equipment, vessels, and mission. At a time when France wished to nonetheless expand its colonial empire, defend its existing colonial possessions as well as its home shores, or perhaps fight an offensive war against a power that was not a highly specialized maritime state such as Britain, it was thought that a more conventional approach to seapower could in fact bring greater returns.

The *Jeune Ecole* owed its existence to a particular set of historical circumstances. These have repeated themselves time and time again, and thus the ideas first articulated by the *Jeune Ecole* have survived, and occasionally have been compelling enough to influence a broad change in maritime strategy, at least for individual states. Notably, this occurred in interwar Germany. Still brooding from the lack of success against Entente fleets, some German theorists contended that it had been a waste to try to match the great fleets and aspirations for decisive

battle of the British and the French.   Rather, the Germans should have, and ought to in a hypothetical future conflict, relentlessly pursue trade warfare as the main area of activity; in this approach, enemy command of the sea could be ignored, as well as his warships, so that submarines, fast cruisers, and long-range aircraft could instead decimate his shipping (Gray 1989).   Nonetheless, these ideas never became dominant, and Germany entered WWII with a strange kind of hybrid fleet, torn by rivalries between the traditional surface fleet on the one hand, and maritime raiders and naval aviation on the other.

In a more recent example, commercial war is a strong driver of Iranian naval thought since the Iranian Revolution.   During the Iran-Iraq War, the Iranians had at their disposal the conventional fleet left behind by the Shah, and creatively augmented it with extensive and elaborate mining of the Gulf, as well as concealed and militarized oil derricks and naval aviation, in order to threaten the commerce of oil from the Gulf states; this also targeted American interests in the region, due to sustained American support for the Saddam regime.   Ultimately, a string of confrontations between US Navy forces and Iranian forces led flared up in Operation Praying Mantis in 1988, where Iranian maritime forces were decimated, with one frigate sunk and one severely damaged, along with other Iranian assets such as oil derricks and missile boats.   This eventually prompted the Iranians to refine and adapt their concept of asymmetric commercial war, a development explored in detail in the Iranian case study in Chapter 6.

Aside from commercial war, there is a final historical strand of maritime theory – coastal defense theory.   Much like the commercial war advocated a century ago by the *Jeune Ecole*, this strand of theory is of particular interest to smaller and weaker navies.   Not surprisingly, it is also one of the oldest maritime concerns, especially in premodern times, when raiders and pirates were often a severe threat to maritime communities.   It is no surprise to find remains of so many fortified bridges, monasteries, mills, and harbors on the shores of the North Sea, for example, given the depredations of Norse raiders during the Early Middle Ages; the East Asia equivalent, the *wokou* pirates of the 14th-18th Centuries, prompted fortification efforts all along the coasts of Korea and China, of which one legacy are the remarkable fortified communal dwellings of the Hakka in Fujian, the *tulou*.   For a more modern example, as mentioned earlier,

this was the approach of the United States until Mahan, focusing on shore batteries, mines, and fast but heavily-armed frigates.

Mahan was certainly aware of the importance of coastal defense, perceiving it as the natural static and defensive counterpart of the offensive and mobile battleship fleet; furthermore, he argued that the new technologies of the industrial age, so cherished by the *Jeune Ecole* for the purpose of commercial war, could actually be turned to grant great advantages for coastal defense (Mahan 1899). Even the arch-offensive British were not totally immune to these new ideas. One such theorist was the First Sea Lord, Admiral Jacky Fisher, which famously invented the dreadnaught, sparking the last and most intense phase of pre-WWI battleship race.

An eccentric thinker that often passionately campaigned for his prized pet project, the battlecruiser, a fusion of the speed of the cruiser with the firepower of the battleship, that was famously finally adapted as the "pocket battleship" of interwar Germany, Fisher also expounded on the virtues of the new strategy of flotilla defense. He thought that two new technologies – the submarine and the aircraft – would make it impossible for navies to operate unhindered in more constricted seas, which in his analysis referred to the North Sea, so critical to the security of the British home isles. Furthermore, employment of submarines and aircraft defensively would greatly reduce the chance of a successful blockade, thus eroding one foundation of British maritime strategy (Fisher 1919).

Ultimately, Fisher did not find much support in his homeland. Ironically, one of his inventions, the battlecruiser, was eventually adopted by the Royal Navy. Built for speed and deployed to the Far East, these fared poorly in the opening stages of WWII, where they faced novel Japanese tactics centered on mass attacks by extremely long-range land-based aircraft and submarines, at times without any Japanese surface ships present. In a single catastrophic encounter off the Malaysian coast, the Royal Navy lost two battlecruisers, and as a result could not oppose the capture of Singapore. Fisher's offensive concept had been defeated by his defensive concept.

Coastal defense theory was finally sharpened, refined, and distilled into a usable strategy by the Soviet New School during the interwar years. Unburdened by the aristocratic desire for battleships of Imperial Russia and deeply conscious that Russian coasts had been attacked and invaded almost at will during the Russian Civil War, these new thinkers pondered the seemingly unsolvable paradox of defending the USSR's nigh-endless coast on a limited budget. Nonetheless, it was clear that a strong navy would somehow be needed (Till 2009; Tyushkevich 1978). This was not immediately obvious, as the main threats to interwar Russia came, as usual, from land; furthermore, what naval capacity had somehow survived the Civil War was more often than not beyond any repair, and so were relevant industrial facilities and capacity. There was also ideological opposition; some perceived a fleet as a tool of imperialist and colonialist oppression, an understandable link given the role of maritime forces in the scramble for colonies, and the explicit endorsement of such operations in both Mahan and Corbett's works. This revolutionary fervor replicated itself later in Communist China, where Mao opposed traditional fleets, arguing for the "people's war at sea", based on a sort of revolutionary maritime militia; it was not until the 1980s that Chinese maritime thought escaped the bonds of rigid revolutionary orthodoxy (Yung 1996).

The New School therefore arose as a reaction to both revolutionary fervor and the ossified thought of the Old School in the Soviet Navy, composed of aging senior officers that had defected to the Soviets during the Civil War. Though their allegiance may have changed, their ideas had not, and they continued to advocate for a Mahanian blue-water navy of battleships, a rather unrealistic prescription for interwar Russia. The response of the New School was to argue that technological change – in fact the same changes recognized by Fisher – had made the pursuit of command of the sea obsolete. Much as the Soviet Union that overthrown the shackles of foreign domination, so should it overthrow the shackles of irrelevant foreign maritime strategy (Herrick 1988).

Furthermore, the New School did indeed recognize the imperialist nature of classical maritime strategy, centered as it was on the competition for markets, resources, and colonies, and the attendant protection of SLOCs and maritime commerce underwritten by the great

financiers of the capitals of the Great Powers. The conclusion, however, was not to embrace revolutionary fervor in maritime matters, but rather to create a navy that integrally worked with and planned with the army, so that national goals could be pursued according to a single unified strategic plan. This level of inter-service cooperation predates the Western understanding of joint operations by several decades, and the integration between the Soviet Army and Navy remained strong through waxing and waning Soviet fortunes.

The New School argued that in order for the Army to be allowed to purse victory at land unhindered, Soviet coasts must be defended against even the most serious maritime attacks. Therefore, the Navy ought to focus on the construction of shore fortifications, the acquisition of large coastal artillery, and the deployment of numerous submarines and torpedo boats. Furthermore, it should develop a powerful naval aviation arm.

In its thinking, the New School was ultimately only partially different from the *Jeune Ecole*, adopting a rather more defensive mindset as its defining and unique characteristic. Much like the *Jeune Ecole* though, its radical innovative fervor could not last. As the external maritime security of the Soviet Union stabilized, the Navy slowly reverted to more conventional thinking; it did not help that many of the radicals of the New School were purged by Stalin. Capital ships came back in favor, and alongside, the prestige of commanding one. The classical admirals were back.

The legacy of the New School did not completely disappear, however. In the 1970s and beyond, the Soviets adopted a strategy of bastion defense, in some ways a hybrid of more traditional strategies of command of the sea, and the anti-access and coastal defense focus of the New School (Stefanick 1987). This strategy had two pillars. One was close defense of the coast through missile boats, diesel-electric attack submarines, and mobile shore gun and missile batteries, all in order to discourage amphibious action; in critical seas, meaning the White Sea and the Pacific, localized command of the sea was to be achieved through small CVBGs (carrier battle groups) anchored by the hybrid *Kiev*-class carriers, firing both anti-ship missiles and launching fighters, while in the Baltic, this would be done by the nuclear-powered *Kirov*-class battlecruisers. The second was denial of the sea at very long ranges. The focus was on the

North Sea, in order to prevent the resupply of NATO forces on the continent, again demonstrating the close suborning of the Navy to Army goals in Soviet doctrine. This was to be done by nuclear attack submarines and long-range aircraft such as the Tu-95 and the Tu-22. Though Soviet strategy was not always consistent, pulled on one hand between Mahanian tendencies in order to project force for its global interests, as advocated by many (Gorshkov 1976), and on the other hand the desire to simply deny NATO and defend its coasts, it managed to nonetheless present both a credible threat to NATO, and to inspire other innovators in the post-Cold War era. The most prominent is China, but the PLAN's unique strategy is best left for a detailed look in Chapter 5.

Coastal defense theory has also been refined in light of advances in guided weapons technology, and in the interest shown by smaller navies than the Soviet and Chinese still. Gone are the capital ships, replaced by a mosquito fleet of specialized fast ships and pocket submarines. And there are even more modest variants of coastal defense doctrine, often due to constraints in coastal states' potential capabilities. Ultimately, coastal defense is an objective for any existing navy, and for many, it is the only objective, even if it is something as modest as monitoring fisheries, engaging in search-and-rescue, and conducting operations against maritime criminals in territorial waters; this mandate, for example, is that of the Icelandic maritime forces, composed of two mid-size coast guard vessels.

2.2.4   Post-Cold War developments and diversification

The end of the Cold War seemed to hail the triumph of the American, and by extension Mahanian way of maritime warfare. For a short period in the 1990s, there existed no credible competitors that could outright match the US Navy, and though other potent navies did exist, these all adopted strategies similar to the American one, based on CVBGs, and since the US could field more carriers of greater tonnage than all other navies combined, it appeared that no competitor could actually emerge. This is without mentioning the fact that other powerful maritime states were either uninterested in competing directly with the US, such as in the case of India, or were friends or allies of the US, such as the larger European NATO powers or Japan.

Predictably enough, this relative weakness in states less friendly to the new world order led to a new generation of radical thought in maritime matters, and the development of sophisticated anti-access/area denial (A2/AD) strategies (Panetta 2013). Though the term was coined in the US, it refers to America's rivals, specifically those advanced enough to pose a persistent threat, and perceived to be always willing to probe American defenses though novel means, especially in the emerging field of cyber-operations, but also regarding the freedom of navigation on the sea.

From a theoretical perspective, A2/AD strategies combine the commercial war of the *Jeune Ecole* with the sustained coastal defense of the Soviet New School; the innovation is more in the technologies employed, with sustained use of information technology, and in the resurrection of concepts thought buried for good, though A2/AD strategies are also thought be based on distributed and hardened networks dependent on advanced communications technologies, which would make them very difficult to destroy rapidly. From a platform perspective, these strategies depend of submarines, aircraft, and missiles; aircraft and missiles can be made fully robotic, further increasing the survivability of an A2/AD network. From the perspective of American planners, these A2/AD strategies present a major headache, especially because a number of A2/AD techniques – most notably cyberwarfare – are difficult to detect and to trace, and can therefore be covertly employed during peacetime by a hostile power, all at low cost and low risk. It must be noted that as of yet, there is little practical indication of how exactly a maritime A2/AD strategy would function and fare in a high-intensity interstate conflict; it is possible that at least part of the intensity of the American response is due to the natural fear of the unknown, and the difficulty of understanding these "known unknowns" generated in the wake of the end of the Cold War.

Leaving aside the certainly grim specter of A2/AD, the end of the Cold War also brought about a period of lessened tension, but with it, much uncertainty as well. Emerging concerns over human and environmental security, debates over the necessity and legitimacy of peace operations and the responsibility to protect (R2P), and the increased focus on combating terrorism and organized crime, especially in the wake of 9/11, have led to the emergence of a

new class of military operations – MOOTW (military operations other than war), though this acronym is favored in the US, and other powers have adopted their own concepts, such as the British PSO (peace support operations). Though the ideas are not new, the attention paid to them is; these operations are to focus on the promotion of peace, deterrence and resolution of conflict, and support for civil authorities in case of disasters (Segal 2005).

In the modern maritime context, successive US Naval Doctrines have identified the protection of the global commons, represented as the international waters that enable global maritime commerce, as an important task for the Navy. Furthermore, humanitarian assistance and disaster relief are also always mentioned and addressed; in fact, rendering such aid is almost routine for the US Navy. However, it does not escape other powers that having the capacity to do so is a very prestigious state, and the ability to render aid has become an important tool of statecraft, of signaling that one is a responsible and humanitarian global power, able to project power for a beneficial purpose; witness the Brazilian deployment of a carrier group after the 2010 Haitian earthquake so as to restore order and bolster its presence there as part of MINUSTAH, a strong act of self-promotion by a government always keen to burnish its prestige and international image.

Aside from support for civilian authorities during crises, pertinent maritime MOOTW are counter-terrorism and counter-piracy. Major joint multinational operations against piracy were conducted in the Gulf of Aden in the past decade, one composed of the US and various allies (CTF 150/151), another managed by and composed of various EU member states (Operation Atalanta), and finally one by NATO (Operation Ocean Shield). This drew much interest from elsewhere, and frigates from both China and Iran also participated, though always in an informal and independent capacity, and in sporadic fashion.

Finally, there is the eternal struggle against smuggling and organized crime. Though this is a traditional preoccupation of coast guards and maritime police forces, the interconnected and globalized nature of criminal networks, especially the drug-trafficking networks that link Central and South America with North America and Europe have become of particular concern. The sophistication presented by traffickers in getting their cargo into the Schengen zone pales

however with respect to the devastating impact of drug cartels on their home countries. Due to corruption and lack of capacity in the police forces and the judiciary, as well as the extreme level of violence, it is often necessary to resort to the military to achieve even a modicum of order. Consider the case of Mexico – a substantial coastal state and a G20 member with a thriving economy – whose navy has taken the lead in combating drug cartels, both on the sea and on land, where the Mexican Marines have proven rather effective. This has led to the unusual case of a coastal state that has constructed a fairly substantial navy – in terms of ship and aircraft numbers, spending, and personnel – that is based around a strategy solely focused on conducting MOOTW, meaning the struggle against the cartels. Though Mexico is the exception rather than the norm, where does such an approach fit on the traditional distinction between sea control and sea denial, and how likely is it to emerge elsewhere?

This volume does not face such a stark example. In general, past experience shows that the tools that enable classical command of the sea – especially carriers, amphibious forces, and larger surface vessels – are more than enough to also engage in MOOTW. Therefore, it can be expected that for states interested in conducting MOOTW – whether for security or for prestige – a classical approach would perhaps be the best approach indeed (Till 2009). On the one hand, it may appear that MOOTW has simply become to the navy what gunboat diplomacy was at the turn of the 19th Century – a way to test capabilities and project diplomatic clout and prestige. On the other hand, the promotion of human security and R2P has acquired real normative power, and can drive the narrative and even provide a way for maritime forces to justify the costs associated with their existence, as is partly the case in a number of European states that aspire to be a new kind of humanitarian power (Suhrke 1999).

Even non-democratic states have adopted the narrative of respecting and promoting human rights and human security, choosing instead to debate the precise nature of these rights, when they can be applied, and their relationship to national sovereignty, rather than denying their relevance altogether. The necessity to constantly generate legitimacy for the regime is a strong driver, and can be cleverly adopted to even suit a nationalist narrative; when the PLAN evacuated Chinese nationals from a number of Arab states at the height of the Arab

Spring in 2011, the first operation of its kind for the PLAN (though routine by now for Western navies), domestic media chose to emphasize the prestige of sending Chinese ships so far on such short notice, and emphasized the peaceful nature of the Chinese mission (Grgić 2013). At least from a dramatic perspective, maritime MOOTW provide the most impressive media package for the least cost, something that would not surprise Corbett if the theorist was still alive today.

2.2.5   Commercial, industrial, and scientific policy approaches

Here, I look at policies in the commercial, industrial, and scientific realms that are of relevance to seapower and maritime strategy. This mainly focuses on procurement policies, but also on one of the chief drivers of maritime strategy – the need to establish and protect SLOCs.

With respect to procurement, the traditional approach has been to do it yourself for the great powers, and to purchase whatever was left over and available for the rest. The end of the Cold War, however, has resulted in a far more open defense market (Till 2007). Furthermore, states that are extensive exporters of arms have become enthusiastic proponents of the bilateral deal (f.e. French deals to export its aircraft) and of the long-term multinational development and manufacturing program (f.e. the F-35 fighter program). It has become possible for a state to acquire the full panoply of military capabilities without having to develop and manufacture everything on its own, and to gain in scientific and technological knowledge as well. In this climate, an import-substitution procurement policy stands out because of the isolation from global markets and trends it implies. It does, however, offer the logic of protecting military innovation from diffusion to potential rivals.

With respect to the navy, one particular industrial development should be mentioned, which is modular construction. This refers to a technique developed first the in the US in the 1980s, where ships would be constructed in separate sections, and with individual components, such as weapons systems, being made modular, so that maintenance as well as adding, changing, or removing individual systems would be made far simpler. Constructing ships this way, however, requires the correct facilities and knowledge, and acquiring them requires a

concerted effort, best done through partnerships with states able to do so. Consider the case of Russia, which has attempted to learn these procedures, and hoped to use a deal with France for the construction of *Mistral*-class helicopter carriers in order to do so. Ultimately, the deal came to naught due to the Crimean crisis, but the Russians nonetheless learned enough to initiate modular-style construction of the new *Steregushchy*-class frigate and *Lada*-class submarine. This stands in stark contrast to Soviet policy, where ships were constructed for specialized purposes – this resulted in several hundred ship classes, many unique. Though it was specialized, it ultimately rendered maintenance too complex.

With respect to SLOCs, the protection and maintenance of these is an important part of command of the sea. In modern times, the norm regarding the openness of international waters is pretty much a given, and sea traffic has access to all commercial ports and sealanes. This is in contrast to earlier historical scenarios, such as the 18th Century, when mercantilist norms prevailed, allowing shipping and maritime commerce to dock only in national ports, only carry national goods, and deal only with national financial bodies. A relevant example of neo-mercantilist policies – China's construction and acquisition of a string of deep-water ports in the South China Sea and the Indian Ocean – is discussed in Chapter 5, as is this policy's relevance to forward basing.

2.3   Modern maritime practice

With the modern history of maritime thought well established, I now turn to modern maritime practice, meaning the vessels and missions of the typical modern maritime force. In order to do so in a formal manner, I create a typology of maritime strategy, and then examine in turn what each strategy is designed to deal with, and how it does so. Drawing on the theory, I find that there are three broad categories, though there is always variance at the national level due to specific circumstances. These are coastal defense, sea control, and sea denial. A final section deals with the place of nuclear deterrence and MOOTW in this typology of strategy.

Before examining in detail these three strategies in their respective sections, it is relevant to set down a ranking of navies, irrespective of their strategy. Ranking here implies a ranking of capabilities and enabled missions, rather than a specific comment about strategy; the way these capabilities are employed is what ultimately determines strategy, and furthermore, it is strategy that comes first and drives the procurement of capabilities, rather than the other way around. If a state decides it needs only a limited maritime strategy, then capabilities, and therefore ranking, will reflect that. A relevant example is that of the smaller Gulf States. Though they certainly have the financial resources to construct respectable fleets, they instead choose to rely on their American ally for their maritime security.

Ranking is valuable for a specific purpose – it determines the material component of maritime threat assessment. The hierarchy of naval power developed by Todd and Lindberg (1996) ranks states according to the vessels and systems they are able to field and the ranges at which they are able to operate. This is a standard type of ranking that would be instinctively familiar to the typical naval establishment, and would therefore be delivered to the relevant FPE. As demonstrated by the examples given in the table, a number of states that are equally ranked by capabilities pursue rather divergent strategies, for example Italy versus Russia.

This ranking is fairly elaborate, with ten categories divided between blue-water and non-blue-water navies. A simplified version, which I choose to refer to when precise ranking is not fully relevant, would instead simply distinguish between blue-water navies (ranks 1 to 2), able to project power globally, green-water navies (ranks 3 to 4), able to project power regionally, and brown-water navies (ranks 5 to 10), able to project power only locally.

Regarding the cases examined in detail in this study, it becomes clear that they field capabilities today that they did previously, in some case even a short time ago. The Chinese and Brazilians have acquired single carriers and nuclear submarines, the Indians invest heavily in their surface fleet and Iran is building a vast force of missiles and other means of asymmetric maritime warfare.

Fig. 1   World naval hierarchy according to Todd/Lindberg

	Rank	Designation	Typical Inventory	Defining Capabilities	Current Examples*
'BLUE – WATER NAVIES'	1	Global-reach power-projection	All larger ship types in high numbers	Multiple, regular, and sustained power projection missions globally in addition to homeland defense	USA. (not more)
	2	Limited global-reach power-projection	CVN, other aviation-capable ships, many SSN/SSK, many support ships	At least one major power-projection operation globally in addition to homeland defense	France, UK (↓). (not more)
	3	Multi-regional power-projection	CVL, other aviation-capable ships, submarines, enough support ships	Power-projection missions in regions beyond own EEZ in addition to homeland defense	India, Russia, Italy, Spain, Brazil. (not more)
	4	Regional power-projection	Aviation-capable ships (DD, FF), submarines, some support ships	No at-sea fleet air support other than organic helicopters, therefore limited to area of land-based aircraft range for power-projection missions	**China** (↑), Japan (↑), Australia (↑), South Korea, Taiwan, Turkey, New Zealand, Pakistan (8 more)
'NON – BLUE WATER NAVIES'	5	Regional offshore coastal defense	Smaller ships (FF, Corvettes), no underway replenishment	Coastal-defense operations at least in own EEZ and slightly beyond	Thailand (↑), Malaysia, Indonesia, Bangladesh, Saudi Arabia, Norway, Singapore... (12 more)
	6	Inshore coastal defense	Only smaller ships (Corvettes, FAC)	Confined to inner reaches of own EEZ	Vietnam, Finland, the smaller Gulf States, North Korea... (21 in total)
	7	Regional offshore constabulary	Lightly armed OPV, PB and PC for Coast Guard – type duties	Geographic reach as in rank 5, but maritime policing instead of maritime defense	Iceland Coast Guard, Ireland, Mexico, Uruguay. (not more)
	8	Inshore constabulary	Only Patrol Boats and Patrol Craft	Confined to missions well within 200 nm zone (EEZ)	Myanmar, Philippines, Sri Lanka... (10 more)
	9	Inland waterway	Patrol Craft	Waterborne riverine defense of landlocked states	Azerbaijan, Bolivia, Paraguay, Laos... (ca. 14)
	10	Token navies	Often only 1 or 2 craft	Only very basic constabulary capabilities, if any	Ca. 58 navies

Source: Kirchberger (2012); originally compiled by Todd and Lindberg (1996)

2.3.1   Coastal defense

In general, coastal defense is the most modest of maritime strategies. It is also the default strategy of any navy, since it addresses the most fundamental purpose of a navy, that of preserving the state's territorial integrity against maritime aggressors; but it is also the default strategy in case the state does not possess the capacity to acquire the capabilities necessary for a more ambitious maritime strategy. Even the humblest navy can patrol its country's coast, police the sea, engage in SAR (search and rescue), pursue smugglers, and if called upon in wartime, fight to the extent of its capabilities. This is also the case for a landlocked state possessing a riverine navy, in the case that rivers are extensive enough to warrant it.

The modest nature of the typical coastal defense fleet should not undermine its value. Even for a humble state, it may well prove decisive. Consider Paraguay during the relatively obscure Chaco War (1932-1935) with Bolivia. Though Paraguay was by all measures weaker than Bolivia, its possession of two antique river gunboats allowed it unrestricted control of the Parana river system, thus enabling the Paraguayans to bring men and materiel to the front in a matter of days, compared to weeks necessary for the Bolivians, which additionally had to trek across the vast, arid, and totally undeveloped Chaco. Additionally, this tiny navy proved an irresistible target for the Bolivian Air Force, and over a series of running engagements, the gunboats neutralized most of Bolivia's combat aircraft; it is no exaggeration to say that this tiny navy allowed Paraguay to win the war (Marley 1998). Conversely, failing to engage in coastal defense, even modest, can have severe consequences.

Coastal defense missions take two shapes. The first is coastal defense itself. The second is constabulary, which can be considered a type of MOOTW, as mentioned in the Mexican case earlier.

Coastal defense involves deterring an opponent from bombarding the shore, including ports and inhabited coastal areas. It may also involve the protection of offshore commercial and military facilities as well as islands. If enemy fleets cannot be deterred, then coastal defense must punish aggressors that seek to bombard the shore, and it must prevent amphibious landings by the enemy. For more ambitious state practitioners of coastal defense, it may also involve a limited amount of protection for local SLOCs, mainly by escorting merchant shipping in order to protect from submarines and aircraft, or alternatively engaging in minesweeping operations in order to keep SLOCs clear of that most deadly of naval devices; naturally, if facing a superior opponent, especially one bent upon command of the sea, this would be done by avoiding his forces as much as possible, which is not as difficult as it may sound, considering the impossibility of holding ground in the sea (Till 2009). Alternatively, it can also involve a very limited amount of force projection by small units of naval infantry, acting locally and close to shore, but this is confined to geographical conditions favorable to such

small-boat warfare, where islands and complex shore topography allow for concealment and maneuver; notably, this is the case in the Baltic, as well as sections of the South China Sea.

Coastal defense involves close integration between ground, air, and sea units; this is especially critical since it is likely these units are limited in number, and their defensive posture demands a high degree of attention and preparedness. It is complicated by advances in technology that have rendered some classical approaches to coastal defense obsolete. In the past, fortification was crucial. Large shore fortresses, made difficult to bombard and reduce from the sea, could be furnished with large shore artillery, thus providing an effective deterrent; the 19th Century is rife with intense battles forts and fleets. Later on, massive shore fortification complexes were constructed, resistant even to sustained amphibious assault; the zenith of this type of set-piece battles was the Pacific campaign of WWII. However, first aircraft, then guided munitions, and finally buster-buster bombs have rendered static defense difficult.

It must be noted that this is not much of a concern for the majority of the world's navies, especially in Africa, where maritime capabilities tend to be modest, high-intensity interstate conflict unlikely, and the kind of low-intensity conflict that does predominate favors low-technology, traditional approaches. When the Nigerian Navy, for example, clashes with MEND militants in the Niger Delta, it does so by first building small entrenched ports for its patrol boats. Old-fashioned indeed – in fact, not much different from the *castrum* of Roman legionnaires – and could not stand up to an assault by a first-class navy, but that is not the point. As long as it grants a place to hunker down and stops the occasional burst of gunfire or a stray rocket-propelled grenade, it is enough.

For a comprehensive coastal defense strategy to be able to deter or defend against a slightly to moderately superior force armed with and skilled in the use of modern weaponry, it must adopt a number of tactics. Ashore, defensive platforms must be armed with guided anti-ship and anti-aircraft missiles. These platforms must also be made mobile, ideally mounted on fast trucks; in fact, civilian trucks are just as fine, given that they are easier to conceal. These

should be supplemented with mechanized light artillery, for close defense against aircraft and amphibious assault, and supported by infantry. The shore arm of coastal defense is essential.

The sea should not be neglected. Fast patrol boats and corvettes can harass the enemy and provide vital intelligence. These can also engage weaker or isolated enemy forces. Furthermore, these can resupply any offshore facilities or island garrisons, and allow for the rapid transport of small bodies of infantry troops along the coast, to where they are needed the most. Submarines, ideally smaller, quieter diesel-electric submarines, can punch far above their weight, laying mines in coastal chokepoints and attacking inadequately protected surface combatants. Technology has improved dramatically, and modern submarines are essentially undetectable; that is the case of the recent German Type 212, but it is likely it will not stay the only such overachiever for long.

Aircraft are not essential to coastal defense; however, these can nonetheless be useful for interdicting enemy aircraft, and for transport. However, what is essential is good communication and coordination between the various components, in order to make it more responsive and difficult to target, as well as good intelligence and knowledge of enemy movements. That is where aircraft can very useful, but a particular kind – drones. Unarmed reconnaissance UAVs are becoming commonplace, are relatively cheap, can be constructed from COTS (commercial off-the shelf) components, and provide very useful information to the enterprising commander.

If this all sounds remarkably close to sea denial, to A2/AD strategies, it is because the fundamental basis of sea denial is robust coastal defense. The difference lies in different purpose of sea denial. Coastal defense only seeks to deter from or defend the shore, nothing more. Sea denial seeks to accomplish that, but above that, to also deny access to vast swaths of the sea to opposing forces. As I shall see, sea denial incorporates significantly more elements, and is also tactically offensive but strategically defensive. Coastal defense is tactically defensive and strategically defensive.

Constabulary duties are essentially maritime police matters, a much more ordinary version of it than the grand statement of US Navy doctrine that it needs to keep "good order at

sea." As mentioned above, it has much in common with MOOTW. Missions consist of policing the sea and SAR, and can usually be performed best with mid-size patrol vessels and corvettes. In larger navies, constabulary duties are oft left to the country's respective coast guard. Aside from patrol ships, helicopters and shore stations equipped with radar and other communications gear are necessary for effective conduct of constabulary duties.

2.3.2   Sea control

Sea control is the classical strategy of powerful maritime states. It is the strategy advocated by Mahan, Corbett, and their latter disciples across the globe. Every blue-water navy existing today, as well as the vast majority of green-water navies, be they NATO, such as Italy and Spain, or not, such as Brazil, have adopted a strategy of sea control. It is the strategy of the capital ship and the CVBG, both tactically offensive and strategically offensive.

Sea control strives to gain command of the sea through decisive battle; the offensive spirit that animated the theorists of the 19th Century has not been lost, as even a cursory glance at modern maritime doctrines can attest. If this is impossible, then blockade is to be imposed, though that is becoming less necessary than before. Corbett worried about the possibility of the enemy adopting a fleet-in-being strategy, and the subsequent difficulty of drawing him into battle, but the advent of long-range guided munitions has made it possible to strike enemy fleets even in port. Fleet-in-being is all but obsolete, save for submarines, which may still be hidden away in shore fortresses, provided these are fortified enough. Considering the power of bunker-buster munitions, these fortresses must all but be buried under a mountain in order to survive.

For achieving command of the sea, there is but one path, and that is the CVBG. A CVBG is actually a very complex system, as the carrier itself is very vulnerable, with minimal anti-air and anti-missile defense, and always at risk from predatory submarines; as the adage goes amongst American submariners, there are only two kinds of ship – submarines and targets. The carrier is utterly dependent on its escort for protection. The escort is typically composed of two kinds of ship. One is the destroyer, armed with offensive anti-ship missiles and a moderate defensive arsenal. The other is the frigate, highly defensive, specialized in defending from

aerial attack and at hunting submarines. Western-aligned navies can also enjoy the benefits of the American-designed AEGIS system, which enhances anti-missiles capabilities at the level of CVBG through integrated and automated communication.

In this strategy, submarines exist for three purposes. One is to hunt other submarines and the occasional surface vessel, including as part of commerce raiding. This is done by attack submarines. The second and third is done by specialized missile submarines. One is nuclear deterrence, one of the three of the nuclear triad. The other, which came about after the end of the Cold War and the lessened importance, at least for a while, of nuclear deterrence, is the use of nuclear missile submarines for shore bombardment with conventional cruise and ballistic missiles. This has been frequently done by Western forces in recent years, in the course of intervening in various conflicts, especially in the very early stages; during the second invasion of Iraq, the US fired several dozen Tomahawk missiles from submarines in the first night alone.

Once command of the sea is achieved, the next step is to exploit it for force projection. Force projection can take two forms. One is the committal of amphibious ground forces, a complex operation that requires specially trained troops, modified mechanized vehicles, and a special class of ship – the amphibious assault ship (LHA), a small carrier fielding many troops and helicopters. The other is more distant, and therefore more in line with Corbett's prescription for limited war, and that is shore bombardment, once done by the gun, now done by cruise missiles and carrier-borne fighters; the range has dramatically increased indeed, and modern navies can comfortably strike several hundred kilometers inshore, or even further with submarine-launched ballistic missiles (SLBM).

Aside from force projection, sea control ought to gain command of the sea for the critical task of protecting SLOCs and attendant maritime commerce. Aside from non-traditional threats to SLOCs such as piracy, the main threat to SLOCs would come from an adversary engaged in commerce raiding, perhaps because the adversary is unable to achieve command of the sea, or in a strategy of sea denial. The quintessential example is unrestricted submarine warfare during both World Wars, especially WWII. The Germans engaged in commerce raiding with submarines and aircraft as part of a strategy of sea denial in the North Sea, while the

Americans constantly targeted the intricate web of SLOCs that linked the far-flung possessions of Imperial Japan's Pacific empire, weakening and isolating these garrisons while recovering from the blows of the early part of the war and putting together a fleet that could successfully contest command of the sea from the Japanese.

The classical and nonetheless effective response to this is convoying, where shipping is escorted by surface fleets, submarines, and even land-based aircraft, and thus protected from predatory raiding. Convoying requires the same ships as gaining command of the sea, with particular attention to early detection of hostiles, since it is often a war against stealthy submarines and aircraft. Properly done, convoying is very effective, as the World Wars proved; Germany was, in the end, unable to starve Britain. However, convoying requires enormous resources and industrial capacity to pull off, especially when facing a determined adversary.

A more recent example is the conflict in the Persian Gulf in the 1980s. Though the Iranians did not engage in commerce raiding to nearly the same degree as seen during the World Wars, it nonetheless caused significant problems for the oil-exporting states of the Gulf, as well as for their American allies. Furthermore, commerce raiding may very well be more effective in the modern age, where globalization and the demand for just-in-time shipping has created a commercial system highly vulnerable to disruption and with few redundancies to absorb shocks. Vertical innovation, such as long-range naval drones like the UCLASS program currently actively under development in the US, may alleviate the burden of convoying and protecting SLOCs, but it remains a difficult task.

A note on forward force posture; this fancy piece of American jargon is just the latest cover for that ancient Mahanian prescription of seeking distant colonies and constructing defensible coaling and resupply stations there. In the modern age colonies are no longer a concern, but forward basing is. Any navy that wishes to project force globally, and seeks to be able to gain command of the sea globally, must inevitably rely of scattered forward bases; underway resupply is simply not efficient enough. With significant naval bases in the Atlantic, the Mediterranean, the Indian Ocean, and the Pacific, the US is the quintessential example today.

From a military perspective, these bases should be hardened and made defensible. Furthermore, these should be provided with a significant body of marines and naval infantry, as well as long-range land-based aircraft. Thus force projection, the purpose of sea control, will be greatly enhanced. From a diplomatic perspective, the acquisition of basing rights and the maintenance of a good working relationship with host countries should be a strong priority of any maritime power wishing to project power on a more expansive scale.

Finally, space is not to be ignored for sea control. The ability to field a global positioning system based on satellites is invaluable to navigation, communications, intelligence gathering, reconnaissance, and weapons targeting. Though it is enormously expensive and therefore accessible to only the richest of navies, it is invaluable. Western-aligned navies can benefit from access to the American-backed GPS, and it grants them great advantages. Other satnav systems include the European Galileo, yet incomplete, the Russian GLONASS, in disrepair since the end of the Cold War, and smaller regional systems - the Chinese BDS and the Indian GAGAN.

2.3.3   Sea denial

Sea denial represents a fusion of the coastal defense promoted by the Soviet New School and the aggressive commercial war advocated by the *Jeune Ecole*. Sea denial strategies are also referred to as A2/AD in American literature. Based as it is on two radical and innovative strands that break with the orthodoxy of sea control, it is a rare strategy to find in practice, and few states have seriously attempted to implement a coherent sea denial strategy; however, there is nonetheless historical precedent in the "bastion defense" strategy of the Soviet Union, which was at least partially based on principles of sea denial, so the strategy is not purely a theoretical construct. Furthermore, it has seen a revival in China and Iran as a tool for balancing the superior American navy, so the tradition lives on. As a strategy, sea denial is tactically offensive, but strategically defensive, fundamentally aiming to create a forbidden sea zone where the opponent dares not or cannot advance into; the extent of the zone is dependent on the purpose of the strategy and the capabilities available.

As stated earlier, the fundamental basis of sea denial is robust coastal defense. The means are pretty much the same, focused on mobile defense batteries supported by mechanized infantry, as well as the odd fortified port, or hardened and buried submarine pen. However, a strategy of sea denial eventually aims to take the offensive, at least locally if not regionally. Therefore, greater importance is placed on neutralizing enemy assets that may strike the coast or inland, especially aircraft. Therefore, sea denial places a premium on constructing an elaborate air defense network. The tactical, short-range SAM (surface-to-air) missiles commonly fielded by many nations are to be augmented by strategic SAM with far greater ranges, commonly 50km, but with Russian systems reaching more than 200km. Strategic SAM are to be augmented by combat aircraft, especially high-speed or heavy interceptors; Russian designs are predominant here, from the MiG-31 for its high speed, to the heavy Su-27 Flanker and its derivatives, greatly coveted by Asian air forces, especially the Chinese. Interceptors can, and should if possible, be augmented by electronic warfare and airborne early warning (AEW/C) aircraft, acting as picket forces and coordination centers, and proven to be highly effective at multiplying the effectiveness of interceptors. In tandem, strategic missile coverage and comprehensive aircraft support can neutralize even a severe airborne threat, greatly enhancing the defense of the coast. Once the skies are clear, an enemy amphibious assault is also much less likely to succeed, while one's own ships, submarines, and aircraft can operate unhindered and project force outwards from the coast. In effect, the first step of sea denial is to deter enemy air action, and if possible to gain at least localized command of the air. It must be noted that aside from wargames and simulation, there is little reliable practical evidence of how a clash between a modern air defense system and an invading air force would play out, at least not from the post-Cold War era. NATO, for example, has not faced one since the bombing campaign in Serbia in 1999, and the Serbian network was not the most extensive to begin with.

If extensive air defense was the only element of sea denial, it is unlikely it would worry American defense planners to the extent that it does. But the purpose of sea denial, once air superiority can be intermittently achieved, is to sever enemy SLOCs (including merchant shipping), actively hunt and destroy enemy surface fleets, and attack and neutralize enemy

forward basing, all for the purpose of creating a regional-level zone where enemy fleets and merchant shipping simply cannot enter or act within due to the high probability of destruction. Within this zone one would now theoretically be free to conduct limited force projection, and to seize maritime and land objectives at will, unhindered by enemy maritime intervention. The purpose of confrontation is not that of gaining command of the sea, as sea denial does not depend on decisive battle between surface fleets, and in any case is designed as a strategy to allow one navy not equipped with an expensive surface fleet to neutralize another that is and relies on a classical strategy of sea control. In effect, sea denial denies in a cost-effective manner the ability to gain command of the sea to even the most overwhelmingly powerful navy in the classical sense (i.e. number of carriers), and does so through technologies and tactics that exploit the vulnerabilities of a classical strategy of sea control based on surface fleets; that is what worries the US Navy so much.

In order to achieve denial, missiles, submarines, and aircraft are essential. Standard-sized attack submarines, not the pocket submarines specialized for coastal defense, are preferable, and highly effective; in a particularly damning incident, a PLAN submarine surfaced undetected inside an American CVBG doing exercises in the Western Pacific in 2009. Submarines can also be armed with anti-ship missiles, greatly increasing their firepower and range. Long-range aircraft are also highly advantageous, and were essential to the Soviet Union's application of sea denial in the North Sea. The Soviets developed a plan of attack where the North Sea would be seeded with Tu-142 reconnaissance aircraft; once these located NATO carrier groups, large attack formations of fast Tu-22M bombers would swoop in, each carrying either 3 or 6 anti-ship missiles with an operational range of 300 km; Tu-22M formations would also be used alongside attack submarines to neutralize resupply convoys traveling to Western Europe. This highlights the essential role of missiles and guided munitions in general to sea denial, and these only become cheaper and more effective as IT progresses and manufacturing costs continue to sink. Mass missile attacks are difficult to defend against, and even though every modern warship has anti-missile systems, these have been proven to be insufficient in the face of enough incoming missiles. An alternative to mass missiles would be the development of guided ballistic missiles, which for all intents and purposes cannot be

defended against on their terminal course; this is the case with the Chinese DF-21D prototype missile.

Moving on to robotics, drones can play an essential role in sea denial, both as disposable attack tools, and as reconnaissance platforms, such as the Chinese copycats of the long-range American Global Hawk drone. This gives the utility of the Soviet Tu-142 without the need for risking a large crew and expensive aircraft, alongside realtime information made possible by modern communications technology. At the high end of maritime capabilities, sea denial can benefit as much as sea control from exclusive access to a satnav system, and despite the cost, this is a strong motivator for the development of the Chinese BDS satellite network.

Sea denial can also make use of a number of surface ships. The classical mosquito fleet of torpedo boats, now replaced by missile boats, has not diminished in effectiveness, and can exploit complex shore topography to launch unexpected salvoes of missiles. Larger vessels also have a role. Within the zone denied to enemy maritime forces, frigates and corvettes can escort friendly shipping, lay mines, sweep for enemy mines, hunt foolhardy enemy submarines, and add their modest firepower and helicopters to limited amphibious operations.

The final element of sea denial concerns force projection within the denied zone. This is of particular interest to states that contest control over islands, island chains, and offshore facilities and resources in general. Here more conventional tactics would be used, with the full panoply of amphibious assault ships and forces required to suppress shore defenses and establish a beachhead.

Force projection can also mean the establishment of forward bases to act as "unsinkable aircraft carriers." These can house airfields, missile silos, and submarine pens to extend the denied zone. These can also be much more concealed, striking unwary merchant shipping or enemy ships and aircraft; the Iranians experimented with this when militarizing oil platforms in the course of the Iran-Iraq War.

Of course, enemy force projection and forward basing ought to be neutralized as well. As forward bases are fixed targets, the preferred solution would be bombardment by ballistic

missiles. Despite the development of theater-level ABM (anti-ballistic missile defense), this remains a very serious threat. A mass attack by ballistic missiles on a naval base could not only sink ships in port, but also render the facility inoperable for significant periods of time. With limited resupply and repair, such a crippled force could not even begin to seek command of the sea, let alone force projection. Ballistic missiles can also be augmented by cruise missiles fired from aircraft or submarines, a feasible plan considering that it was planned for NATO submarines to strike Soviet bases in and around Archangelsk exactly in this fashion.

2.3.4   MOOTW and nuclear deterrence

MOOTW and nuclear deterrence are radically different missions, but are grouped in this section, as they are outside the traditional distinction of coastal defense/sea control/sea denial. As stated earlier, it is very rare to find a navy driven solely or primarily by MOOTW. However, if engaging in MOOTW is actually an important motivator of foreign policy, then the capabilities and operations associated with classical sea control are the most appropriate, given that in a sense, MOOTW is a form of force projection; after all, delivering aid via helicopter is not so mechanically different from delivering marines via helicopter, and is well-served by the speed and size of the carriers and amphibious assault ships central to sea control.

That is not to say that a navy engaging in sea denial cannot conduct MOOTW. Especially if it fields larger surface ships, such as frigates, it would certainly be able to do so to some extent. It is simply that the focus of sea denial demands different capabilities than the focus of sea control, and these capabilities are not ideally suited to MOOTW.

Nuclear deterrence via maritime means is a mission, and therefore can be integrated into any strategy that could make used of missile submarines. That is the case for both sea control and sea denial. Sea-based deterrence does not require command of the sea; during the Cold War, the Soviet Union stationed submarines off the North American eastern seaboard, though it clearly did not have command of the sea there, nor did the Soviet Navy have any realistic prospect of ever gaining command of the sea there.

Furthermore, sea-based nuclear deterrence is the only realistic nuclear mission left to navies. The frenzy of using nuclear weapons of all shapes and kinds was mainly a phenomenon of the 1950s, when both sides of the Cold War developed nuclear naval mines, nuclear torpedoes, and nuclear anti-ship missiles. This has long faded. There remains significant links between general nuclear policy and the navy, but that is because of nuclear propulsion for surface ships – now confined to supercarriers – and submarines.

3.   NEOCLASSICAL REALISM

3.1   Neoclassical realism within the realist tradition

This volume seeks to test two models from neoclassical realism – the complex threat assessment model and the resource extraction model.   These models are rather complementary, as the complex threat assessment model seeks to explain how threats are identified, and if states can mobilize support from societal elites in order to address said threats, while the resource extraction model seeks to explain whether states are able to mobilize enough support, or alternatively to extract enough resources from society, in order to adopt strategies of emulation or innovation that compensate for relative deficiencies in the distribution of power.

It nonetheless remains relevant to examine the rich theoretical tradition of realism as a theory of international politics, so as to site neoclassical realism within that theoretical stream. Realism, as a philosophical tradition, rather than a formalized research program, is truly ancient, dating to the works of Thucydides in ancient Greece and Sun Tzu in ancient China. Beginning with their writings, and continuing through more recent works like Hobbes' *Leviathan*, what emerges is a fairly coherent understanding of the world and the human condition.

Realism, at its core, is pessimistic. It does not see strong prospects for change in the human behavior, with survival the overriding interest. It is skeptical of claims to "the end of history" and prospects for global peace or schemes to enforce global peace (Lobell 2009; Doyle 1997); this is due to realism seeing anarchy as the overriding constant of both human existence and the international system, anarchy that exists because there simply is no authority higher than states that can actually compel them and direct the whole of the international system. Furthermore, realism states that "ethics and morality are products of power and material interests, not the other way around." (Carr 1964)

There are three generally well-accepted tenets of any variant of realism. First is that humans must survive in groups, as individual existence does not provide sufficient security from aggressors, and it is only through banding together in a group, with leadership commanding loyalty in exchange for safety, that humans may thrive. Therefore, realism recognizes the fundamental tribalism at the heart of political and social life (Lobell 2009). Second, politics represent the endless struggle between groups – hence tribalism – driven by self-interest for scarce resources. Scarcity is constant, no matter whether the resources in question are material or social; however, social resources may be even more relevant than material, given the premium oft placed on status and prestige (Markey 1999). Furthermore, the struggle is often conducted under conditions of uncertainty about the other's interests and intentions, thus greatly complicating interactions and enabling the potential for devastating competition (Schweller 1999). Third, all this struggle, this anarchy, is ultimately necessary for any group, as without resources and the power they bring, no power can hope to survive, and then to accomplish whatever goals it prioritizes (Gilpin 1996).

There exist of course debates in the realist tradition, based on these three principles, on the permissive causes of conflict. For classical realists, the debate lies between human nature and the external environment, the "war of all against all" feared by Hobbes. For neorealists, focused as they are on the structure of the international systems and structural factors as the chief drivers of international politics, the question lies more on understanding that structure and the interaction between states in order to avoid unnecessary conflict; at the heart of this debate lies the distinction between offensive realism, which focuses on power maximization, and defensive realism, that instead favors security maximization, as competing realisms with respect to explaining causes of state behavior and conflict (Jervis 1996). Furthermore, there also exist debates within and between classical realism and neorealism on the prevalence of hegemonic, bipolar, and multipolar systems, and the likelihood of conflict in these respective systems; the latter two are characterized by the presence of the balance of power, a common explanatory feature of the international system (Gilpin 1981).

Classical realism, the oldest strand, concerns itself with power, its acquisition, its use, and the problems this presents for foreign policy and national leaders. The balance of power is the sacrosanct explanatory mechanism, but also of relevance are the domestic characteristics of states and the relationship between state and society. Classical realism's heyday, the mid-20th Century, was dominated by Morgenthau, Kissinger, and others, who deal extensively and often in a philosophical manner with the nature of national power and the correct principles of statesmanship, typically drawing on the historical experiences of the European Great Powers, starting with the Peace of Westphalia (1648) that established the modern state system, supplanting pre-modern feudal and imperial structures with the notion of sovereignty and the nation-state. Often, little attention was paid to the nature of constraints placed upon individual states by the structure of the international system, and given that classical realism, as an intellectual tradition, is more than two millenia old, it is not surprising that it did not develop as a formalized research program (Lobell 2009; Tellis 1995).

Neorealism, including the term itself, came about as a result of Waltz' seminal work *Theory of International Relations*. The focus of neorealism does not lie in philosophical debates. Rather, this strand seeks to explain patterns of events and behavior in the international system over time. Big questions are the norm here, such as the origin of wars, the fleeting and fragile nature of international cooperation, and the source of balancing behavior, especially when an asymmetry of capabilities between states is present. Neorealism also consciously differentiates itself from classical realism by its scientific approach and adherence to rigorous positivist methodology. Though there is much variety in neorealism, the ultimate conclusion is that world politics are driven by the structure of the international system – hence neorealism's other moniker, structural realism – and the state of anarchy that defines the international system, driving states to pursue similar strategies for security or power acquisition. Within the anarchic international system, the most important variable is the balance of power, more prosaically expressed as the relative distribution of capabilities; this variable explains a vast amount of individual state behavior as well as systemic outcomes (Lobell 2009). It is enhanced by the mechanism of the security dilemma, whereby the actions one state takes to increase its own security paradoxically reduce the security of other states, since their relative capabilities

have decreased; therefore they as well are driven to increase their security to ensure their survival in a changed environment. The end result is that the initial movement to increase one's own security may very well have decreased it in the long run, and so forth.

Waltz is the origin of balance of power theory, which remains the most mainstream of neorealism. In order to explain recurrent outcomes in the international system, by which he means the continued occurrence of balances of power and the absence of sustained hegemony through history, he presents a parsimonious model with a single explanatory variable, the systemic distribution of power. This is measured as the number of great powers – polarity. Waltz predicts that polarity drives the formation of the balance of power, and that the inexorable nature of the international system drives states to emulate the practices of the most successful states in the international system (Waltz 1979).

Writing at a time when microeconomics was ascendant, Waltz chooses to emulate microeconomic assumptions of his time, and to abstract the individual characteristics of states as well as their domestic circumstances. Instead, he focuses on international drivers and constraints. In effect, he treats all states as a "black box" (Lobell 2009). He does concede that international and domestic systems are different, since their ordering principles (anarchy vs. hierarchy), attributes (similarity vs. difference), and the distribution of capabilities differ (Lobell 2009). However, he points out that balance of power theory assumes that most states would choose to respond correctly to systemic incentives by engaging in balancing and emulating success, given that not doing so would entail failure and suffering for the dissenting state (Waltz 1979). This adaptive behavior that compels states to seek security for their own ends creates a feedback loop that perpetuates anarchy in the international system. Furthermore, he assumes that states have an unlimited ability to mobilize and extract resources from their people and territory, and that therefore aggregate resources equal power – most importantly military power – and international clout and influence (Hobson 2000). In this, balance of power theory is greatly simplified with respect to reality, but this is necessary, according to neorealists, in order to have theoretical parsimony and greater scientific generalization and explanatory power.

There exist other strands of neorealism, but all offer models based on assumptions that deal in simplification in order to gain explanatory power. Offensive realism disagrees with balance of power theory with regard to the assumption that states can somehow know what the optimal level of power is for achieving security for themselves. Rather, the uncertainty inherent in this calculation, both internally and with respect to other states, means that states will instead always seek the maximum amount of power, since they cannot be sure otherwise that they have achieved the correct amount of power. In essence, offensive realism contends that states are power-maximizing rather than security-maximizing (Mearsheimer 2001). The consequence is that great powers will always seek opportunities to expand their power and territory at the expense of neighbors and rivals, and that therefore great powers will also seek, once powerful enough, to engage in a bid for regional or even global hegemony. Once again the state is a black box, since domestic details are irrelevant, and the only correct strategy is to maximize power.

Expected utility theory, on the other hand, contends that foreign policy decisions, rather than being based in some sort of maximizing impulse, are the result of a detailed analysis by decisionmakers of the expected utility of any international action. Utility is calculated on the basis of the balance of power and relative distribution of capabilities, on the power of allies, and on the geographical distance of both allies and rivals (Bueno de Mesquita 1981). Once again the state is a black box, perfectly able to mobilize resources, correctly and without prejudice assess the international situation, and control the policy agenda.

It is within this complex debate that neoclassical realism emerges. From classical realism, it takes the individual nature of states and their complex relationship to domestic society; in that sense, neoclassical realism reintroduces unit-level variables to the realist tradition. Furthermore, it defines itself as primarily a theory of foreign policy rather than a systemic theory; however, neoclassical realists also recognize than the international system creates constraints for states that at least partly dictate their availability and choice of foreign policy alternatives (Lobell 2009).

Neoclassical realism and neorealism have much in common, including a focus on generating testable hypotheses. The real point of departure is the dependent variable. Neorealism concerns itself with the patterns of international outcomes at a truly grand scale, such as the occurrence of war or the polar configuration of the international system. Instead, neoclassical realism "seeks to explain variation in the foreign policies of the same state over time or across different states facing similar external constraints; it makes no pretense about explaining broad patterns of systemic or recurring outcomes." (Lobell 2009) Where a neorealist would examine systemic outcomes, a neoclassical realist would instead look at the political, military, and economic policies of individual states that either led to that particular systemic outcome, or are reacting to it (Rose 1998). In effect, neoclassical realism perceives causal factors at both the structural and unit levels, with the unit-level variables explaining variation in state behavior when holding constant structural factors (Taliaferro 2006).

A critique of neoclassical realism might argue that due to its focus on internal characteristics, especially the intervening role of a foreign policy executive (FPE), neoclassical realism abandons the assumption that states are rational and self-interested actors. This, allegedly, would be due to the individual biases of the members of the FPE, which would cause them to forgo acting in a rational manner. However, the assumption of strong rationality has been in question in social science in general at least since the advent of bounded rationality. Furthermore, Waltz himself, the ultimate structuralist, never argued that states are rational; rather, he posited that the unforgiving nature of the international system socialized states into emulating best practices, and that competition ensured that the survivors practiced correct policies (Waltz 1979).

Now that I have cited neoclassical realism within the realist tradition, we examine its conception of the state, and its conception of the international system. Much like other strands of realism, neoclassical realism identifies the state as the most important actor in the international system; as Gilpin writes, tribalism is an immutable facet of human existence, and the building blocks of sociopolitical life are conflict groups (Lobell 2009; Gilpin 1984). The only condition for group existence is that it differ from other groups, and fear is a crucial driver, as

without the achievement of physical security in a group context, the pursuit of any other goal is unfeasible; furthermore, fear and a concept of the "other" is critical in maintaining the identity of a political group, whether this hostility is directed internally, towards minorities, or externally, towards other states. The preoccupation with inter-group hostility, xenophobia, and competition appears in the writing of all major realists, and has been a facet of the international system as far back as the deadly rivalry between Rome and Carthage (Evrigenis 2007).

Neoclassical realism defines the state much the same way as any other strand of realism, basing the definition on a Weberian definition that see the state as a community able to claim the legitimate use of a monopoly of force over a certain territory with well-established borders. Neoclassical realism takes a "top-down" approach to the state, where external behavior is driven by systemic forces. In this conceptualization of the state, it comprises a national security executive – head of government plus ministers that make foreign policy decisions – as a mediator, or intervening force, between the international system and the rest of the state, and therefore best equipped to discern systemic constraints and the national interest (Ripsman 2010; Lobell 2009). However, the autonomy of this construct is not absolute, and varies between states. It must oftentimes bargain with other domestic actors, such the legislature, political parties, domestic interest groups, the public, and other parts of the government; bargaining nets it resources and allows for the implementation of policy. Leaders define the national interest, based upon their understanding of the international system and on the relative power and intent of friends and rivals, and conduct foreign policy based on this assessment. But this is always subject to domestic constraints, and even the definition of the national interest may be deeply controversial. In order to assess threats, adjust strategies, and implement policy, rare is the case when the FPE does not have to bargain with the government, with interest groups, and with the public.

This distinction between state and society is essential to neoclassical realism, and is in agreement with classical realism, which does not see the state as truly autonomous from society. This is evident when Kissinger, amongst others, negatively recounts the slow process

by which states lost much of their autonomy with respect to society in 19th Century European Great Powers (Kissinger 1957). The emergence of legislatures, even token ones, and of nationalism and public opinion greatly restricted available policies, and generated a difficult balancing act for leaders between preserving the balance of power and the national interest while keeping society at least marginally satisfied. Neoclassical realism nonetheless assumes that the executive is better informed and transcends class and sector due to its devotion to the national interest. Policy is therefore a result of state-society coordination, or perhaps state-society struggle, which involves significant degrees of bargaining. This is particularly evident in the recent record of American intervention abroad, where coalition-building and compromises were essential in mobilizing support for both Gulf Wars, as well as for the Balkans. Bargaining and state-society cohesion may very well not be the only constraint, however. There is always the chance of elite disagreement, which engenders deep divisions within the leadership itself, or the lack of social cohesion, which, if severe enough, can make the regime vulnerable to overthrow, a possibility that tends to overrule other lesser concerns in policymaking (Schweller 2010).

Moving on to the international system, neoclassical realism identifies "elite calculations and perceptions of relative power and domestic constraints as intervening variables between international pressures and states' foreign policies; relative power sets parameters for how states define their interests and pursue particular ends." (Lobell 2009) The international system is defined by pervasive uncertainty and the presence of potential threats, both strong drivers of anarchy. There is no guidance from above on how to avoid the danger of state failure, so every state must rely on itself, and make foreign policy to the best of its abilities (Sterling-Folker 2012). It may be difficult for states to properly learn and be socialized into the international system, especially if there is a period of rapid change. Therefore, threat assessment is rarely obvious, and threats often ambiguous; it may not be immediately obvious what the best response is, if one even exists in the first place, and the logic of the security dilemma can make states less secure, even if their policies tried to do otherwise.

In this conception of the international system, the role of the members of the FPE is to anticipate the actions and reactions of other states, as well as broader trends in power. This is much easier said than done, and neoclassical realism often deals with the difficulty inherent in assessing relative shifts in the balance of power. A classic example, which is actually deeply maritime to boot, is the difficulty of British leaders to assess the relative decline of British power immediately prior to the Great War, a time when there were strong fears that Germany may eclipse Britain, and even directly challenge the Royal Navy (Lobell 2009). The difficulty of assessing power is due to a number of factors, often related to the difficulty of actually quantifying power, or of assessing the relative military merit of various strategies and systems, especially when weighted against their perceived prestige; there is also always the chance that states adopt unpredictable and radical asymmetric strategies, and signaling is always an issue (Wohlforth 1993).

The subtle nature of long-term trends is one thing; another can be the powerful impact of exogenous shocks – the introduction of new strategies, sudden military defeat and collapse, an unforeseen crisis. Such spectacular events can greatly clarify the cumulative impact of subtle trends; it was certainly the case for the collapse of British power, which signaled the beginning of a bipolar world order, and compelled the policy of actively containing the Soviet Union (Christensen 1996). Christensen also cites the example of 19th Century Austria, consistently overestimated until its shocking defeat at Prussian hands in 1866. In general though, neoclassical realists contend that feedback is rarely so clear, and that it will often be subject to highly varied interpretations by the various actors involved, both in state and in society. Furthermore, all strategies, when interacting together in the international system, have the potential to lead to unforeseen consequences (Jervis 1998).

Neoclassical realism fully agrees with the neorealist assessment that adaptive behavior and emulation are the norm, driven by competition and socialization. Therefore, at the core of neoclassical realism lies the assumption that it is this very same process that led to the demise of alternate forms of organization, and crowned the nation-state as the best polity for the purpose of surviving in the international system (Sterling-Folker 2012). Emulation can and does

also constantly occur in a much more modest fashion, as states copy successful strategies, adopt successful policies, and construct military forces based on what is perceived as the best systems available.

Neoclassical realism is fundamentally a theory of foreign policy. Maritime strategy is a subset of military strategy, itself a part of grand strategy, which is the blueprint that drives foreign policy. Therefore, the purpose of this volume is to take this subset of foreign policy, and to test the validity of neoclassical hypotheses and assumptions of foreign policy formulation when applied to a particular type of state – regional powers.

3.2   Complex threat assessment model

The following section lays out a succinct summary of the complex threat assessment model, developed by Lobell (2009), which identifies the FPE as the key mediator between the international environment and domestic interests. The FPE has the difficult task of dealing both with systemic factors – the international and regional balance of power – and domestic constraints, represented by competing domestic blocs and their interests. In its actions, the FPE is nested in these two areas, and must carefully balance domestic pressures along with identifying and correctly interpreting foreign threats. Errors in threat identification, or domestic pressures that render the FPE unable to correctly deal with a threat, can have severe consequences.

The complex threat assessment model works in two stages. In the first stage, the FPE gauges international, regional, and domestic threats, with the greatest focus being shifts in the individual components of the power of other states. In the second stage, the FPE must attempt to formulate policy based on this assessment. Here, the perceptions and interests of domestic groups are paramount; if there is a disconnect between what the FPE perceives as the correct policy and what domestic groups perceive as the correct policy, then the likelihood that the FPE is able to successfully implement its chosen policy depends greatly on the relative balance of

power between actors friendly to the FPE's goals and actors that are not, as well as on the level of autonomy of the FPE and the state as a whole from society.

3.2.1   The nature of threats

The international system remains the primary motivating variable in this model, though it also considers the difference between the systemic balance of power, at the international level, and subsystemic balances of power, at the regional level. Given that the FPE must also balance these, it may very well be possible to observe suboptimal behavior in one area, while the same behavior is optimal at the level of the whole game (Lobell 2009; Tsebelis 1990). At its simplest, threat is determined by distance, intent, and capabilities (Walt 1990; Walt 1985).

For defensive realists, it would be security maximization. In this line of thinking, an attempt to grab hegemony would be deeply unlikely, as it would generate such hostility that it is inevitable a balancing coalition would form and pull down the would-be hegemon (Waltz 1999). This result can be observed in pre-war Europe. Germany's ambition to build a grand fleet led to a strong reaction amongst other European Powers, especially the British, which eventually convinced both France and Russia, rather traditional enemies during the course of the 19th Century, to join in alliance. For offensive realists, power maximization is the goal. A stronger state is not only better able to pursue its goals and protect its security, but may also be so intimidating that weaker powers will be reluctant to fight it in the first place. Aggression and expansionism are the primary motivations, and when identified in rival states, are the primary threat; the most dangerous of states are those possessing a combination of high latent power, channeled into powerful land armies (Mearsheimer 2001). Alongside this debate, there is also the question of regional powers. For these, it is assumed that alongside regional rivals, the most pertinent systemic threats originate from meddling by the great powers in their region. This was certainly the case during the Cold War, where various degrees of tension in various regions were at least partly due to the East-West rivalry (Stein 1997). Today, bipolar competition is over, and the US remains the only power capable of global force projection. There are two perspectives on whether this decreases or increases regional threat perception. One line of thought assumes that the US provides a number of important public goods – such as

the openness and security of the high seas and international waters – and mitigates regional tensions though mechanisms such as mediation and security guarantees (Lobell 2009; Wohlforth 1999). Another line of thought counters that the high level of American power, especially when compared to that of the average regional power, allows the US to "act in an unconstrained manner and without the fear of retaliation." (Walt 2005) As we shall see in the case studies, this is not a trivial debate, as regional perceptions of US power to a great extent shape strategy, especially for regional powers with a dim view of alleged American benevolence.

This model pays strong attention to the regional context, a valuable focus for testing it in the case studies. Regions have "their own dynamic which is semi-autonomous but not independent of the global great power system and domestic politics." (Lobell 2009) The source of regional tensions is competition between the various regional powers over leadership of the region, or perhaps for more aggressively-minded states, for the elusive goal of regional hegemony; it should be noted that most realists agree that regional hegemony is very difficult to achieve, with some going as far as to posit that only the US has historically achieved it as hegemon of the North American region. There is strong evidence that in regional competition, regional powers are keen to bring in the great powers for their own benefit. Patronage by the "correct" great power is always a concern; a classical example is Balkan politics in the period from the decline of the Ottoman Empire to the imposition of socialism from the USSR. Rather than static pawns to be manipulated by the great powers, the small powers of the Balkans cunningly made use of crises and tensions to draw in said great powers in regional contests from which these great powers could not easily extricate themselves (Glenny 2000). The dynamics of the Middle East during the Cold War display the same pattern of regional competition and engagement by the US and the USSR driven by the demands of their respective clients in the region (Lobell 2015; Kerr 1971).

Recent history is littered with examples of the extensive impact of shifts in the regional balance of power. The end of Saddam's Iraq as a regional power allowed Iran to take its place, and subsequently intensified competition between Iran and Saudi Arabia, along with Saudi's

Gulf allies and the US. In East Asia, the rise of China has intensified tensions in the Western Pacific and beyond; as a result, Japan is courting rearmament and constitutional change, while India has intensified its nuclear deterrence program, as well as extensive military modernization.

Finally, the complex threat assessment model addresses domestic threats alongside international and regional threats. This stems from the eternal competition between various elite groups for the benefits of setting policy and in general being in power. Any domestic interest group or coalition worries about other such groups capturing the agenda and heaping further benefits upon themselves while undermining the position and interests of rival factions; thus, this internal wrangling is always bound to be intense, no matter the regime type (Lobell 2009; Milner 1992); even in the absolute monarchies of yore or the autocracies of today, there were and are competing factions.

It should be noted that this model does not pay attention to another kind of domestic threats, that of organized crime, terrorism, extremism, and in general of the kind of threats that fall under the rubric of non-traditional security threats. As we shall see in the Brazilian case, this is a notable omission.

The model draws a number of conclusions from this multitiered approach. First the obvious conclusion that the FPE assesses threats at several levels, with the implication that states can act at one level to influence another (Lobell 2009). Second is that the FPE can use actions at the external level in order to influence domestic politics, the classic example being of using foreign conflict in order to bolster support at home, drawing on nationalism and the "rally round the flag" effect; such a situation may also allow the state to increase its autonomy with respect to society, to curtail societal influence in the state, to expand its power over society, and to strike at internal opposition. Third is that the FPE can do this, but with domestic actors in other states being the targets, with the goal in the long term being substantial change in the other state's political and economic behavior (Cortell and Peterson 1999). This was interwar Britain's approach towards the aggressive and revisionist Germany, Italy, and Japan, as Britain's elite believed that commercial and industrial links would strengthen conservative big business

elites at the expense of nationalist and military elites, eventually leading to less aggressive policies by these states (Smelser 1983). Finally, as mentioned above, the FPE can act in the region, or locally, in order to involve reluctant great powers. The slow-motion collapse of Yugoslavia provides plentiful examples, but none as much as the case of Croatia, which went through various external patrons, from Austria to the German CSU, eventually gaining American support which proved essential to the Croat victory in 1995.

Multitiered threat assessment still places power at the center, just as other forms of realism. However, Lobell instead posits that the FPE does not choose to balance against the overall power of other states, but instead is far more sensitive to changes in the various individual components of the power of other states; furthermore, policy is thus largely driven by these specific changes, and specific components may not threaten equally, and different policies may be formulated in order to address different components (Lobell 2009). Such a nuanced interpretation also allows for the examination of specific policies, which is exactly the purpose of this volume, as it specifically looks at maritime power and strategy, a specific component of power.

Thus, the threat posed by any given state is dependent on which specific component has changed, usually by increasing. Specific components include territorial changes, population size, ideology, industry, and military power (Mearsheimer 2001). This refines Walt's conception of threat and the attendant balance of threat, where threat is perceived based on economic and demographic strength, geographic proximity, offensive capabilities, and offensive intent (Walt 1990; Walt 1985). Thus, Lobell argues that export-oriented firms, large banking, and financial services would consider a rising economic power to be a welcome thing, as it means more opportunities for investment and profit; the classic example here is the warm relationship between Britain and Japan prior to the Great War, as the City of London and its elites saw Japanese industrialization as an incredible opportunity to export British industrial goods and promote extensive railway construction, with the principal beneficiaries being British financiers (Lobell 2009; Akita 1996). Instead, inefficient industry and agriculture, import-substitution manufacturing, and labor-intensive industry would see an economically ascending state as a

rival (Lobell 2009). Naturally, such actors would fear that increased foreign competition would lead to the import of cheaper foreign goods, and thus lead to the loss of jobs and shutdown of industry at home.

This kind of complex interplay may very well lead the FPE and societal elites to incorrectly interpret foreign threats, especially given the uncertainty when dealing with an ascending state and its impact of the systemic balance of power. This is because state and societal leaders may perceive that the specific component of power that is changing is endangering their narrow interests.

3.2.2   The FPE, domestic actors, and domestic constraints

Before delving into the nature and role of domestic actors, it is important to state that neoclassical realism assumes that the FPE is a unified central decision-maker, committed to advancing the security or power of the nation. Its ability to do so is affected by "political and social cohesion, public support for foreign policy objectives, and the quality of a government and administrative competence, which affect whether the state can harness the nation's power" (Lobell 2009); this is labeled state power by neoclassical realists (Zakaria 1997). The FPE is furthermore assumed to be formed of individuals that occupy critical roles in the state administration, are responsible for grand strategy formulation as well as the individual components of grand strategy, such as maritime strategy, and finally the FPE is assumed to have a near-monopoly on intelligence on foreign countries and their capabilities (Ikenberry et al 1988).

The complex threat assessment model opens up the black box of the state and considers the interests and perceptions of societal elites, positing that these actors have a role as important as the FPE in setting the agenda of national security policy and thus deciding which foreign state is a threat and to what degree. These actors may have a different set of values from their state's FPE, and just as any other actor, their perception of events is also shaped by their concerns at the time they become aware of international and domestic developments (Jervis 1968).

Thus, the model posits that societal elites (i.e. socioeconomic leaders) maximize their group's economic welfare, while the FPE devises grand strategy in order to maximize national security (Lobell 2009; Skalnes 2000). The FPE asks how changes in the components of power of a foreign state affects national security; instead, societal elites ask how these changes affect their prosperity, access to leadership, and domestic position with respect to other domestic factions. Changes are either complementary, when the other state is seen as a partner by elites, or competitive, when the other state is seen as hostile. Unlike some other neoclassical realists, this model thus assumes that societal leaders are also able to understand balance of power politics, citing the case of the economic rise of China as an example; whereas American financial elites welcome it, due to the boom of investment, American labor leaders do not, due to competition from much cheaper Chinese labor.

Thus, the model sets out two broad coalitions that unite various actors due to shared parochial interests; naturally, these have conflicting interests and policy preferences (Lobell 2009). The first is the internationalist coalition, defined as the internationally competitive sectors of the economy and its domestic allies, all holding overseas capital and contacts, and benefiting from foreign economic interaction. Supporters are composed of "fiscal conservatives, export-oriented firms, large banking and financial services, and skilled labor, favoring a forward grand strategy that entails heightened participation in the international system" (Lobell 2009); their allies in the state are finance-oriented bureaucratic organs. Since this also entails engagement in the international system and coordination with foreign governments for mutual gain, this stance favors membership in international and regional organizations, as well as participation in strategic partnerships, treaties, and collective security mechanisms.

In contrast, the nationalist coalition is composed of non-internationally competitive sectors and attendant domestic groups, holding few or no foreign capital and assets, or perhaps competing with foreign imports. Supporters include "inefficient industry and agriculture, import-substituting manufacturing, and labor-intensive industry"(Lobell 2009); allies in the state are the public sector, colonial and empire oriented bureaucracies, and the civil service.

This coalition is by nature reluctant to engage in the international system, since it would undermine the domestic power of its constituent parts. It is strongly opposed to interventionism and to an offensive grand strategy and military posture, as well as to binding international treaties and mechanisms that entail foreign adventurism and responsibilities, though it is possible they may also choose the path of imperialism and conquest under specific circumstances, such as achieving autarky (Nolt 1997).

The membership of these coalitions is fluid and these are rarely organized in a formal fashion, rather coalescing around common interests. Members may also defect as a result of changes in the domestic and international situation. This is all part of a domestic process whereby societal elites, just as the FPE, identify changes in the components of the balance of power, and identify how these changes would favor their respective coalition. Thus, societal elites also recognize that balancing against foreign threats will have consequences at home, consequences that each coalition would be keen to steer to its advantage; as a result, if their welfare is strongly dependent on foreign threat identification, they will be much more likely to persistently lobby the FPE (Lobell 2009). Since balancing is costly, societal elites will only mobilize their constituency to lobby the state if balancing serves their narrow parochial interests, regardless of the national interest. If they are successful, they will then seek the rewards of being correct in order to shore up and expand their domestic position, which is the grand reward of this domestic competition.

In the background of this bickering, the FPE must define grand strategy, which is military, political, and economic in nature. It does not end during peacetime, but must constantly balance purpose and available resources. Finally, it involves long-term plans (Posen 1984, Walt 1989). As a subset of grand strategy, maritime strategy operates under the same rules. Thus, state leaders must assess changes in power, judge if this will surpass their own, and determine whether this will threaten the national interest, all while juggling competing coalitions of societal elites.

3.2.3 Hypothesis A – complex threat assessment

The complex threat assessment model offers three possible scenarios of state-society interaction when facing shifts in the balance of power. Since this volume deals with maritime strategy, of relevance are naturally changes in the maritime power of other states, but also relevant are changes in other components of power that may affect maritime interests.

In scenario A, the state faces the least constraints. The FPE has branded a foreign state a threat, and both domestic coalitions agree, though it is not necessary that they agree on the same component as the source of the threat; still, what has occurred is that the shift has produced a foreign policy coalition. Furthermore, balancing against the new threat will either not particularly affect the domestic balance of power, or gains by one coalition will be balanced out by gains by the other coalition in a different sector. This is the closest outcome to the unitary actor of neorealism.

In scenario B, the state faces some constraints. Again, the FPE has branded a foreign state a threat, but only one of the domestic coalitions has agreed; only the FPE's domestic supporters have, while its opposition disagrees on the identified component or other components being a threat; thus, there is no foreign policy coalition. Furthermore, balancing may harm the interests of the opposition, or entail unequally distributed gains at the domestic level. Based on the opposition's ties to the state, as well as the level of autonomy of the state from society, the opposition might slightly alter the FPE's threat assessment. In this scenario, the FPE will most likely still balance, though it might do so slowly, inefficiently, or against the wrong foreign target.

In scenario C, the state faces the most constraints. Here, the FPE has branded a state a threat, but its domestic supporting coalition has not, likely due to a beneficial economic relationship with the purported threat; again, there is no foreign policy coalition. The more these societal elites are linked with the FPE, especially through economic interests, the less likely it becomes that the state will balance the identified threat. Furthermore, in such a case, the state itself may choose not to balance in order to avoid undermining its supporters' domestic position in favor of the opposition. Ultimately, the result will be slow or inefficient balancing, if balancing takes place at all.

The result of scenarios B and C is oftentimes inappropriate balancing, whether it is overbalancing or underbalancing. As well as pressures from domestic coalitions, inappropriate balancing may also occur when the FPE acts at the regional or international level in order to influence the domestic level and boost the standing of its domestic supporters.

With respect to maritime strategy, appropriate balancing means pursuing a strategy and attendant capabilities suited to dealing with rivals. Overbalancing would entail adopting a strategy more ambitious and engaging in defense procurement beyond what would be necessary for a comfortable victory over the potential enemy; one example is Britain's rush to construct a massive dreadnaught fleet in the pre-war period, which ended up being quite larger than what was required to keep the German *Hochseeflotte* in port (Sumida 2014). Conversely, underbalancing means a lack of adaptation to the rising threat, both in terms of strategy and procurement; one recent example is Japan's perennial difficulties in generating sufficient support to rearm in the face of the Chinese maritime boom, in no small part due to the difficulty of garnering enough support for changing the pacific post-war Japanese constitution.

3.3   Resource extraction model

The following section lays out a summary of the resource extraction model, developed by Taliaferro (2006), which posits that the interaction of state power – defined as the variable ability of the state to extract or mobilize resources from society – with the level of perceived threat dictates the grand strategy embraced by the state. Unlike neorealism, where the state has unlimited capacity to extract resources (Waltz 1979), the resource extraction model posits that this is finite, and furthermore depends on the state's ability to mobilize support. In that sense, this model fits neatly with the complex threat assessment model, which purports to explain the degree to which the state is able to mobilize support for its threat assessment and chosen strategy. Where the model goes further and becomes complementary is in its prediction for the type of chosen strategy, varying between emulation, innovation, and persistence; its focus is on "one aspect of grand strategic change and implementation: namely, the diffusion of military institutions, technologies, and governing practices across states."

(Taliaferro 2009) Of interest are the circumstances that lead some states to emulate while others do not, as well as the reasons for military innovation.

3.3.1   Internal balancing and the international balance of power

The theoretical origin of the concept of internal balancing in neoclassical realism lies in the neorealist concept of the "passive military adaptive state." (Taliaferro 2009; Hobson 2000) Neorealism assumes a single variable, which is the systemic distribution of power, and predicts that as a result, balances of power will tend to form, and states will tend to emulate the practices of the most successful states in the system (Waltz 1979). States are socialized by the anarchy of the international system into this pattern of emulation, as not doing means not being able to guarantee one's own security, as military capabilities will degrade; in effect, one may predict that the practices of states will tend to converge (Buzan et al 1993). However, the missing element in the concept of the passive adaptive military state is an explanation as to why states would seek to innovate, especially when threats are not present; in effect, "without dynamic innovation, selection will only lead to the dominance of those institutions or states that started the contest." (Resende-Santos 1996) In order to explain emulation and the diffusion of military technology, neorealists draw on concepts such as the offense-defense balance, geography, and potential capabilities (Goldman and Andres 1999).

Neoclassical realism instead chooses to formulate the concept of internal balancing; in this understanding, domestic constraints provide an internal context for the occurrence of emulation and innovation, hence the labeling as internal balancing. Internal balancing refers to the choice that faces states when confronted with an external threat. Three are available – persistence, emulation, and innovation.

Persistence refers to continuing with existing practices, institutions, and technologies. The FPE has identified a threat or looming threat, but the conclusion is that current policies are nonetheless sufficient to check the threat. Perhaps the FPE also faces the collapse of a foreign policy coalition, or the absence of one, and therefore knows that it would be impossible to mobilize support for anything more than persistence.

Emulation is far more involved. Here, the FPE has identified a threat, and furthermore has decided that existing practices are not adequate in addressing the threat. Therefore, what is needed is the voluntary and conscious imitation of the practices of the most successful states in the system. Emulation is not a minor effort consisting of the acquisition of a few new weapons systems and the subtle adjustment of tactics and doctrine; neither is it the discrete reform of existing military structures by foreign advisers. It is a large-scale effort through and through (Taliaferro 2009).

Innovation entails a similar logic of threat identification, and a similar logic of radical change. Its intent is to be a "conscious, purposeful effort by one state to offset the perceived relative power advantage of another state by the creation of entirely new institutions, technologies, or governing practices." (Taliaferro 2009) It is a long and costly process, as it involves delving into the unknown, and thus generates a great deal of uncertainly until it can also be proven to be effective.

Emulation and innovation are adaptive strategies. At the domestic level, adoption of these strategies often brings about shifts in the domestic balance of power, which may be an unwelcome development for societal elites, not just because resources may be redistributed, but also because old institutions may be significantly modified, replaced, or destroyed outright. Though states and militaries – which generally are conservative by nature - often "plan for the last war", and therefore do this also when emulating, the objective of emulation and innovation nonetheless remains to be a future-oriented endeavor that grants an advantage in a future conflict.

It should be noted that Taliaferro's model does not distinguish between vertical innovation, which deals with incremental improvement of existing practices and technologies, and horizontal innovation, which deals with creation of entirely new practices and technologies. However, given that when neoclassical realists speak of strategic innovation, they mean the creation of entirely new structures, it is reasonable to conclude that innovation in the resource extraction model means horizontal innovation. Furthermore, emulation often brings about a certain degree of incremental improvement, as the emulating state adapts the practices of the

leading states to its own environment, preference for particular tactics and weapons systems, and strategic culture (Johnston 1995, Adamsky 2010). Consider the example of the various Warsaw Pact land forces. Though doctrine was relatively similar across the board, Czechoslovakia and Poland both developed specialist versions of Soviet tactics and vehicles, improving or modifying the original Soviet design in order to increase effectiveness for their particular local conditions.

3.3.2   State power

The concept of state power expands of a number of aspects of the classical realist understanding of the state. Morgenthau may have stated that geography, natural resources, population, industry, morale, and the military are the sources of national power, but he also recognized that the ability of the government to mobilize resources was a crucial factor in national power (Morgenthau 2014). In like fashion, others argued that the ability of a political leader to persuade was as essential as military and economic power (Carr 1964).

Building upon this unit-level understanding of international politics, neoclassical realism introduces the concept of state power. In this concept, the systemic effects of the balance of power shape the domestic context of the state, and this, in turn, influences and constrains the state's ability to respond to said systemic effects. To illustrate the model, Taliaferro asks us to consider the course of Japanese history. Under the Tokugawa Shogunate (1603-1868), Japan was isolated from the Chinese international system due to its attempt to conquer Korea, but after 1644, the focus of the new Qing Dynasty was generally internal, and as Japan was an island state, the low likelihood of invasion prompted a long period of peace, and therefore of stagnation in military capabilities and technology, as there was little motivation to change. After the dramatic events of the Boshin War and the Meiji Restoration, the energetic *samurai* turned bureaucrats that de facto ruled the new modernizing Japan realized that in order to survive as an independent nation and not be simply humiliated by the European Great Powers like neighboring Qing China, they would need to massively overhaul and improve their military capabilities. Thus a period of intense military growth resulting in decisive victories in the first Sino-Japanese War (1894-1895) and the Russo-Japanese War (1904-1905).

The resource extraction model posits that the level of external vulnerability, as well as shifts in that level, is affected by an intervening variable, state power, which consists of state institutions, state-sponsored nationalism, and statist versus non-statist ideology, before it leads to the choice of adaptive strategy. The resource extraction model also posits a certain level of cohesion between state and society as a necessary precondition; a scenario C from hypothesis A, where the FPE faces strong constraints, is not covered.

The first component of state power is the political and military institutions of the state. Within these institutions, mechanisms affect the ability of the executive to extract or mobilize resources from society. Extraction and mobilization are not synonymous. Extraction is a coercive process by which the state directly acquires resources though taxes, requisitioning, and expropriation. Instead, mobilization implies direct state control, such centralized planning, nationalization of industries and sectors, or more subtle interventionist measures such as the post-war French policy of *dirigisme* or the state capitalism inherent to rapidly developing Asian economies and fascist interwar European states alike. There exists a tradeoff between these two approaches, as higher extraction creates fewer incentives for future wealth generation, whereas higher mobilization requires correspondingly larger bureaucracies or subsidies to industry and societal elites (Mastanduno et al 1989). More centralized or isolated states tend to be better at extraction, but all states, even liberal democracies, vary in their ability to convert potential capabilities into military power. Extraction tends to be faster, but it is risky, as it may generate discontent by affected groups (Mastanduno et al 1989).

State power is used by Taliaferro and Friedberg to explain the grand strategies pursued by the US and the USSR in the wake of WWII, thus highlighting various factors that influence state power. Though they rapidly recognized each other as threats, their strategies diverged. In the US, state institutions were comparatively weak, the influence of interest groups from society was high, and the long-standing ideology of the majority of societal elites was anti-statist; thus, the US adopted an outward force posture and the corresponding military strategy. In order to be able to actually generate military capabilities, the federal government took up the role of procurement agent, but preferred to allow private industry to compete in the design

and manufacturing of weapons systems. Thus the US was able to compete effectively with the USSR without becoming a "garrison state." (Taliaferro 2009; Friedberg 2000)

In the USSR, there existed few domestic constraints on extraction and mobilization; factionalism in the state rested on access to power and the furtherance of interests coalescing around various factions in the Party, while the population at large functionally had no say in the formulation and implementation of national defense policy and strategic planning. Since the Party was effectively the state, the few influential groups in Soviet society – the Party, state-owned enterprise managers, academics and scientific institutes, and the military – all benefited from the growth of state power and influence. Combined with Communist ideology, it turned what was an rather primitive and backward state- the Russian Empire – into a highly centralized Soviet Union able to reach superpower status though its global contest with the US, its rapid development of a massive nuclear arsenal, and its strict control of much of Eastern Europe (Friedberg 2000). This was not without cost. Aside from the fact that the Soviet Union collapsed in 1991, and its chief successor, the Russian Federation, is simply unable to harness the same kind of power, even during Soviet times, the system suffered from "sluggish economic performance, strong disincentives for innovation, overinvestment in the military sector to the detriment of the consumer sector, lack of access to IT, and imperial overstretch." (Brooks and Wohlforth 2006).

In an understanding similar to the complex threat assessment model, the resource extraction model posits that the ability of states to extract resources is also a function of the ability of the FPE to generate support for strategies of national security (Taliaferro 2006). Thus, state-society relations influence strategic choice by creating domestic hurdles to mobilization, and the severity of these hurdles depends on extant state power, the type of threat and the cost of addressing the threat with new strategies, as compared to previous approaches, and "the novelty and salient history of policy details within the preferred grand strategy." (Taliaferro 2009)

As we have seen in the complex threat assessment model, convincing the population and societal elites that a development in another state represents a threat can be very difficult.

This is especially true in liberal democracies, as autocracies are only limited by the morale of the population (Christensen 1996). However, in any state that faces a low level of existing external vulnerability, the FPE will find it difficult to mobilize support, even if they have identified that it is likely that new threats will emerge in the future. Christensen posits that in order to drum up support, leaders may rationally choose to adopt highly aggressive, confrontational, and ideological policies in secondary areas in order to generate sufficient support and fervor for a broader strategy that also addresses areas of primary concern; Christensen cites the example of Maoist China, where confrontation with the West was used as a vehicle for detaching the PRC from Soviet influence, and eventually led to a normalization of relations under Nixon (Christensen 1996).

Finally, state-sponsored nationalism and ideology both affect state power. States sponsor nationalism in order to increase social cohesion and popular identification with the state, so that extraction and mobilization become easier, given that the population is more compliant (Taliaferro 2006). State sponsorship of nationalism typically seeks to increase support for the state by mobilizing against a perceived external enemy, and it is exclusive in nature, with the preservation of the nation-state, or perhaps its expansion, as its primary goal (Van Evera 1994). Nationalism does not magically remove internal disagreement or societal cleavages, but it does facilitate mobilization, especially in cases of revanchism, where the population believes that rightful national territory or populations must be regained. The starkest example of the impact of state-sponsored nationalism is the development of the mass army, initiated in revolutionary France in the late 18th Century, and culminating in the massive mass-mobilized armies of the various continental Great Powers that clashed in the Great War, each with a distinct nationalist message, from Italian irredentism, to French revanchism, and the German vision for a grand *Mitteleuropa* (Posen 1993). Effective use of state-sponsored nationalism allowed even smaller powers, such as Serbia, to mobilize large armies and challenges the Great Powers; in Serbia's case, it was partly the reason for the Serb victory over Austria-Hungary in the fall of 1914, only reversed by timely German intervention. Not all powers participating in the Great War were able to generate effective state-sponsored nationalism. Consider the late Ottoman Empire. The CUP and the Young Turks were

committed to the development of Ottomanism and an Ottoman national identity, but this project was mired in contradictions between modernization and the complex structure of the Empire, based on the traditional rights and obligations of the *millets* (religious communities). Under pressure from the demands of the war, the project eventually came apart, and the leadership devolved to the promotion of an exclusively Turkish nationalism. Though this eventually allowed the new Turkish republic to fight off imperial encroachment during the Greek-Turkish War (1919-1922), it also sounded the death knell for the Empire. Failure to create an Ottoman identity had a heavy cost.

Unlike state-sponsored nationalism, ideology is not always beneficial to extraction and mobilization. As Friedberg demonstrates, anti-statist ideology is deeply rooted in American political consciousness. This ideology combines a distrust of an overly-powerful federal government with a commitment to economic liberalism, and this combination has always inhibited turning the US into a garrison state, even in the tensest periods of the Cold War (Friedberg 2000). Comparatively, Soviet leaders believed that security for the Soviet Union would best be achieved through a policy of "détente through strength", where Soviet military power would be so high that it would deter attack by the irrevocably hostile capitalist powers (Wohlforth 1993), and the ideological purity of Bolshevism allowed Soviet leaders to purse crash industrialization and rearmament programs in the 1930s. In either case, leaders become constrained to a certain degree by what the dominant ideology will allow in terms of national defense policy. Thus ideology has a subtle influence, in that it does not entirely determine the course of strategic planning, but does open or close certain paths, at least for the pragmatic leader.

3.3.3   Hypothesis B – resource extraction and strategic choice

The interaction of threat and state power in the resource extraction model suggests four possible scenarios. If a state has a high degree of state power and a high degree of external vulnerability, then this state is more likely to emulate the best practices of the leading states of the system. If instead the state has a high degree of external vulnerability, but its state power is lacking, then the state will find it difficult to pursue emulation, though that

would remain the goal nonetheless. Conversely, if a state has a high degree of state power but a low degree of external vulnerability, then the state will have the luxury of a permissive security environment, and is likely to engage in innovation in order to plan for the future. Finally, if a state has a low degree of state power and a low degree of external vulnerability, it is unlikely to pursue either emulation or innovation, preferring to instead persist in existing strategies.

The three choices posited by the resource extraction model match the three broad strategic templates offered by modern maritime theory. Persistence is coastal defense, as coastal defense is the default strategy for any state than has even a single vessel in its navy or coast guard. Persistence implies that the state has neither the means nor the motivation to engage in expensive, complex, and time-consuming strategies. Given that sea control and sea denial are exactly such costly strategies, coastal defense is the choice of the small maritime power; an extreme example is Iceland, which only has a coast guard composed of two cutters. Thus, states with low state power and low threat are more likely to adopt a strategy of coastal defense, though it is also possible that states with low state power but high threat adopt this strategy. Furthermore, states that underbalance are more likely to adopt this strategy, or to implement modest versions of the other two strategies.

Emulation is sea control, the offensive strategy of the capital ship, of command of the sea, and of force projection. In its heyday, the Royal Navy was a master, and the other Great Powers, including rising powers such as the US and Japan, emulated the practices and ship designs of the British. Today, the most successful maritime power is the US, which unequivocally practices a strategy of sea control though CVBGs. Thus, a state that wishes to emulate will engage in sea control, placing a premium in obtaining carriers and nuclear submarines. The secondary NATO maritime powers – Spain and Italy – offer a good example of more modest but nonetheless thorough emulation of American maritime strategy. Thus, states with high state power and high threat are more likely to adopt a strategy of sea control, though it is also possible that states with low state power but high threat adopt this strategy, although it is more difficult. Furthermore, states that overbalance are more likely to adopt this strategy,

given that threat perception in the case of overbalancing overestimates the threat as higher than it actually may be.

Thus, innovation is sea denial, the radical strategy that discards Mahanian thought in favor of embracing new technologies and tactics in the face of a superior foe. As formulated in A2/AD strategies, sea denial has little in common with the traditional strategy of sea control. It is a costly strategy that delves into the unknown, as it relies on novel technologies. This was true for the *Jeune Ecole*, with its faith in the torpedo and the motor boat, and remains true today regarding the current tools of sea denial. The Soviet Union practiced a number of elements of a strategy of sea denial in order to balance superior conventional American maritime power, and in order to further the goals of the Army in a conflict between the East and the West. According to the model, only states with high state power and low threat are more likely to adopt a strategy of sea denial.

4.   METHODOLOGY

4.1   Case selection

The class of event observed is maritime strategy, while the universe of cases consists of regional powers with an active interest in maritime affairs. Thus, the selected cases are China, India, Brazil, and Iran, four states that can rightly be identified as regional powers (Flemes 2010). To highlight their difference from existing powers, one must first define the concept of a regional power. Generally agreed-upon criteria are that the state in question must be part of a geographically delimited region, is ready to assume leadership, displays the necessary capabilities for regional power projection and is highly influential in regional affairs (Schirm 2005; Flemes 2010). From an economic perspective, share of regional GDP and population are not the only available indicators; economic/technological criteria including high-tech production and R&D expenditures play a key role due to their role in developing strong export-led economies (Wohlforth et al 2009). Finally, realists evaluate power in terms of military capabilities, whether for offensive purposes or security maximization (Waltz 1979; Mearsheimer 2001). For the purposes of this study, the most salient factors are military, industrial, and commercial, though the underlying technological context plays a significant role.

But these four cases are not just regional powers; they are also emerging powers. A number of perspectives offer different definitions of the elements that constitute an emerging power. One option is to measure raw GDP growth and total GDP; this may be an insufficient indicator. Others look at more ambiguous markers of increased involvement in regional and global leadership (Destradi 2010). From a quantitative perspective, the Composite Index of National Power (CINC) maintained by the Correlates of War project selects demographic, industrial, and military indicators as the most effective measures of a nation's material capabilities (Singer 1988).

According the CINC indicator, both the absolute quantity and growth of material capabilities in the emerging powers are impressive, contrasting sharply with the stagnation and

decline evident in the main NATO and Warsaw Pact players. It must be noted that transition to democracy has not particularly affected Brazilian capabilities, while the Iranian revolution and the subsequent Iran-Iraq War only temporarily dampened their growth. In any case, the index indicates that they are well on their way to being internationally competitive.

The passive indicators of state power, such as population, metals production and energy production, may not always directly translate into material capabilities. As a counterpoint, the sobering assessments of the Comprehensive National Power (CNP) index developed by various Chinese scholars and think tanks reflect this (Hu and Men 2002). Output from this formula shows that China trails leading Western powers including the U.S., Japan and several EU states, with the other emerging powers even further down the ladder; despite strong projected growth, the prospects for catching up to the United States and Europe within the next few decades are rather limited, at least according to Chinese calculations.

Military expenditures are a more specific metric. Besides the obvious costs of building and maintaining the vessels themselves, maritime warfare requires substantial and long-term investments in research and development as well as attendant infrastructure and personnel training; capability building is a long-term investment in a particularly loss-averse sector. Competitiveness in terms of capabilities requires time and a healthy economy for support, a painful lesson best exemplified by the Soviet Union's absolutely massive military spending as a proportion of GDP (Hu and Men 2002).

Military expenditures amongst the main great power participants in Cold War bipolar competition have fallen, except for the U.S. and its massive rearmament post-9/11. Amongst the selected regional powers, most noticeable is the extreme increase in total spending while holding constant or even decreasing spending as a proportion of GDP, a clear sign of emergence in the military field. Sustained economic growth forms a foundation upon which these new powers are able to invest significant resources into capability building without unbalancing spending. Total spending is significant, but it is still less than what is spent in North America and Europe, and those states have had decades to construct infrastructures for maintaining and strengthening capabilities.

Thus, China, India, Iran, and Brazil have been selected on the basis of their prominence in their respective regions, and on their status as rising military powers. Furthermore, this particular class of state remains under-researched in neoclassical realism, despite a number of studies that focus on unusual cases, such as EU foreign policy (Toje 2010), military diffusion and innovation in 19th Century Latin American (Resende-Santos 1996), and small-state realism and foreign policy in post-Soviet Central Asia (Gleason 2008). This volume aims to bridge that theoretical gap, and furthermore, to test foreign policy and military innovation in the post-Cold War environment of force transformation.

4.2   The congruence method

This is a small-n comparative study that uses the structured and focused method of case studies as developed by George and Bennett (2005). It is structured in that variables and the subsequent data collection across cases is standardized and uses a set of standard questions. It is focused in that it limits the definition of maritime strategy, the drivers of strategy, and the temporal scope of the analysis (2001-2015). The period covers trends as well as outsize events and exogenous shocks, making detailed snapshots of the situation when this has occurred. The study utilizes the typical values congruence method (George and Bennett 2005) and the within-case congruence method (Bennett 2010).

In the typical values congruence method, one observes the values on the independent variables – in this case, domestic constraints, state power, and threat perception – and on the dependent variable – in this case, maritime strategy – and seeks to uncover whether such values are typical in other cases. The assessment whether a value is typical is dependent on theoretical predictions. Thus, it is possible to measure the congruence or incongruence of the observed value with respect to the expected value. This method is well-suited for longitudinal analysis of a number of cases that share similarities.

Within the framework of this study, a typical question might compare threat perception across the cases at fixed point in time. If states with elevated threat perception were adopting

expected strategies (f.e. strengthening the military and balancing mechanisms) then the theory would be vindicated. If, however, one or several states were not, then one would seek to uncover the intervening variables that prevent them from doing so. Conversely, if a state were to be inexplicably rearming, at least according to theoretical expectations, then the method could compare it to the others in order to discover this unique motivation.

In the within-case congruence method, one observes the values of the independent variable within a single case, making periodic observations and discerning whether these diverge of the expectations for the case. This method is particularly well-suited for detailed single-case analysis, and for tracing patterns of change over time. This method functions best when the case displays large variation over time.

Within the framework of this study, the process would be similar to the typical values congruence method. If a state's internal or external circumstances were to change, say by a severe election defeat where the FPE's supporting coalition were to lose significant influence, then it would be expected that the FPE would no longer be able to correctly balance; if that were indeed the case, this would verify the theoretical assumption. If, in the same circumstances, the FPE was nonetheless able to continue balancing optimally, when the investigation would shift to uncovering the intervening variable that enables the FPE to ignore domestic constraints.

4.3 Sources

Through the volume, the source for the number and disposition of all the components of Chinese, Indian, Iranian, and Brazilian maritime forces in the period 2001-2015 is drawn from various Jane's Information Group publications from the period; this includes *World Armies, World Navies, World Air Forces, World Defense Industry, Fighting Ships, Naval Weapons Systems, Strategic Weapons Systems, and Land-based Air Defense.* The data was collected during a research visit to the University of Florida in summer 2013, and augmented with updated data whenever necessary up to 2015.

Figures for military spending are drawn from the SIPRI *Yearbook* on international security.

5.   PEOPLE'S REPUBLIC OF CHINA

5.1   Chinese maritime tradition

The various dynasties that have ruled China over the millennia have created a maritime history that is simply too rich and too storied to adequately address in this volume, from the far-reaching voyages of exploration conducted during the Ming Dynasty by Zheng He, to the deadly naval battles of the Imjin War against Japan, and the centuries-long struggle against Korean, Japanese, and Ryukyuan *wokou* pirates. This section will only address more recent Chinese maritime developments, starting with the establishment of the first modern Chinese navy in the 1870s, during the Manchu Qing Dynasty. Modernization was difficult and patchy during the late Qing period, and often conducted in an ad-hoc fashion by local military magnates. This new navy, ostensibly modern and equipped with ironclads in the latest European fashion, was meant to ensure that China would be humiliated again by Western navies, as it was during the Opium Wars (1839-1842, 1856-1860), where traditional Chinese junks and coastal forts that had stood fast for centuries against *wokou* raiders were easily brushed aside by French and British naval forces.

Though this navy adopted a conventional Western approach, focused on the battleship, it was hamstrung by staggering levels of corruption in the Qing court and bureaucracy. It was this maritime weakness that ultimately doomed the Qing, as Qing land forces were quite modernized by that time, and it fact fared rather well, even against Western forces during the Boxer War. However, as a result of the fleet's weakness, it all but ceased to exist after a number of disastrous engagements during the First Sino-Japanese War (1894-1895), where the Japanese Navy, operating on ostensibly similar principles, proved to be superior. This defeat marked the end of any kind of extensive Chinese maritime endeavor for the next fifty years, and continued the long "century of humiliation" (1839-1949), a politically-charged term coined by the Chinese Communist Party (CCP), which nonetheless does cover a period of time when China was left vulnerable to the predatory imperialism of Western powers and Japan alike.

During the twilight of the Qing, then the new Republic, then the Warlord Era, and finally the Second Sino-Japanese War and WWII, Chinese maritime endeavors were in fact almost exclusively limited to riverine operations by small river gunboats, as none of the forces active in China at the time had the capacity or interest to field a navy that would not be simply pulverized by the powerful Imperial Japanese Navy (IJN). Winning on land was the primary concern; controlling the numerous lakes and great rivers of China second, given the importance of riverine lines of communication, but no attention was paid to the navy.

Chinese maritime strategies diverged as a result of the Civil War, which by 1949 spilt China into the Republic of China (ROC), holding on to Taiwan, and mainland China, controlled by the People's Republic (PRC). ROC maritime strategy focused on defending the coast of Taiwan, and under American influence and with American help in the context of the Cold War, where initially the PRC was allied to the Soviets, the ROC developed a strong green-water navy capable of sustained coastal defense and limited power projection. For most of its existence, the ROC navy has practiced a strategy of sea control, especially when the PRC's navy, the PLAN (People's Liberation Army Navy) was still in its infancy; this has changed of late, as PLAN modernization has accelerated to such a degree that it is unfeasible for the ROC to contemplate sea control.

As for the PLAN, under Mao its strategy was largely ideologically driven. The PLAN embraced the tenets of the Soviet New School, constructing a vast mosquito fleet of small motor boats armed with torpedoes, and supported by submarines acquired from the Soviets. During the Mao era, any strategy but coastal defense was considered to be antithetical to the principles of Maoism, as a conventional fleet, operating under Mahanian principles, was considered nothing but a tool of capitalist imperialism. After the Sino-Soviet split, it became more difficult for the PLAN to acquire the vessels it needed, so the PRC initiated domestic shipbuilding programs.

After Mao's death and the removal from power of the Gang of Four had guaranteed that the much more pragmatic Deng Xiaoping would lead the PRC until his retirement in 1992; this new pragmatism, and the attendant transition to an export-oriented and market-oriented political economy of state capitalism, and away from the revolutionary and agrarian principles

of Maoism, continued unabated through the tenure of Jiang Zemin (1992-2002), Hu Jintao (2002-2012), and the current General Secretary, President, and Chairman of the Military Commission, Xi Jinping (2012-present).

This new ideological direction of the PRC, towards a "Chinese model" of autocratic economic development, allowed maritime thought to flourish in the PLAN unabated by ideological Maoist orthodoxy. Thus a number of original thinkers have emerged, most notably Admiral Liu Huaqing, commander of the PLAN from 1982 to 1988. A disciple of Mahan, Liu argued that China must modernize its navy in three steps. In the first and second step, it would build maritime forces significant enough to project power to the first (Kuril-Japan-Taiwan-Philippines-Borneo) and second (middle of the Pacific, anchored on Guam) island chains, respectively. Once this was achieved and the second island chain represented the boundary of a Chinese lake, then China ought to switch to a focus on carriers, and acquire the vessels necessary to field several CVBGs, and thus become a global maritime power.

Liu's ideas, as well as the concept of the first and second island chains, have become the driver for PLAN strategy. In the 1980s and 1990s, the PLAN adopted a strategy of sea denial, as the US and Japanese navies were perceived to be too strong to engage conventionally, and the PRC's industrial resources and knowledge was not sufficient to construct the vast quantity of expensive surface ships needed for sea control. Instead, the PLAN focused on the acquisition of submarines and missile boats, and the expansion of naval aviation (People's Liberation Army Navy Air Force – PLANAF) with long-range land-based aircraft.

The collapse of the Soviet Union provided two important changes in the PRC's strategic environment. First, at a stroke it removed the largest land threat to China, and one must consider that new Russian Federation has never been able to come even close to Soviet land power. Thus, the only significant land threat left was India, and this was mitigated by the remoteness of that particular flashpoint. Second, the new Russia was eager to trade its military capabilities to China; after the Third Taiwan Strait Crisis (1996), when two American CVBGs sailed unopposed in support of the ROC, the PRC identified American maritime might as intolerable and set about extensive military modernization, focusing on the navy and air force,

and choosing Russia as its supplier. Thus China gained an important source of advanced military technology and weapons systems; this continues today – unsurprising considering the state of the Russian economy in the wake of the 2014 Crimean crisis – and despite repeated Russian complaints, the various Chinese companies and state organs involved in bilateral Sino-Russian deals continue to reverse-engineer Russian technology, adapting it to Chinese purposes, and enhancing China's independence in procurement. This process remains incomplete, as China retains weaknesses in communications, avionics, and aircraft engine technologies.

Chinese threat perceptions thus switched to the US and its friends and allies in the region. Japan and Taiwan are traditional concerns. Whereas during Mao's time the PLAN mainly existed in order to disrupt ROC maritime operations and commerce in the event of conflict, after Mao, the focus switched to defeating ROC naval forces in preparation for a massive amphibious landing; the PRC consistently follows the one-China policy, and accepts no deviation. The dramatic defeat of Saddam's Iraq in 1991 further highlighted the power of the new way of war, a lesson not lost on China. The 1999 Kosovo War and the second invasion of Iraq in 2003 reinforced this. Furthermore, an obsession of the Chinese leadership is to avoid the fate of the Soviet Union, which is perceived to have collapsed due to excessive military spending. Thus further motivation for adopting sea denial in the early 2000s, as it is perceived to be the most cost-effective measure for balancing maritime threats. In the next section, I examine in greater detail the current status and strategy of the PLAN, as well as the timeline of developments from 2001 to 2015.

5.2   Modern Chinese maritime strategy

During the 2001-2015 period, Chinese maritime strategy underwent a number of changes. Starting out as a strategy of sea denial, it has greatly expanded in that area, becoming a very significant power in the Western Pacific, and aggressively contesting control over the Senkaku/Diaoyu islands with Japan, and the Paracel and Spratly islands with Vietnam and the Philippines. The Chinese interpretation of the extent and source of a state's EEZ (exclusive

economic zone) is highly favorable to the Chinese desire to turn the South China Sea into a Chinese lake, and this is one of the fundamental sources of the conflict. The American pivot to Asia, formulated as a result of American disengagement from interventionism in the Middle East, is also a factor, furthering the perception of American meddling in China's own region.

Overall, Chinese military strategy in the period has focused on being able to win a "regional war under high-intensity conditions." Professionalization and modernization are the norm in all branches of the military. The PLA (People's Liberation Army) has moved away from a mass army to a smaller volunteer force emulating the practices and systems of Western armies; so has the PLAAF (People's Liberation Army Air Force) through its acquisition of advanced Russian designs and development of reconnaissance and combat aircraft.   The nuclear deterrent has been augmented with new, more modern missile designs, including true ICBMs in the form of the DF-5 and DF-31 missiles (Ji 2012).

During this period, gradually at first, but accelerating since the ascension to power of Xi Jinping, is a diversification towards modest capabilities of sea control. This is highlighted by the construction of larger and more modern surface ships, such as the Type 051 and 052 destroyers, similar to destroyers fielded by conventional Western navies, and the Type 072 and 074 amphibious warfare ships. Furthermore, the PLAN acquired its first carrier, the *Liaoning*, a modernized *Kuznetsov*-class carrier acquired in the 1990s from Ukraine, and finally fit to enter service in 2014. This ship has become the new flagship of the PLAN, and upon entering service was immediately outfitted with a full complement of 24 J-15 fighters (Chinese version of the heavy Russian Su-33 fighter) and 12 helicopters of various purposes; training on carrier-based flight was provided by veteran Brazilian crews as part of BRICS cooperation.

Thus it is evident that PLAN strategy has adopted some modest components of sea control, likely as part of a long-term project of moving away from being merely a green-water navy, and instead becoming a fully-fledged blue-water navy able of sustained global power projection. The assertiveness of Chinese foreign policy since 2012 supports this. In its current form, PLAN strategy greatly resembles late Soviet maritime strategy, a hybrid of sea control and sea denial (Yoshihara and Holmes 2005). But speaking of sea denial, it remains the focus of

PLAN strategy – the first and second island chain live on – and thus has received the lion's share of Chinese military investment and innovation (O'Rourke 2010).

Chinese sea denial is based on three pillars – missiles, aircraft, and submarines. Starting out with a modest IT industry in 2001, and missiles that were copies of outdated Soviet designs, China has managed to become a global leader in missile technology, fielding a vast arsenal of various highly advanced anti-ship and anti-air designs. It is unclear yet how these would fare in the field, including against a hypothetical Western force, but in trials and wargames these are more than effective enough, and the assessment of Western military establishments certainly confirm that these missiles are highly capable; a rare example in the field is an incident in 2006, during the Lebanon War, when a C-802 missile fired by Hezbollah (and first upgraded for and exported to Iran) nearly sank the Israeli corvette INS *Hanit*. Aside from anti-ship missiles, China has also constructed a vast arsenal of modern and highly accurate ballistic missiles. Though these may be useful for a conventional bombardment of ROC defenses in preparation for an amphibious invasion, the reality is that they are more likely to be used in a way that would certainly please Corbett, which is to neutralize American forward basing in Okinawa and Guam, and to attack any American ships that may be staying in harbor. China has taken this one step further by developing the enigmatic DF-21D anti-ship ballistic missile, which could theoretically easily sink aircraft carriers, as its speed and bulk during its terminal course would make it impossible to defend against.

Just as with missiles, the past fifteen years have seen a proliferation of new aircraft designs, as well as an expansion of existing stocks of fighters and close attack aircraft. Chinese strategy emphasizes the necessity of gaining localized command of the air, and a crash program of aircraft acquisition has resulted in over 30 J-15 and Su-30MK2 in service in the PLANAF, and more than 350 Su-27 and Chinese derivatives thereof in service in the PLAAF; these are all capable 4.5[th] generation aircraft. The PLANAF is also developing the J-20 long-range naval strike aircraft. Though not yet in active service, this is a large stealth platform that would perform a role equivalent to that of the Tu-22M in Soviet doctrine – the destruction of enemy shipping and CVBGs. There is also high interest in developing UAVs. There much attention is

diverted to PLA ends, but there is also a naval program for a Chinese version of the American Global Hawk long-range maritime reconnaissance drone.

The PLAN is also expanding and modernizing its stocks of diesel-electric and nuclear attack submarines. The PLAN has increased its diesel-electric boats to 57, though not all are modern designs. It has also deployed five nuclear attack submarines, and is developing a nuclear missile submarine, in order to complete the nuclear triad. Russian influence is strong, and it is also so in tactics; unlike Western boats, which are expected to operate alone, Chinese doctrine emphasizes the value of wolfpacks and cooperative submarine action. The role of submarines in sea denial has been discussed in detail, and China's drive to expand its submarine force is thus a natural consequence of its choice of strategy. Submarines are supported by a vast armada of missile boats and smaller auxiliary combatants, at last count more than 300; this provides a wide net of coverage for sea denial, and harks back to the days of the mosquito fleet of Maoist times.

It would be impossible to discuss PLAN strategy without mentioning the question of Taiwan, the ROC, and the one-China policy. China still considers Taiwan a wayward province, and the ability to take it by force remains a concern for Chinese planners, though the actual likelihood of conflict has continually decreased since the early 2000s, and currently the two enjoy close economic links. The ROC's annual Han Kuang series of exercises and wargames, based on best estimates of PLA and PLAN strength, currently show that the mainland is in the best position to succeed in its history, though casualties would nonetheless be extremely severe. In no small part, this is due to China's ability to deny access to Taiwan, and thus block potential American aid, or even deter the prospect of American intervention altogether.

When it comes to MOOTW, China's engagement has been modest. The PLAN nonetheless sent a pair of frigates to participate in counter-piracy in the Gulf of Aden, and in a first of the PLAN, its vessels evacuated Chinese nationals from several Middle Eastern countries during the height of the Arab Spring. Furthermore, the PLAN is active in a constabulary role across China's vast EEZ.

Finally, a non-military element of Chinese maritime strategy must be mentioned. This is the construction of a string of deep-water ports along the Indian Ocean, especially in Pakistan, but reaching out to the East African coast. Though ostensibly benefiting the host country, these ports largely remain under tight Chinese control, and may perhaps form the basis of forward basing in the more distant future. Furthermore, these ports guarantee the uninterrupted flow of raw resources to the ever-hungry export-oriented Chinese economy.

5.3   Testing the models

Now that I have established that China has chosen a strategy of sea denial, albeit diversifying in recent years, as the Soviets did in their heyday, I turn to the factors that drive this choice, and to testing the two hypotheses.

I begin by examining the course of Chinese state power in the period, depending on the level of autonomy of the state from society, the dominant ideology, and the presence of state-sponsored nationalism. Then, I identify the internationalist and nationalist coalitions (or their local equivalents), as well as their goals and favored policies, especially in the maritime realm. Then I examine Chinese threat assessment during the period. Finally, I estimate the resulting strategic choice, based on the interplay of state power, threat, and the influence of the two competing domestic coalitions.

5.3.1   State power

Chinese state power is significant. The section of the government in charge of formulating strategy – essentially the FPE – is the Central Military Commission (CMC), headed by the President and composed of eleven civilian and military members. There are actually two CMCs, one for the state, and one for the CCP, but membership is identical. Given China's heritage as a Communist country, the military is entirely subordinate to the Party, and has very little autonomy; this type of state-military relations is common in post-Communist countries, and remains evident in both Russia and Ukraine almost a quarter of a century after the collapse of the USSR. Conversely, the state has very high autonomy from society when conducting

strategy formulation (Ross 2009). China remains a strict autocracy. The CMC is the supreme authority in the nation and the Party, and its members more or less formulate policy with very little interference; again, one may draw a parallel to Russia and its powerful Security Council within the presidency, which is a small group empowered to conduct foreign and national defense policy without interference.

In the past decades, China has moved away from a Maoist economic model to a much more pragmatic state capitalist model, echoing Deng Xiaoping's quip that the color of a cat does not matter, only its ability to catch mice. Nonetheless, the state continues to intervene in the economy to a significant degree; the dominant ideology is statist, and there exist many very large state-managed and state-linked firms, such as CNPC (oil), the Bank of China, ICBC, and CCB (large banking), a number of steel, rail, shipbuilding, and machine tool concerns, and all of China's defense and aerospace concerns, though Norinco, which produces vehicles and small arms, was split off from the PLA in the mid-1990s in order to reduce the PLA's policy autonomy. Through this exhaustive network, the Chinese government can mobilize vast resources without needing to resort to extraction, and furthermore can ensure the loyalty of a significant cross-section of the population that works in these firms.

Since Maoism and Communist orthodoxy have been muted or abandoned altogether, the legitimacy of the CCP rests on two pillars. One is economic growth and the sustained improvement of the standard of living. This has been the case from 2000 onwards, though the Chinese economy is ever at risk of overheating, and the financial sector crisis of 2015 starkly demonstrates this. But economic development is uneven, as it is concentrated in a number of coastal areas, and disproportionately affects the urban middle classes; furthermore, labor conditions in China's export-oriented industries are poor, and there is very little in the way of a social safety net. Thus, China has increasingly turned to state-sponsored nationalism as a legitimizing tool.

Chinese nationalism is highly revanchist and xenophobic, drawing on the perceived wrongs done to China during the "century of humiliation." Japan is always a target, though so is the US, partly because of the American alliance with Japan, but also because of the Taiwanese

question, and of the perceived intolerable influence of the US in East Asia. Furthermore, the US is perceived as attempting to encircle China and to contain its rightful rise as a global power. In this aspect, Chinese nationalism has something in common with Hindu Indian nationalism, as both hark back to a time when their respective empires were regional hegemons, and see insults and conspiracies against their return to great power status from everywhere, but especially from the existing great powers. Thus, Chinese nationalism is also highly militaristic. The PLA is very popular, and on the Chinese internet, especially large portals such as Baidu, there are discussion groups glorifying Chinese military power numbering in the millions; there is no corresponding dissent from an anti-military perspective. Partly this is due to censorship, but nonetheless, the Chinese internet tends to be only exposed to a highly jingoistic narrative; it should be noted, however, that there is much muted discussion of corruption, but no such negative discussion of the military exists. In general, the CCP has been very successful in promoting state-sponsored nationalism; almost too successful, as every outburst of tension with Japan, no matter how small, elicits a ferocious response on the Chinese internet, which would gladly declare war. This does not make the pragmatic business of managing diplomatic relations any easier.

There are two important limiters to Chinese state power. The first is the pervasive corruption that has plagued China ever since it embarked on a path of modernization and economic development. Corruption exists at all levels of the government, from local all the way to the top layers of the national bureaucracy. Since it diverts state resources into private projects and personal enrichment, it saps state power. Furthermore, China is at least partly a market economy. Thus, catching corrupt officials is far more difficult than it would be in Maoist ties, or in the Soviet Union; in those past cases, personal wealth would immediately be noticed, and there did not really exist anything to be acquired though the money gained from corruption in the first place. In modern China, however, it would appear that it is fairly trivial for corrupt officials to move their money overseas, or to reward themselves with lavish apartments and luxury goods at home, hoping it goes unnoticed in the general climate of a growing middle and upper-middle class. The Chinese government does initiate periodic crackdowns, but the targets oftentimes appear to be overly ambitious officials that transgressed other Party rules, such as

the case of Bo Xilai, whose fall from grace was officially blamed on corruption, but is likely to be due to his cultivation of a personal network of influence in the junior ranks of PLA commissioned officers; this kind of Party-military collusion is anathema in a Communist country.

The second limiter is the goal of China's FPE to avoid the fate of the Soviet Union. Chinese academics have identified the USSR's massive military spending as a percentage of GPD, reaching above 30% at the height of the Soviet invasion of Afghanistan, as one of the root causes of Soviet collapse. In the Chinese view, the USSR invested far too much in the military and in military industry, without building a corresponding consumer goods industrial base, as well as a prosperous middle class that would generate extensive domestic demand for civilian goods and services. This understanding of the Soviet collapse acts as an important brake on Chinese military spending, which has grown from $45 billion in 2001 to $215 billion in 2015; for the first time in PLA history, the PLAN actually received a very significant portion of the rapidly growing budget. Significant, and it places China as second in military spending, but it is also only 1.5% of GDP, and provides many benefits to China's growth in other sectors, such as IT and aerospace. It is also likely that the real figure is somewhat higher, as the official Chinese military budget does not include personnel costs and R&D expenses, unlike official Western military budgets.

5.3.2 Domestic environment

The complex threat assessment model assumes the presence of two competing domestic coalitions. In the case of China, it does not fit to speak of internationalist or nationalist coalitions. Rather, it is better to speak of elitists and populists, though these share some traits with the generalized factions of the complex threat assessment model; this is referred to as the one-party, two coalitions system. The elitists and the populists are two factions commonly observed to be the primary competing factions in the CCP. The elitists, also referred to as princelings (a derogatory term referring to the corrupt clique around Yuan Shikai, first president of the Chinese republic after 1911), tend to be the descendants of the previous generations of the upper echelon of the CCP. They also draw support from the economic elites

of the rich coastal provinces, especially Shanghai, the home turf of Jiang Zemin, who oversaw significant development in the 1990s and ensured that many of his supporters would be placed in high positions before his retirement in 2002. Furthermore, the elitists have strong connections to Chinese state-owned firms that are active abroad, especially the state banking system and resource extraction concerns. The Chinese economic boom has also brought in myriad Western multinational firms and financial entities, and individual members of the elitist faction enjoy warm relationships with foreign capital, often having their children fast-tracked into prestigious positions in Western financial firms, whether in China, elsewhere in East Asia (especially Singapore), or in the West. Overall, the elitists are strongly outward-looking, as the members of the faction profit enormously from the transition to a market economy and the opening of China to the international system. The elitists advocate rapid development, economic efficiency, and a focus on the Chinese coast. In military matters, the elitists favor the PLAN as the most important branch of the Chinese military, as the PLAN can protect Chinese SLOCs and represent Chinese influence on the high seas. The elitists have also argued for a greater focus on maritime force projection, as it would allow China to enforce its interests - especially regarding resource extraction and the size of its EEZ – on reluctant regional neighbors, but also beyond, especially in the Indian Ocean (Agnihotri 2011). Current President Xi Jinping is a member of this faction.

The populists tend to instead come from humble origins, and to have slowly climbed the ranks of the Party, especially if they started out in the Communist Youth League. The populists draw their support from middle-rank CCP bureaucrats, from rural leaders, and from the neglected heavy industry areas of Northern China, and in general from the inland states. The populists reject the rapid growth model championed by the elitists, preferring instead to redistribute the new Chinese wealth into neglected provinces, further regional development, especially inland, and in general promote social cohesion through more equitable development and a stronger social safety net; of concern is also rural migration and the resulting mass of urban poor, which the populists perceive as detrimental to the future of the Party, as the urban poor are unlikely to hold positive opinions on the legitimacy of the Party if China's economic development ignores them. Thus, the populists are inward-looking, and in military matters

favor the PLA as the most important branch; the PLAN should rather be kept no larger than is necessary to protect the Chinese coast and engage in sea denial against foreign aggressors; with respect to the decrease in military personnel in recent years, the populists are not in favor, as it reduces PLA presence in peripheral provinces, and removes valuable sources of revenue for local communities. Former President Hu Jintao is a member of this faction.

The domestic supporters of the FPE are dependent on the domestic affiliation of the paramount leader. Thus, between 2002 and 2012, when Hu Jintao was in power, the domestic supporters of the FPE were the populist faction. From 2012 onwards, when Xi Jinping came to power, the domestic supporters of the FPE switched to the elitist faction.

5.3.3   Threat assessment

At the international level, there is the overriding rivalry with the US, and even more so since the pivot to Asia was announced (Kaplan 2010). Here the maritime component is paramount, as the common identification of the US as a threat focuses on American power projection and forward basing in the region. What makes the US threat so severe is that the US is essentially the maritime agenda-setter in the international system, as it is the most successful state, and the US Navy is indisputably a global force able to wrest command of the sea from any other individual fleet. The US does not need to emulate, as others emulate it. Despite being an extra-regional power, it is able to project significant power in the Western Pacific through its 10 supercarriers and attendant CVBGs. Furthermore, the elitists fear an American plan that supposedly aims to encircle and contain China within the first island chain, leaving the PLAN unable to maneuver and to conduct force projection in support of the elitists' foreign policy goals in the region. That is not to say that the populist faction does not perceive the US as a threat, as this is not the case; rather, disagreements lie in the proper way of addressing the American threat. Both elitists and populists recognize the US as a threat, so there is a foreign policy coalition and the FPE is unconstrained (scenario A).

In general, the level of international threat is high, and the level of state power is also high. The FPE is unconstrained and should be expected to argue for significant balancing, but

the resource extraction model would also posit that the FPE would argue for emulation and a strategy of sea control; in reality the PLAN innovates and practices a strategy of sea denial.

At the regional level, China faces what it perceives to be its nemesis and bitterest rival – Japan. Other states are of secondary concern, but include the smaller coastal states of the South China Sea, and the American-allied Australians; Vietnam and the Philippines are particularly troublesome, as they challenge the spread of the Chinese EEZ around the Spratlys and the Paracels (Thayer 2011). Furthermore, there is also antipathy between China and Russia, though their mutual dislike of the US and of the Western-dominated world order is degrees of magnitude greater; this rivalry is also land-based and centers on the Russian Far East. The JMSDF (Japanese Maritime Self-Defense Force) fields a large and highly capable surface fleet, led by four small helicopter carriers; the JMSDF is the inheritor of a long maritime tradition and closely cooperates with the puissant US Navy, including on forward basing the 7th Fleet in Okinawa. There is also the Taiwanese question. While the likelihood that this question will be resolved by military force is low, it is nonetheless traditional for Chinese strategists to prepare for the eventuality; despite economic interdependence, none in the Chinese elite would argue for a reduction of maritime capabilities aimed at the ROC. Both elitists and populists recognize Japan and the ROC as a threat, so there is a foreign policy coalition and the FPE is unconstrained (scenario A). Regarding the Southeast Asian states, the elitists favor addressing the Southeast Asian states, while the populists are more likely to be neutral.

In general, the level of regional threat is high, and the level of state power is also high. The FPE is unconstrained and should be expected to argue for significant balancing, but the resource extraction model would also posit that the FPE would argue for emulation and a strategy of sea control; in reality the PLAN innovates and practices a strategy of sea denial.

At the domestic level, at least in the area of maritime strategy, there were few threats to either the populists or the elitists. For the populists, military modernization nonetheless means more jobs and bureaucratic influence in state-owned enterprises, and it is at this middle level of bureaucracy that the populists draw their strength. For the elitists, expanding the PLAN allows them to pursue their favored strategy of power projection in the region. Thus, there is

no significant domestic threat to the FPE's supporters, at least when it comes to the choice of maritime strategy.

5.3.4 Findings

Throughout the period, from a strictly maritime perspective the FPE has faced few constraints, as both populists and elitists agree on the necessity for Chinese maritime power, and on the necessity of addressing the American and Japanese threats. The FPE would be expected to correctly balance all through the period, though the minor disagreements between populists and elitists should have a consequently minor impact of particulars of maritime strategy, and this should become evident after the 2012 transfer of power.

In the case of China, I find strong support for the hypotheses of the complex threat assessment model. The presence of a foreign policy coalition throughout the period enabled the FPE to pursue a cost-effective strategy of sea denial that allowed satisfactory balancing and deterrence of the main maritime threats, both within the region, and projecting power into the region. Sea denial has received a very high level of attention in the US, showing that it is perceived to be a credible threat to the US Navy; therefore, it is a reliable method for China to balance American maritime, without overbalancing catastrophically as in the case of the USSR. The consensus on the necessity of expanding Chinese maritime power also allowed for a diversification and expansion of Chinese maritime assets, especially the acquisition of larger surface warships and of a carrier, without disabling the foreign policy coalition or needing to adopt a radically different maritime strategy.

I find little support for the hypotheses of the resource extraction model. Chinese state power is considerable, and China faces a number of potent international and regional threats. In such a scenario, the model calls for emulation. China, however, engages in sea denial, which is the innovative strategy. It is evident why that is the case. The US Navy and the JMSDF remain too strong to successfully compete against using conventional carrier-based doctrine; furthermore, any hypothetical plan to attack Taiwan would involve the creation of a safe corridor for amphibious troops, and the denial of potential reinforcements from the US, and it is thought that this would be impossible using a conventional approach. For the foreseeable

future, it remains prohibitively expensive to attempt the kind of emulation that would allow for effective balancing through conventional means, and as I have seen, avoiding overspending on the military is a recurring concern of the Chinese FPE and societal elites.

Overall, Chinese maritime strategy is rather innovative, as it focuses on an extensive level of sea denial. However, it is showing signs of diversifying according to the same motivations that eventually drove the USSR to adopt a hybrid strategy of sea denial in the area of primary concern (North Atlantic) and sea control in areas of secondary concern (in support of Soviet influence). Considering that the elitist faction supports Chinese power projection more strongly than the populist faction, it is possible that if Xi Jinping continues to be as assertive as he has been so far, the foreign policy coalition may be disabled in the future as the populists cease to support expansion of the PLAN according to more conventional lines.

6. INDIA

6.1 Indian maritime tradition

The various powers that have vied for control of the Indian subcontinent over the millennia have often deployed significant maritime forces, both for trade in the fabulously wealthy Indian Ocean, and for conquest, as evidenced by the spread of Indian culture and influence as far as the Spice Islands. Nonetheless, the origin of the modern Indian Navy lies in the Royal Indian Marine, an institution created following the events of the Sepoy Rebelllion of 1858, when the British Crown assumed direct control over India from the East India Company and formed the British Raj. The RIM favored British officers, but also accepted a number of Indians into the officer corps; this inclusion formed an essential nucleus of maritime tradition when India gained its independence, and the RIM was split between India and Pakistan.

The RIM provided crucial maritime support during both World Wars, especially in WWII, when it was instrumental in convoy and patrol duties in the Indian Ocean, thus freeing up the Royal Navy to engage the Japanese for command of the sea. After independence and partition in 1947, the newly created Indian Navy was deficient in ships, but certainly not deficient in capable personnel, knowledge, and maritime tradition, due to almost a century of operating an auxiliary maritime force under British principles and with British support. Due to these linkages to the British maritime tradition, the Indian Navy adopted a strategy of sea control from the very beginning of its existence, and this has not changed; only its capabilities, reach, and strategic sophistication have. However, the same could be said about its new and bitter rival, the Pakistani Navy.

Thus, the course of Indian maritime strategy – and of Indian strategy in general - became strongly defined by the need to combat the Pakistani threat; this has somewhat changed in recent decades, as Pakistan's military parity with India continues to fade, while the rising threat of China demands further attention. The war of 1947 did not have a maritime component, thus the first conflict where the Indian Navy participated in was the capture of Goa

from the Portuguese in 1961. In this conflict, proclaimed as a triumph of anti-colonialism by the newly-assertive Indians, still fresh from the prestige associated with founding the Non-Aligned Movement together with Tito's Yugoslavia, the Indian Navy successfully fought a number of high-seas battles with the Portuguese navy, thus enabling a combined amphibious and land attack on Goa. The 1962 Sino-Indian War, though in the long run highly influential on Sino-Indian relations and the course of Indian threat perception and strategic planning, did not involve the Navy, as it was fought in the high Himalayas over control of the MacMahon line, and China's navy at the time was still a purely coastal force, while the Indian Navy was yet unable to project maritime power beyond the Indian Ocean.

The first conflict between the Indian Navy and a peer force was the 1965 war with Pakistan. At the time, India already fielded one carrier, the INS *Vikrant*, purchased incomplete from the British and completed and modified to suit Indian purposes by 1961; however, during the war the Vikrant was undergoing extensive repairs and did not participate. Paradoxically, the war only saw limited maritime conflict, as both India and Pakistan adopted a strategy of fleet-in-being, in order to safeguard their existing and still somewhat limited maritime strength; the war also saw the notorious incident at Dwarka, where the Pakistani Navy bombarded an Indian port of no strategic significance. At a time when Pakistan still consisted of the current Pakistan and of East Pakistan (Bangladesh), the lessons of the war, meaning the necessity of strengthened defense of the coast and of rapidly attaining and maintaining command of the sea in the Indian Ocean, were not lost on the Indian government. By the time war broke out again in 1971, over the fate of East Pakistan, the Indian Navy was a far more capable force than 1965, and this time, the *Vikrant* would be able to participate.

The 1971 war cemented India's status as the premier maritime power in the Indian Ocean and as a green-water navy, yet very close to blue-water status. The war saw extensive naval combat. Pakistan needed to gain command of the sea, because that was the only way to supply its beleaguered ground troops in East Pakistan. Conversely, the Indian Navy aimed for an offensive posture, seeking to gain command of the sea, prevent attacks on its coast, neutralize Pakistani SLOCs and merchant shipping, and finally, to attack Pakistani shore assets.

While the Vikrant enforced the blockade in the Bay of Bengal, Indian aircraft, submarines, destroyers, and frigates hunted their counterparts on the Indian west coast, and executed a devastating attack on the Pakistani Navy HQ in Karachi. By the end of the war, the Indian Navy was the undisputed victor, and its ability to gain command of the sea and thus prevent the resupply of Pakistani forces in the newly-created Bangladesh proved decisive to the eventual Indian victory.

The war of 1971 represented the high point of conventional conflict between India and Pakistan. Since then, the acquisition of nuclear weapons by both has somewhat frozen the conflict, relegating it to irregular warfare in the high Kashmir; even during the 1999 Kargil War, the Pakistani Navy did not leave its bases, and did not contest Indian command of the sea.

The Indian Navy continued to expand its arsenal and capabilities during the 1980s and 1990s. Furthermore, it began to project significant power in the region, engaging in peace enforcement operations at various times in the Maldives, the Seychelles, and Sri Lanka. Given's India's success, there was little impetus for change; furthermore, the emergence of a number of new threats provided continued justification for the fleet's expansion. In the next section, I examine in greater detail the current status and strategy of the Indian Navy, as well as the timeline of developments from 2001 to 2015.

6.2 Modern Indian maritime strategy

Indian maritime strategy from 2001 to 2015 is largely a continuation of existing Indian strategy, which during the Cold War emulated successful elements of both American and Soviet strategies, such as the Indian practice of adding missile boats (a Soviet system) to CVBGs (an American tactic), thus increasing the firepower of the flotilla in coastal operations (Pant 2012). Indian doctrine explicitly states the necessity of gaining command of the sea and of India's zone of maritime interest, both to prevent the action of enemy fleets, and to protect the vital trade routes and SLOCs of the Indian Ocean upon which a significant part of Indian economic growth is based (Menon 2010). It should be noted that India enjoys an excellent bilateral relationship

with Russia, and has been able to not only procure a significant amount of hardware, but also to initiate a number of ambitious bilateral R&D weapons systems programs with the Russians. The Indians have also constructed extensive economic and strategic ties with Israel, and this partnership has borne fruit with respect to a number of highly specialized military technologies. Furthermore, as we shall see further in this section, Indian doctrine also places a premium on MOOTW, especially constabulary duties in the counter-piracy and counter-terrorism role, and on disaster relief and humanitarian assistance.

The Indian Navy continues to enhance its ability to command the sea and project power (Scott 2006). When it purchased a second British carrier in the 1980s, for a brief time the Navy had two; this lasted until 1997, when the venerable *Vikrant* was decommissioned. But the steady growth of Chinese maritime power and influence, as well as appeals from the Navy to make India's power projection capability more robust, led to the acquisition of a hybrid *Kiev*-class carrier/missile boat from Russia in the late 1990s, which was subsequently modified to be a full carrier and commissioned as the INS *Vikramaditya* in 2013. Furthermore, a totally indigenous carrier design is already under construction, and ought to replace the INS *Viraat* by 2018 at the latest.

The Navy has also nurtured and expanded a significant surface arm; much like China, there is a strong focus on developing a domestic shipbuilding industry. Stocks of destroyers and frigates, either of an indigenous design or late 1980s Soviet design, totaled 24 by 2015, while that of corvettes stood at 50, and that of patrol boats, missile boats, and other auxiliary combat craft at over 50 as well. The Russian partnership paid off as well, allowing for the joint development of the BrahMos anti-ship/cruise missile, a highly capable system equivalent to best of the new missiles of Chinese design; since 2006, when the missile entered service, gradually all Indian surface ships have been provided with this design, giving them significant firepower in a high-seas engagement.

Compared to China, the Indian submarine arm is rather modest. This is understandable, as submarines are not as critical in sea control as they are in sea denial. Nonetheless, the Indian Navy fields about a dozen diesel-electric attack submarines and since 2001 replaced

some of the previous Soviet designs with the German Type-209. In 2012, the Navy also finalized a lease for a nuclear *Akula*-class submarine from Russia, which is also may be armed with nuclear SLBMs; this lease is the first step in a project to complete the nuclear triad and trial the integration of nuclear-powered vessels in the Navy, much as the commissioning of the *Liaoning* in the PLAN is the first step in integrating carriers into existing Chinese doctrine.

As befits a navy seeking power projection, the Indian Navy continues to maintain to a high operating standard its existing stocks of 20 amphibious warfare ships of various designs and provenance. However, the Navy has also floated a proposal to acquire a number of more modern and capable amphibious assault ships, equipped with helicopters and landing hovercraft. So far, it is unclear whether this tender will resolve into a concrete procurement program.

Predictably, the Indian Naval Air Arm is rather extensive. For the two carriers, it has over the last decade acquired over 30 navalized MiG-29K, replacing its previous inventory of British Sea Harriers; as demonstrated by the debates and programs in NATO's new eastern member states, the MiG-29, though capable, is inferior to most other 4th generation fighters on the market, and should tensions flare between Indian and China, the Chinese J-15s may have an edge over Indian carrier aviation. Aside from carrier aviation, the Air Arm fields a respectable number of anti-submarine and SAR helicopters, as well as long-range maritime patrol and reconnaissance aircraft. The strategic partnership with Israel has also yielded positive results towards outfitting the fleet with medium UAVs for reconnaissance.

The Indian Navy is at the forefront of India's agenda to be internationally recognized as a leading power capable of responsibly providing public goods in its region, and this has been the case since the 1980s, when the Indian Navy was deployed to quell coup attempts in the Maldives and the Seychelles. Due to the persistent threat of piracy in the Gulf of Aden, which directly affects Indian merchant shipping, the Indian Navy was very active in counter-piracy in the region, though it chose to operate independently of the NATO and EU missions in the region. Furthermore, the Navy conducted several operations where Indian and foreign nationals were evacuated from crisis spots, in Lebanon in 2006, Libya in 2011, and again in

Yemen in 2015. Finally, the Indian Navy has been at the forefront of disaster relief in the greater South-Southeast Asian region, using its unique advantage of two carriers in order to rapidly deploy extensive assistance to stricken regions.

Aside from counter-piracy and disaster relief, the Indian Navy, through its special MARCOS marine commando branch, is also very active in maritime counter-terrorism. The continuing conflict between Pakistan and India, where Pakistan has not shied away from sponsoring terrorist organizations in order to strike at India, as well as indigenous unrest and extremism, and the linkages between terrorism and Indian drug trafficking gangs are a constant source of insecurity. Thus, the Indian Navy is very active in policing India's coast, and in suppressing terrorist and organized crime networks in the South Asian region.

6.3   Testing the models

Now that I have established that India has chosen and maintains a strategy of sea control, I turn to the factors that drive this choice, and to testing the two hypotheses.

I begin by examining the course of Indian state power in the period, depending on the level of autonomy of the state from society, the dominant ideology, and the presence of state-sponsored nationalism. Then, I identify the internationalist and nationalist coalitions (or their local equivalents), as well as their goals and favored policies, especially in the maritime realm. Then I examine Indian threat assessment during the period. Finally, I estimate the resulting strategic choice, based on the interplay of state power, threat, and the influence of the two competing domestic coalitions.

6.3.1   State power

India's military budget has grown steadily during the period, from $30 billion in 2001 to $50 billion in 2015. This is far less spectacular when compared to the overall pace of economic growth in India, but it is also sufficient for India's national defense imperatives. Overall, Indian state power can be assessed as moderate; state autonomy, the presence of state-owned

enterprises and statist ideology, and the growth of Hindu nationalism enhance it, but are countered by structural weaknesses in India's federal structure and uneven economic growth.

India is a majoritarian parliamentary system, and as such, the state is expected to have a certain degree of autonomy from society. Furthermore, the Ministry of External Affairs has long pursued a pragmatic and neutralist policy, starting with the founding of the NAM, support for decolonization, and the establishment of cordial relations with a majority of nations.

With respect to mobilization for military capabilities, the Indian government supports a number of state-owned enterprises that are involved in bilateral deals with France, Russia, and Israel, and domestically produce military hardware and dual-use technologies. These include electronics concerns, the Goa shipyards, and HAL (aeronautics) which develops and produces combat aircraft. Alongside a vast array of other Public Sector Undertakings (PSU), the Indian legal term for a state-owned enterprise, these highlight the rather statist turn of mainstream Indian ideology.

State-sponsored nationalism has a controversial history in India, due to the country's ethnoreligious diversity, including around 15% Muslims. The INC (Indian National Congress), the party of Gandhi and his descendants, has traditionally adopted a secular and pluralistic stance. Its main rival in the past two decades is the conservative BJP (Indian People's Party), which is closely affiliated with Hindu nationalism, a less secular stance, and the promotion of Hindu exclusivity and hostility to Islam and to Pakistan. From 2004, the INC was in power as part of the center-left UPA coalition, and there was little state support for nationalism beyond general civil patriotism and the feeling that India was finally reemerging as a global power. After Modi's stunning victory in 2014 and the return to power of the BJP, the situation has somewhat changed. Though the new government is certainly mindful of ethnic and religious cleavages, individual ministers, BJP members, and parliamentarians are not above expressing hardline Hindu nationalist sentiments.

6.3.2   Domestic environment

The complex threat assessment model assumes the presence of two competing domestic coalitions. In the case of India, the internationalist coalition is roughly synonymous with the BJP and the right of Indian politics, while the nationalist coalition is roughly synonymous with the center-left and the INC.

The BJP, the leader of the internationalist coalition, draws its support for the vast numbers of lower middle-class and middle-class Hindus, especially in the west of the country. Traditionally the party held a strongly protectionist economic agenda, but this was abandoned in the mid-1990s, and since then it has consistently pursued neo-liberal policies of globalization. This approach grants it significant influence with India's big business community, as well as privileged links with Western multinational firms and investors.   Furthermore, it is supported by sections of the Armed Forces, as the BJP's nationalist agenda holds both Pakistan and China as severe threats and advocates for armament. Thus soon after coming to power in 1998, the Vajpayee government launched the Kargil War in order to expel Pakistani infiltrators from Kashmir. However, over the decades the BJP's initial hardline stance, which did not even recognize the partition of India and the existence of Pakistan, has softened somewhat, and when in power, the party has pursued the kind of pragmatic policy that has been the hallmark of Indian policy for decades. Its main differences with the INC with respect to foreign policy are the BJP's stronger identification of Pakistan and China as threats, and its wish to align India more closely with the US, thus at least partially abandoning India's traditional nonalignment, and replacing it with greater international engagement.

The INC receives support from urban elites, from the public sector, and from state-owned enterprises, as the INC is a strong supporter of statism, unlike the BJP's neo-liberalism. During Manmohan Singh's tenure as Prime Minister, India achieved record economic growth by integrating into the global economy and developing an internationally-competitive IT sector. The INC favors economic liberalism only as long as it is redistributed in social welfare programs as well; this approach was the source of its electoral success between 2004 and 2014. Furthermore, the INC draws support from the non-Hindu elites; in the case of West Indian Muslim elites, this means merchant communities that have traded in the Indian Ocean for

centuries. On Pakistan, the INC is relatively more open to dialog, and in general, the INC favors the continuation of India's traditional policy of non-alignment, and a less aggressive foreign policy than the nationalism of the BJP. Nonetheless, it was under the INC that the Indian Armed Forces grew into the capable force they are today, and the party would not argue for their reduction.

6.3.3 Threat assessment

At the international level, India's main opponent has been China, but the actual flashpoint of the rivalry was limited. There existed of course the frozen conflict over the MacMahon line, as well as the part of Kashmir occupied by Chinese forces, and China's development of nuclear capabilities, but the two mountain conflicts were too remote to have a significant impact. This began to change in the mid-2000s, as China grew increasingly assertive (Sakhuja 2006). First came the strategic partnership between Pakistan and China, which saw advanced Chinese aircraft and tanks transferred to Pakistan, disturbing the regional balance of power. Then the sustained growth of the PLAN raised fears in India that soon China would be projecting power into the Indian Ocean, India's traditional stomping ground, dominated by its navy since independence. When China broke ground on a new deep-water port at Gwadar (Haider 2005), in Western Pakistan, there was an immediate reaction, as this port could theoretically host warships as well (Khurana 2009).

The NATO invasion of Afghanistan was not perceived as a threatening to India, as NATO and India are not mutually hostile; furthermore, it was not a maritime development in any case. Further international developments were actually beneficial. Indo-Russian cooperation, traditionally strong and cultivated during decades of INC rule, deepened, resulting in advanced military hardware for India; the relationship has frayed recently, however, over allegations of corruption in the PAK/HAL-FA 5th generation fighter program, partly financed by India, and which is perceived by the Indian government to be achieving unsatisfactory results due to Russian internal problems. Similar problems cooled the Indo-French partnership, this time over procurement of Rafale fighters. In the BJP, this failure of procurement was seen as a negative development.

Thus, China is the main international maritime threat. Both the INC and the BJP recognize this. However, the BJP is also dissatisfied with the current pace of military procurement, and wishes to deepen cooperation with the US. This would be advantageous to the BJP, but would weaken the position of the INC and its supporters in the PSUs. The Chinese maritime threat, while real, is also quite limited. China has other areas of primary concern. Disagreements of the scope of the Chinese threat prevent the formation of a foreign policy coalition, and the FPE is slightly constrained (scenario B).

In general, the level of international threat is moderate, and the level of state power is also moderate. The FPE is slightly constrained and should be expected to argue for moderate balancing, focusing on improving existing maritime capabilities. Due to opposition for the BJP, it is possible that the FPE may overbalance, especially after the 2014 elections. The resource extraction model would predict the FPE would continue to favor a strategy of sea control.

At the regional level, the main threat is Pakistan. Despite a reduction in tensions, the rivalry persists. Though Pakistan's navy is not what it once was, it still fields about half of India's 110 ships, including relatively modern surface warships, and follows a conventional strategy of sea control, much as India does; in fact, India is a green-water navy, bordering at blue-water, but Pakistan is also a green-water navy, and not an insignificant one. During the Kargil War, a massive blockade ensured the Pakistani Navy never left its bases, and the deliberately limited nature of the conflict prevented shore bombardment by the Indian Navy, which would have likely caused serious damage, but also serious escalation. Therefore, maintaining a certain level of maritime capability is essential. Furthermore, groups within Pakistan's government, especially its intelligence services, are known to have supported terrorist groups operating in India.

Thus Pakistan is the main regional maritime threat. Both the INC and the BJP recognize this. Maintaining an adequate level of security with respect to Pakistan requires the ability to force a blockade on Pakistan in the event of conflict. The BJP may argue beyond this, as it nurtures more aggressive intentions, based on its nationalist rhetoric, but the actual practice of BJP policymaking between 1998 and 2004 demonstrates that the party is willing to act

pragmatically. . Therefore there is a foreign policy coalition and the FPE is unconstrained (scenario A).

In general, the level of regional threat is high, though slowly decreasing, and the level of state power is moderate. The FPE is unconstrained and should be expected to argue for significant balancing. The resource extraction model would predict the FPE would continue to favor a strategy of sea control.

At the domestic level, it is a consistent fact that the INC is not particularly willing to overinvest in the military, as it would reduce its ability to invest in social welfare programs. Since the INC's more moderate approach is more in line with the FPE's threat assessment, it should be expected that as long as the INC is in power, the navy may continue to steadily expand, but it would be unlikely to do so dramatically, as this would rather embolden the BJP; furthermore, procurement would be pursued with a strong indigenous element, thus bringing jobs and knowledge to India.

6.3.4   Findings

Throughout the period, from a strictly maritime perspective the FPE has faced relatively few constraints, as both the BJP and the INC agree on the necessity for Indian maritime power, and on the necessity of neutralizing the Pakistani Navy; disagreements rather spring up regarding the PLAN, ever-lurking beyond the eastern horizon in the BJP narrative. The FPE would be expected to correctly balance all through the period with respect to regional threats. With respect to China, the FPE faces some constraints, especially after the BJP victory in 2014. The newfound influence in the BJP is likely to result in overbalancing.

In the case of India, I find strong support for the hypotheses of the complex threat assessment model. The presence of a foreign policy coalition on regional threats allowed for the continuation of India's effective maritime approach regarding Pakistan.   There was considerably more disagreement regarding the PLAN and its new-found capabilities. There the FPE faced some constraints, especially after 2014. The policies of the Modi government show a pattern of overbalancing; with respect to procurement, the new government has partially

abandoned the steady progress of bilateral deals, especially as these have slowed, and has begun to extensively procure weapons systems from the US. Under Modi, the US has for the first time supplanted Russia as India's largest defense procurement partner.

As if the presence of threats was not enough of a motivation, there is also a strong undercurrent, present in the INC but especially in the BJP, that wishes to promote Indian prestige abroad in order to broadcast India's status as a resurgent great power; for the BJP, this harkens to the great Hindu empires, such as the Maurya and the Marathas. Although this has not led to a flurry of megaprojects, as is the case in Brazil, prestige maximization is nonetheless an influence. As always, capital ships are the source of prestige in maritime strategy, and even without state-sponsored nationalism, there is significant popular support for this aspect of the Navy, and therefore there is a foreign policy coalition on the necessity to promote India's status abroad. In practical terms this also reflects Indian MOOTW activities, as India has been very active in the region, fostering goodwill through disaster relief and the protection of merchant shipping (Naidu 2004).

The question of maritime terrorism provides an interesting example of a nested policy field. Here, the positions of the domestic coalitions were reversed. The INC has been very unwilling to pursue strict anti-terrorism laws due to concerns over privacy, liberty, and the impact on ethnoreligious harmony. In contrast, the BJP doggedly pursues such laws, both in the states that it governs and at the federal level. Thus, constraints were severe, and the FPE faced a scenario C. During the 2001-2015 period, terrorism represented a fairly serious threat to India, but opposition by the INC ensured that the highly controversial POTA (Prevention of Terrorism Act) was repealed in 2004. After the 2008 Mumbai attacks, and following BJP electoral successes, constraints on expanding counter-terrorism laws have decreased, and currently the old 1967 UAPA (Unlawful Activities Prevention Act) has been greatly expanded in order to combat terrorism.

In the case of India, I find strong support for the hypotheses of the resource extraction model. Given India's threat assessment and its moderate level of state power, the model calls for emulation, and that is precisely the strategy that India adopted from independence to

today. This is extremely unlikely to change in the foreseeable future, as there exist neither external nor internal reasons for change, and in fact internal opposition would be extensive. The comparative angle is of great interest here, as India faces relatively high threat, much like Iran and China, but emulates, while the others innovate and engage in sea denial. The crucial difference is the nature of the threat. India does not face a potent extra-regional emulator whose maritime force is superior to India, and that could not be balanced in a cost-effective manner using a conventional approach of sea control. This highlights the importance of the regional context for policymaking, especially for states that are not necessarily great powers in the conventional sense of realist theory.

7.   IRAN

7.1   Iranian maritime tradition

Maritime trade in the Persian Gulf has always been extensive. Though today it is dominated by hydrocarbons, in ages past it was spices and other rare goods from further East that flowed to the Gulf and then beyond to the great mercantile powers of the Levant and the Mediterranean. However, successive Persian dynasties rarely paid much attention to maritime power and to the construction of a formalized navy. That is not to say that no maritime powers existed in the region; Oman in its heyday was certainly able to dominate regional commerce and contest Portuguese penetration in the western Indian Ocean. Rather, it is that the main threats to Persian dynasties always came from the land. For example, the Safavids, the dynasty that established the Twelver school of Shia Islam as the official religion of Persia, spent centuries in struggle with the Ottomans, but those wars were fought the mountainous borderland between the two empires, not on the sea.

The history of modern Iranian maritime tradition begins in the interwar period, when the last ruling dynasty, the Pahlavis, established the Imperial Iranian Navy (IIN). This first attempt at a modern Iranian navy ended prematurely when Anglo-Soviet forces invaded Iran during WWII. After the war, the Pahlavis enjoyed the benefits of aligning with the West, and the Shah sought to construct a conventional green-water navy, based on an American-style strategy of sea control, and projecting power out of the Persian Gulf into the Indian Ocean and the Arabian Sea. To this end he exploited Iran's oil wealth to purchase a number of modern surface warships, as well as F-4 Phantoms of Vietnam fame to outfit his air force and naval aviation.

After the 1979 Islamic Revolution, the IIN was renamed to the IRIN (Islamic Republic of Iran Navy). As the IIN was entirely dependent on Western suppliers, it suddenly found itself in an extremely precarious position with respect to maintenance and procurement, as it could no

longer access the Western section of the defense market; this limitation remains, and Iran's only reliable foreign suppliers are Russia, China, and North Korea.

The Revolution had two other consequences for the Iranian maritime environment. First, as a revolutionary state, the Islamic Republic almost immediately formed an ideologically-driven militia force, specializing in asymmetric warfare and internal security – the Army of the Guardians of the Revolution, also known as the Revolutionary Guards (IRGC). The IRCG soon expanded, adding air (IRGCA), maritime (IRGCN), paramilitary (Basij), and special operations (Quds Force) branches; furthermore, the IRGC is also in charge of Iran's ballistic missiles, and of Iran's nuclear program, whether the program is geared to produce nuclear weapons or not (Cordesman 2014). The IRGCN operates independently of the IRIN, and has its own procurement and development programs, though joint action between the two is also possible. This arrangement, with two separate navies, is unique (Frick 2007).

Second, and far more serious, was the outbreak of the Iran-Iraq War (1980-1988). A long, brutal, and extremely intense conflict, the war saw Iran deeply isolated, while Iraq received extensive support and intelligence from the US, the Soviets, and the Gulf monarchies. In the maritime theater of the war, Iran's capture of the strategic Shatt-el-Arab waterway early in the war turned Iraq into a landlocked country, forcing the Iraqis to export their oil through the other Gulf States. In response, Iraq initiated the Tanker War in 1984 by using aircraft to attack Iranian shipping and ports; Iran responded in kind, and for the next four years, an intense commercial war was waged in the Persian Gulf. The IRIN blockaded the area using its frigates and by deploying naval minefields, while the IRGCN developed a number of novel techniques, turning oil platforms into fortresses studded with missiles and machineguns, and deploying large swarms of speedboats to sink or capture oil tankers; this is the origin of Iranian A2/AD tactics. The severity of the Tanker War was exacerbated by the geography of the Gulf, as it is narrow at all points, and the only exit is the narrow Strait of Hormuz.

Eventually, the Tanker War drew a forceful American response. The US Navy launched Operation Praying Mantis in 1988, spearheaded by a full CVBG. The result was a severe blow for Iran, especially for the IRIN, which lost two of its five frigates; the IRGCN saw several of its

fortified oil platforms destroyed, as well as a number of light boats, but a fishing boat with and outboard motor and a crew of three is far easier to replace than a British frigate, and the long-term result was a loss of prestige and influence for the IRIN in the Iranian domestic arena, which represented the final blow and the end of the strategy of sea control pursued by the IIN. Though the IRIN survived as a branch of the conventional military of Iran, henceforth strategy priorities and strategic choice would be largely determined by the IRGCN instead.

The war ended in 1988, and since then, Iran has enjoyed a long period of peace, though the country remains torn between its nature as a revolutionary state and the deep pragmatism of a significant section of its leadership. Nonetheless, in the 1990s Iran's international isolation lessened, and after the cost of the war, its maritime forces regressed to a strategy of coastal defense. These forces were still capable, and with a high degree of institutional experience due to the lessons of the Tanker War and of amphibious operations in the Shatt-el-Arab, but internal stabilization commanded a higher priority than either of the two navies. But in the early 2000s, several developments conspired to vastly increase Iranian threat perception, which ended the stagnation of Iranian maritime power. In the next section, I examine in greater detail the current status and strategy of the IRIN and the IRGCN, as well as the timeline of developments from 2001 to 2015.

7.2   Modern Iranian maritime strategy

In 2001, Iran still chiefly engaged in coastal defense.. The IRIN had been reduced to three aging *Alvand*-class frigates and sundry patrol boats; its main purpose was constabulary, patrolling the Persian Gulf, occasionally escorting Iranian oil tankers, or the odd maritime operation against drug traffickers in the southeastern province of Sistan and Baluchestan, a perennial internal security hotspot, as it borders Pakistan's lawless Baluchistan region, home to organized crime and terrorism alike. The IRGCN retained a large number of small patrol vessels, and also fielded a network of concealed and mobile anti-ship and SAM sites. Overall, it was a textbook example of an extensive strategy of coastal defense.

The 2001 invasion of Afghanistan and the 2003 invasion of Iraq, both spearheaded by the US and motivated by neoconservative ideology dominant in the American executive at the time altered Iranian perceptions. Here was the assertive return of American power to the region, willing to intervene in order to conduct regime change; furthermore, constant American statements about an "axis of evil" that included Iran did little to ease tensions. Amongst other repercussions, it convinced the Iranian leadership that it ought to rearm and expand the navy, as it should be able to deter American attack by initiating a sustained commercial war targeting oil tankers in the Gulf, especially those of the Gulf monarchies, always friendly to Washington, and perennially seen as hostile by Tehran. If, hypothetically, an American attack were to occur, then the cost for the attackers ought to be made intolerable, and in order to do so, Iran ought to field maritime forces able to sink American carriers.

First the IRGCN was expanded in the mid-2000s, based on lessons learned from various Middle Eastern conflicts, including the experiences of Hezbollah in combating superior Israeli forces in asymmetric conflict.   Iran's improving relationship with China played a crucial role. Aside from Iran's role as chief supplier of hydrocarbons to China, whose oil and gas consumption have continually increased, China and Iran were also united in their discontent with American influence and military presence in Central Asia, brought about by the necessities of the ISAF mission to Afghanistan. This strategic partnership granted Iran access to the growing inventory of sophisticated missiles and missile boats being developed in China. Although Iran had already acquired a number of Chinese missiles in the 1990s, this greatly accelerated in the mid-2000s. Furthermore, Iran successfully reverse-engineered a number of Chinese designs, which are now produced and improved fully domestically; a major preoccupation of Iranian defense industry is to build weapons systems capable of penetrating the sophisticated defenses of American warships and aircraft.   One major failing was the inability to acquire strategic SAM. After some years of difficulties, a deal with Russia that would have transferred the potent S-300 missile to Iran fell through due to American negotiations with Russia.

Chinese assistance was instrumental in greatly accelerating Iran's development of a force capable of conducting sea denial; furthermore, China provided the latest and most advanced systems, and the Iranians, just as the Chinese, proved capable reverse engineers. The addition of sophisticated electronics and guidance systems to Iranian missiles has been of benefit to China as well, which has subsequently adopted these modifications for its own weapons development programs. The Chinese also provided significant assistance in the deployment of an improved and mobile air defense network; after all, the IRIAF has greatly deteriorated since the 1980s due to a lack of spare parts and regular maintenance for its ancient combat aircraft, and is currently relegated to a logistical and transport role. Thus, rather than striving for command of the air, Iran rather chooses to deny airspace through the threat massive anti-air missile attack.

The IRGCN fields speedboats, hovercraft, and ground-effect vehicles for swarm missile attacks, a tactic reminiscent to that advocated by the *Jeune Ecole* and the Soviet New School, just with missiles rather than torpedoes. The IRGCN also has a small number of naval infantry, specialized in small-unit warfare; all part of an asymmetric strategy that does not shy away from using amphibious special operations as a tool of localized power projection.

The final element of IRGC strategy is its force of ballistic missiles, also acquired from China in past two decades, or reverse-engineered from the SCUD missiles Iran managed to purchase from North Korea during the Iran-Iraq War. These are aimed at American forward basing in the region, which includes bases in the UAE and Saudi Arabia, and also aimed at the infrastructure of oil extraction of the Gulf States. In the event of conflict, ballistic missiles are to be used just as much to attack military targets as to destroy more vulnerable economic targets (Cordesman 2007).

The IRIN does not enjoy the same level of prestige as the IRGCN, but the mundane operations of a peacetime navy cannot be avoided for a coastal state, and the IRIN has been modernized and expanded in a program initiated in 2012. The 3 British *Vosper*-class (after upgrades, renamed the *Alvand*–class) frigates are joined by 5 new *Moudge*-class frigates, domestic redesigns of the *Alvand*–class. A dozen missile boats and 3 corvettes, all purchased by

the Shah, survived the Iran-Iraq War, and this auxiliary surface inventory was been expanded to 22 missile boats, some purchased from China, others built domestically by reverse-engineering the pre-Revolution ships. There is also a significant amount of smaller ships, armed with light weapons; these are based on a North Korean design, and are well-suited to support the IRGCN in swarm attacks, as well as operating in the shallow islands that dot the Iranian coastline. It must be noted that a small proportion of these surface vessels is stationed in the Caspian sea, but these are there chiefly to conduct constabulary duties in Iran's Caspian Sea EEZ, and the Caspian does not have a primary position in Iranian defense.

The IRIN acquired a dozen midget submarines in the 1990s in order to lay mines and disrupt commerce in the Persian Gulf, especially in the Strait of Hormuz. During the late 2000s it also struck a deal with Russia for the purchase of 3 *Kilo*-class diesel-electric submarines; this acquisition greatly expanded the capabilities of Iran's submarine force.

Aside from the sophistication of the IRGCN and IRIN's preparations for A2/AD, the addition of frigates, as well as the fact that the IRIN also fields 3 logistics vessels that enable underway support and refueling, means that Iran can be considered a green-water power. The frigates can support at strategy of sea denial by providing temporary and localized command of the sea. Furthermore, these are rather useful in constabulary duties. Iranian frigates participated in counter-piracy in the Gulf of Aden starting in 2008, but always acting independently, much like the Chinese and the Indians during their counter-piracy operations. Much like China, Iran's maritime forces are not exactly optimal for MOOTW, thus Iran has not engaged to a significant degree in such operations aside from counter-piracy.

It must be noted that as tensions with the US slowly receded in the 2010s, tensions with Saudi Arabia increased. The Saudis do not have a particularly large navy, but what they do have is significant export of hydrocarbons, and this would be rather vulnerable to Iran's current maritime forces. Furthermore, there is always the looming risk of Saudi Arabia's American ally, which is the traditional third in the Saudi-Iran-Iraq power triangle, but after 2003, the US effectively replaced Iraq (Fürtig 2007). Therefore the logic for expanding Iranian maritime assets remains.

Ultimately, Iran has adopted an innovative strategy of sea denial, which has the added benefit for being rather cost-effective. This strategy is more modest than China's, but nonetheless, the unique geographical circumstances of Iran have greatly increased its impact. This is evident when tensions rise in the Gulf, resulting in a negative impact on the global economy due to fluctuations in oil prices; no one wishes to contemplate the severe disruption that would occur should Iran conduct maritime warfare against one its neighbors, perhaps drawing in their superpower patron. Still, Iran has managed to become the preeminent maritime power in the Persian Gulf and the Arabian Sea.

7.3   Testing the models

Now that I have established that Iran has chosen and maintains a strategy of sea denial, logically upgrading from its extensive strategy of coastal defense of the 1990s and early 2000s, I turn to the factors that drive this choice, and to testing the two hypotheses.

I begin by examining the course of Iranian state power in the period, depending on the level of autonomy of the state from society, the dominant ideology, and the presence of state-sponsored nationalism. Then, I identify the internationalist and nationalist coalitions (or their local equivalents), as well as their goals and favored policies, especially in the maritime realm. Then I examine Iranian threat assessment during the period. Finally, I estimate the resulting strategic choice, based on the interplay of state power, threat, and the influence of the two competing domestic coalitions.

7.3.1   State power

The Iranian military budget is difficult to estimate, mainly due to the complexity of the structure of the various armed forces of the Islamic Republic. Starting out at $9 billion in 2001, spending peaked at around $16 billion in 2006, when tensions with the US were at their highest, and returned to $11 billion by 2015; maritime spending did not increase dramatically, as much of the extra funding was diverted into the nuclear program.

Iran has competitive elections, though these are somewhat limited by the fact that the Guardian Council must approve all candidates to the Parliament, the Presidency, and the Council of Experts. As we shall see in the following section, this goes far in granting significant autonomy to the state from society, and ensures that when it comes to strategy formulation, the main pressure groups come from within government structures; in this case, from the two militaries, from the clerics, and from state-owned firms.

With respect to ideology, one must not forget that Iran remains a revolutionary state, though the fires of revolution have dampened somewhat since the struggle for survival during the Iran-Iraq War. The Iranian government practices interventionism in the economy and the existence of nationalized industries, including in the defense sector, is the norm. The Iranian government chooses to use the country's nature as an Islamic state for mobilizing societal support, rather than relying solely on state-sponsored nationalism. This is due to the peculiar status of nationalism, which was promoted by the Shah's regime and gained a distinctly secular character. Since the Revolution, the clerical class has never felt entirely comfortable with the secular aspect of Iranian nationalism, as it also has a romantic aspect that harkens back to the glorious days of Persia's pre-Islamic history; to a hardline cleric, this also implies secularism or support for a revival of Zoroastrianism at the expense of Shia Islam. Thus the regime prefers to blend nationalism with Islamic revolutionary fervor for the purposes of mobilization, rather than the traditional state-sponsored narrative of revanchism and expansionism.

In general, the Iranian regime has a relatively high degree of state power, and this is constant throughout the period. Its limitations lie more in the limited nature of Iranian latent power with respect to the global distribution of capabilities.

7.3.2   Domestic environment

The complex threat assessment model assumes the presence of two competing domestic coalitions. In the case of Iran, it does not fit to speak of internationalist or nationalist coalitions. Rather, it is better to speak of hardliners and moderates, though these share some traits with the generalized factions of the complex threat assessment model. Furthermore, Iran has a complex government structure, with an elected Parliament and President balanced by the

unelected Guardian Council, which approves candidates for the Parliament and for the Assembly of Experts, which in turn chooses the Supreme Leader, who since 1989 has been Ali Khamenei; there is also an Expediency Council chosen by the Supreme Leader that acts in an advisory role.

Iran's hardliners embody the nature of Iran as a revolutionary state. Their supporters are to be found throughout the IRGC and amongst the conservative clerics in the Iranian government. Furthermore, the IRGC leveraged its favored position in Iran into the acquisition of very significant business interests, especially in the transportation and telecommunications sectors. This resembles the MilBus model of Pakistan, where the military is very autonomous due to its large economic interests. This has brought the same benefit of relative autonomy to the IRGC, which thus favors policies that do not endanger these domestic markets (Gheissari 2005). This would remain secondary, however, to the necessity of spreading and supporting the revolution in the region; in practical terms, this means supporting Iranian allies such Hezbollah, Assad's Syria, and the Houthis in Yemen; furthermore, threat perception would focus on the US, Israel, and Saudi Arabia. Still, the hardliners are not always as far from foreign policy pragmatism as might be expected (Parsi 2006). Regarding maritime strategy, the hardliners would advocate for an extension of sea denial to the exclusion of the regular navy, and a strengthening of the tools of asymmetric conflict and commercial war, such as the missiles needed to sink oil tankers and attack Saudi oil facilities.

Iran's moderates embody the pragmatic nature often displayed in Iranian policies. Their supporters are to be found in state-managed export-oriented industries, such as oil extraction, amongst more moderate clerics, and in the officer corps of the conventional forces. Drawing on the 1990s, when Iran was able to create profitable trade links with the West, especially with Germany, the moderates would oppose policies that would isolate Iran and bring about serious economic sanctions. Current president Hassan Rouhani is a good example of a moderate, and under his leadership, it is likely that the intense negotiations of the P5+1 group will bear fruit, both in freezing Iran's nuclear weapons program, and in partially ending Iran's isolation from the West. This highlights another aspect of the moderates, as they nonetheless recognize the

dangerous environment that Iran faces, and they support military modernization of the conventional forces. In maritime terms, this would mean keeping a strategy of sea denial, but diversifying it by enhancing the IRIN, in a small-scale version of what China has done recently.

Given that the FPE is assumed to be pragmatic, and the pragmatic faction is the moderates, then it may be assumed based on the model that the domestic supporters of the FPE throughout the period are the moderates.

7.3.3   Threat assessment

At the international level, Iran continues to perceive the US as a threat. This sharply increased in 2003, and only recently has begun to recede slowly, especially following the rise of ISIS and Iranian-American cooperation in Iraq against their common foe. The threat from the US is primarily maritime, as a land invasion of Iran was never seriously considered. Furthermore, the US has extensive forward basing in the region thanks to its relationships with Saudi Arabia and the UAE. What makes the US threat so severe is that the US is essentially the maritime agenda-setter in the international system, as it is the most successful state, and the US Navy is indisputably a global force able to wrest command of the sea from any other individual fleet. The US does not need to emulate, as others emulate it. Despite being an extra-regional power, it is able to project significant power in the Persian Gulf through its 10 supercarriers and attendant CVBGs. Both moderates and hardliners recognize the US as a threat, so there is a foreign policy coalition and the FPE is unconstrained (scenario A).

In general, the level of international threat is high, and even higher in the 2003-2014 period, while the level of state power is quite high, though latent power relative to the global distribution of power is more limited. The FPE is unconstrained and should be expected to argue for significant balancing, but the resource extraction model would also posit that the FPE would argue for emulation and a strategy of sea control; in reality the IRIN and IRGCN innovate and divide amongst each other constabulary and sea denial duties.

At the regional level, consistent threats are Israel and the Gulf States. The threat of ISIS and Sunni extremism that sprung up in the region following the invasion of Iraq and the forces

unleashed by the Arab Spring is also relevant. Out of this panoply of threats, the Saudis and the UAE are the most prominent maritime threats. Both states spend enormous proportions of their GDP on the armed forces, though for specialized tasks – meaning beyond internal security – these states rely on foreign contractors; Ukrainians for the helicopters, Russians for the aircraft, Americans for air defense, and so on. Their wealth also allows them to purchase the latest in military hardware, though it tends to go to tanks and fighter jets. In fact, the most capable maritime power in the region, aside from Iran, is Oman, and the sultanate actually has fairly good relations with Iran and generally pursues a neutral policy. Nonetheless, the most threatening aspect of these states is their status as American allies, and American forward basing in their territory; furthermore, the rivalry with Saudi Arabia has intensified even as relations with the US have improved, as the two states compete extensively for influence through their regional proxies. Both moderates and hardliners recognize these various regional actors as threats, so there is a foreign policy coalition and the FPE is unconstrained (scenario A).

In general, the level of regional threat has increased over the period and is now high, while the level of state power is quite high, though latent power relative to the global distribution of power is more limited. The FPE is unconstrained and should be expected to argue for significant balancing, but the resource extraction model would also posit that the FPE would argue for emulation and a strategy of sea control in order to blockade regional rivals and support regional proxies; in reality the IRIN and IRGCN innovate and divide amongst each other constabulary and sea denial duties.

Both hardliners and moderates recognize these various threats and their maritime component. The picture changes little when the parochial interests of the two factions are considered. The rise of Sunni extremism, and renewed Saudi assertiveness, are of most danger to the hardliners, as it threatens their support of a number of revolutionary movements in the region; consider the Houthis, whose successes allowed them to capture Sana'a, until a Saudi-led Arab coalition intervened. For the moderates, the most salient threat is the continuation of sanctions, which have done much to damage Iran's economy. The moderates are willing to

compromise with external powers if it means lifting the sanctions, as they see the sanctions as the greatest threat to Iran's long-term power and prosperity.

At the domestic level, the consistent supporters of the FPE, which is theoretically assumed to be mostly pragmatic, would be the moderates. Nonetheless, the hardliners were in high favor from the early 2000s to the early 2010s, as the renewed American threat seemed to lend credence to their perception of the international system as fundamentally hostile, and therefore necessitating a forceful response and extensive balancing. Overstretch by the IRGC and the continued impact of sanctions on the Iranian economy has decreased the influence and prestige of hardline voices, including those that argue for further revolutionary interventionism in the region. The growing influence, emergence into the public eye, and eventual partial fall from grace of General Soleimani, the commander of the elite Quds Force of the IRGC, is representative of the course of hardliner fortunes. Since the FPE is assumed to be backing the moderates, it would try to balance the US and regional competitors enough to deter a maritime attack; the main sources of disagreement, such as over the nuclear program, are outside the purview of maritime strategy, but both hardliners and moderates agree on the necessity of being able to deter a maritime attack. Thus, there is no significant domestic threat to the FPE's supporters, at least when it comes to the choice of maritime strategy.

7.3.4 Findings

Throughout the period, from a strictly maritime perspective the FPE has faced few constraints, as both moderates and hardliners agree on the necessity for Iranian maritime power, but disagree on the precise nature of the policy. Up until the mid-2010s, the FPE would face few constraints and a scenario A, as its chosen strategy favored the asymmetric approach advocated by the IRGCN. Recently, it is the same kind of Scenario A, but the return of the moderates would instead favor a diversifying approach grounded in sea denial. The return of the moderates also allowed the FPE to pursue other policies by using maritime strategy; namely, the procurement of further Chinese military technology, and bilateral talks and exercises with the PLAN, perceived as highly capable, thus deepening diplomatic relations.

In the case of Iran, I find strong support for the hypotheses of the complex threat assessment model. The presence of a foreign policy coalition throughout the period enabled the FPE to pursue a cost-effective strategy of sea denial that allowed satisfactory balancing and deterrence of the main maritime threats, both within the region, and projecting power into the region. This coalition was limited to the particular policy field of maritime strategy, as coalitions do not exist in other fields, such as nuclear policy. Whether the hardliners or the moderates were in favor did not overly affect strategy; for example, though the IRIN's new Iranian-made frigates were fielded in the 2010s, the project to construct them dates back to the early-2000s, and it was technical difficulties more than anything else that slowed construction. It is notable, however, that as hardliner influence slowly waned, so did interest in a more asymmetric approach based solely on small boat warfare; it can be inferred that from the perspective of the moderates, if the more conventional strategy is pursued instead and shown to be sufficient for Iranian defense, then the moderates may translate this success in this narrow policy field into more influence on other policy fields.

I find little support for the hypotheses of the resource extraction model. Iranian state power is considerable and comparatively productive considering Iran's more limited latent power. Furthermore, Iran faced high levels of maritime threat, peaking after the second American invasion of Iraq. In such a scenario, the model calls for emulation. Iran, however, engages in sea denial, which is the innovative strategy. It is evident why that is the case. The US Navy is simply comparatively too strong for Iran to successfully compete against using conventional carrier-based doctrine, even if only a limited part of America's carrier force were deployed to the Persian Gulf. It would be prohibitively expensive to attempt the kind of emulation that would allow for effective balancing, thus it is much more cost-effective to leverage the Chinese partnership and adopt a strategy of sea denial. The Chinese partnership has been instrumental in overcoming Iran's limited latent power.

This strategy can also effectively target maritime shipping, and the materials that pass through the Strait of Hormuz are so vital to the global economy that disrupting the flow would wreak havoc far out of proportion of the cost of sending out swarms of missile boats (Pham

2010). Much as in the case of China itself, the presence of an extra-regional superpower that is presumed to be unfriendly is a key driver of strategy, overriding other concerns, and overshadowing other threats. The experience of Iran recalls the formative years of the Soviet New School, when STAVKA pondered the best way to safeguard the young revolution from its many capitalist enemies, and furthermore pondered the place of revolutionary fervor in military strategy. Ultimately, the Soviet Union chose to innovate at first, a choice that lasted until the 1950s. Thus Iran is likely to pursue its existing strategy for the foreseeable future as well.

8.   BRAZIL

8.1   Brazilian maritime tradition

Brazil's history as a maritime power begins simultaneously with that of Brazil as an independent state – during the War of Independence (1822-1823). Before that, significant Portuguese naval forces had been stationed in Portugal's prize colony, and during the period of exile of the Portuguese crown during the Napoleonic Wars, the majority of the Portuguese fleet was transferred to Brazil – the newly formed Empire of Brazil inherited the bulk of these ships and troops, forming the Brazilian Navy (*Marinha do Brasil* – MB).

Owing to Portuguese traditions that survived in the navy, as well as its position as the largest and most populous state amongst the newly-liberated Latin American states, Brazil early on adopted sea control as its maritime strategy. The navy was a prestigious posting in the Empire, only equaled by service in the cavalry, and far better than the lot of the common infantryman. Officers were drawn from the aristocracy, while common sailors endured extremely harsh discipline – in fact, this is a recurring theme in Brazilian maritime history, and led to severe mutinies on several occasions, such as the Revolt of the Lash in 1910, which finally brought about the end of corporal punishment in the Navy.

In any case, during the reign of the last emperor, Dom Pedro II, the Brazilian Navy pursued a vigorous program of shipbuilding, and was instrumental to Brazil's ambitions on the South American continent. Most notably, the Navy proved to be decisive in the intense Paraguayan War (1864-1870) pitting Argentina and Brazil against Paraguay; by then the Brazilian Navy fielded more than a dozen modern ironclads, and could cruise upon the Parana river and bombard Paraguayan forces with impunity, while Brazil's land forces, riven with disease and poor morale, instead had to fight in atrocious conditions in the empty Mato Grosso – by the end of the war, even slaves were drafted for the army, allowing the Navy to comparatively secure its privileged position.

By 1885, the Navy had reached the status of a great power navy, as it added two newly-designed European battleships to its already formidable arsenal. Coincidentally, this move sent shockwaves through the US, as the US Navy suddenly found itself weaker than another in the Western Hemisphere. Ultimately, this motivated both Mahan to write his seminal works on command of the sea, and the federal government to finance the construction of the Great White Fleet, so that the US could regain its position as first maritime power in the Western Hemisphere.

The end of the Empire in 1889 brought about a period of relative decline, as the new republicans were more concerned with battling internal threats, and the Navy was seen as a nest of monarchists due to the privileged position of aristocratic officers in its ranks. However, by the early 1900s the situation had stabilized, and the republican government was looking to restore Brazilian prestige. Furthermore, considering the oligarchic nature of the Brazilian "Old Republic", where politics operated according to the maxim "*café com leite*" (coffee with milk), i.e. dominated by landed gentry composed of plantation owners and ranchers, it is no surprise that eventually this new, quasi-aristocratic elite would seek to place its sons in favored places in the command structure of the Navy, which was increasingly seen, in light the naval arms races in Europe and the writings of Mahan, as the most important of military branches. Thus, Brazil once again embraced sea control, this time ordering three brand-new dreadnaughts from Britain.

This sparked a maritime rivalry with Argentina that lasted well into the 20th Century, first over dreadnaughts in the 1910s, then battleships in the 1930s. Furthermore, Argentina was Brazil's most powerful and enduring competitor in the region, ending only in 1985 with the collapse of the Argentine junta and the return of democracy, and bolstered by Brazil's complete transition to democracy from military dictatorship in the late 1980s – incidentally, brought about by the Navy in the 1964 coup.

In any case, Brazil continually modernized its Navy up to the modern day. The Navy participated in both World Wars, conducting a significant amount of convoy missions, and engaging and sinking a number of German *U-Boots* in WWII. It was not particularly affected by

the 1964 coup that brought about military rule, as its command structure, composition of the officer corps – still drawn from the landed elites – strategy, doctrine, and procurement policies more or less remained the same, focused on command of the sea. The Navy acquired its first carrier in 1960, a British *Colossus*-class light carrier built at the very end of WWII; the Argentines took delivery of another soon after, thus prolonging the rivalry.

Since the end of the Cold War and the wave of democratization in Latin America, interstate tensions in the region have declined dramatically. From a maritime perspective, Brazil no longer faced any significant regional threats, as Argentina greatly reduced its navy, Chile was friendly, and no other state in the region operated significant maritime forces. Nonetheless, modest maritime modernization continued in the face of varying economic fortunes. In 2000, the Navy replaced its obsolete light carrier with the *Foch*, a French 1960s *Clemenceau*-class carrier; this larger ship, though not often underway, has seen significant use in supporting Brazil's peacekeeping mission in Haiti.

Thus, Brazilian maritime history does have its share of ups and downs, but the general theme is that of a fairly capable navy that focuses on a strategy of sea control. Furthermore, the leaders of the Navy, as well as successive governments and societal elites, have placed a high premium on promoting Brazilian prestige, and the Navy often has formed the vehicle for Brazilian prestige maximization (Visentini 2009). In the next section, I examine in greater detail the current status and strategy of the Brazilian navy, as well as the timeline of developments from 2001 to 2015.

8.2   Modern Brazilian maritime strategy

Brazilian maritime strategy has changed little in the period 2001-2015. The focus remains on sea control, not surprising considering Brazil has 7,400 km of coast, and on modest modernization within the limits of Brazil's rocky economic development, especially after the financial crisis of 2013 and the sustained recession that followed. The Brazilian Navy fits very well the definition of a green-water navy, able to project power in its region, and conduct

limited power projection elsewhere, while aided by underway support and refueling. This status has not significantly changed, and military doctrine emphasizes the need to protect territorial integrity, ensure the security of SLOCs, protecting the Amazon, and engaging in peace enforcement and disaster relief abroad. There was a great reduction in maritime capabilities across the board in Latin America, but Chile and Brazil are the two exceptions, highlighting that this kind of maritime disarmament is actually rare, at least in the case of established maritime powers. Still, the Brazilian Navy has had to find new missions to justify its existence, and it has done so by focusing operationally on conducting MOOTW – when it comes to procurement, the Navy continues to favor conventional assets – surface combatants and submarines – that would allow it to conduct a strategy of sea control (Bertonha 2010).

The flagship of the fleet is the carrier *São Paulo*, purchased from France in 2000. It must be noted this carrier is often in port for maintenance, and is furthermore mostly used as a helicopter carrier, as Brazilian Naval Aviation (*Aviação Naval Brasileira* - AvN) fielded around 60 aircraft in 2001, increasing to 70 by 2015, but out of these, it only operated four antiquated A-4 Skyhawks in 2001, which were reduced to two by 2015; the Skyhawk was nearly obsolete during the Vietnam War, and certainly is now, meaning that the *São Paulo* only operates a token air wing, incapable of providing significant support in a conventional engagement.

The real strength of the Brazilian Navy lies in nine frigates purchased from the British in the 1980s, five corvettes built indigenously, and more than thirty patrol vessels of various sizes, configuration, and origin. Furthermore, the Navy operates a significant amount of ships – amongst which are some of the thirty-odd patrol vessels – that are able to operate in a riverine environment, along with support ships, including for amphibious operations deep in the Amazon.

Submarines have been a focus recently as well. In the 2000s, the Navy acquired five Type-209 diesel-electric submarines (SSK) from Germany, and initiated a program of cooperation with France that will add another four *Scorpène*-class diesel-electric submarines by the end of 2020. Furthermore, the Navy intends to leverage its knowledge of operating submarines, along with Brazilian experience in civilian nuclear technology, in order to initiate

the construction a small number of nuclear-powered attack submarines (SSN); the future of this program, ostensibly justified for the protection and exploration of offshore hydrocarbon deposits, is unclear, given the recent recession.

Brazil also fields a strong naval infantry arm, in the shape of the Brazilian Marine Corps (*Corpo de Fuzileiros Navais* - CFN). The CFN has hovered at around 15,000 personnel in the last decade, equipped with a variety of Cold War-era Western light armored vehicles and small arms. The CFN is supported by a small number of amphibious and transport ships, and the Navy has also ordered a more modern French landing ship, which is to be delivered by the end 2015, thus enhancing the CFN's ability to conduct amphibious operations. The CFN has perhaps been the most internationally active part of the Navy. Abroad, it has participated in numerous peacekeeping and peace enforcement missions as part of Brazil's drive to be recognized as a responsible international power. At home, it is charged with safeguarding the Amazon, as well as Brazil's offshore possessions and economic facilities. Increasingly, it has also taken part in law enforcement operations in urban areas. The insecurity in the *favelas* poses a grave internal security risk, as criminal groups in these urban shantytowns, especially in Rio de Janeiro, are increasingly well-armed and willing to fight against civilian police forces; this has led to deployment of military police (BOPE) as well as of significant bodies of CFN troops, mirroring developments in Mexico in the struggle against drug trafficking. The CFN represents Brazil's best tool for addressing relevant MOOTW, which tend to be the majority of missions undertaken by the Navy in recent times.

8.3   Testing the models

Now that I have established that Brazil has chosen and maintains a strategy of sea control, I turn to the factors that drive this choice, and to testing the two hypotheses.

I begin by examining the course of Brazilian state power in the period, depending on the level of autonomy of the state from society, the dominant ideology, and the presence of state-sponsored nationalism. Then, I identify the internationalist and nationalist coalitions (or their

local equivalents), as well as their goals and favored policies, especially in the maritime realm. Then I examine Iranian threat assessment during the period. Finally, I estimate the resulting strategic choice, based on the interplay of state power, threat, and the influence of the two competing domestic coalitions.

8.3.1   State power

Brazil's military budget grew from $11 billion in 2001 to more than $30 billion by 2013. To a great extent this reflects the broader growth of Brazil; it also reflects the dire straits of the Armed Forces in the 1990s, when economic chaos and inflation damaged the budget. As a federal state that democratized in the 1990s and has embraced liberal democracy, the defining ideology of Brazil is at least partly non-statist, and for rather self-interested reasons. The Brazilian government continues to maintain a number of state-managed enterprises, especially with respect to the provision of public goods such as utilities, but also in the oil extraction and aerospace sectors.

At the state level, state capture of these state-managed firms provides significant financial benefits for individuals, and is the goal of many politicians. At the federal level the situation is slightly better, as especially in recent years anti-corruption measures have been strengthened. Still, there is little interest to actually redistribute the resources of state-managed firms, especially the hard currency of Petrobras, into projects that either do not reward a loyal voting base, or do not provide significant opportunities for personal enrichment. Military procurement does offer some opportunities, but regarding the Navy, Brazil is still dependent on foreign suppliers, and this is a slightly mitigating factor for corruption.

Furthermore, Brazil is a presidential system, meaning the executive is not shielded from public opinion, as is assumed to be the case in authoritarian systems and simple majoritarian parliamentary systems. Brazilian elections strongly depend on the individual appeal of the candidate, thus another motivation for state capture and redistribution in favor of sympathetic voting groups; the PT's social welfare programs, for example, are extremely popular amongst the working class, but given that Brazil has limited resources, this by definition means diverting resources away from foreign policy objectives.

Unlike the other three cases, the Brazilian government does not undertake any significant efforts at state-sponsored nationalism, at least not through the glorification of military power and the exhortation towards expansionism or revanchism. The 2014 World Cup may be interpreted as a nationalist gesture, expressing the prestige of Brazil, but considering the cross-societal appeal of football in Brazil, independently of support for the government, it is unlikely that that was the main purpose of the Cup; even if it were so, it would have been a failure, as it sparked a vigorous debate that did not go very much in favor of the government. Ultimately, Brazilian state power is comparatively limited, and this has not significantly changed since 2001.

8.3.2   Domestic environment

The complex threat assessment model assumes the presence of two competing domestic coalitions. In the Brazilian case, the internationalist coalition is composed of members of the upper and upper-middle class, which benefit greatly from regional economic integration through MERCOSUR, and whose children form the core of the officer corps of the Navy. Other supporters include the executives of key state-managed industries, especially Petrobras (oil) and Embraer (aircraft), and a core of *Itamaraty* people (Ministry of External Relations), that are interlinked with the FPE and engineered the Brazilian drive to international and regional status (Armijo and Burges 2010). It should be noted that one of the rewards for winning federal elections in Brazil is access to the wealth of Petrobras, which allows for rewarding loyal followers; this was enough stimulus for the current ruling party, PT (*Partido dos Trabalhadores* – Party of the Workers) which started out as a hard left party, to defect to the internationalist coalition after if first came to power in 2003. The internationalist coalition in large part has driven the expansion of the Navy throughout Brazilian maritime history. Today is no different. There is a strong focus on improving the international status of Brazil through prestige, and megaprojects are the chosen path; regarding the Navy, this means maintaining as a strong green-water presence, going as far as justifying the purchase of a nuclear submarine on the grounds that it would provide an useful platform for deep-sea oil prospecting. In

general, the internationalist coalition favors emulation, since a green-water navy with a carrier is but a more limited version of an American-style navy.

In contrast, the nationalist coalition in Brazil is largely composed of smaller populist parties that represent the urban working class and agricultural workers. Brazilian economic development chronically results in dramatic inequality, and despite programs for housing and social welfare during the years of PT rule, *favelas* remain common in large Brazilian cities. Furthermore, Brazil struggles with crime and insecurity, and this disproportionately affects the northern states and poorer city neighborhoods; furthermore, it also disproportionately affects Afro-Brazilians. The nationalist coalition would much rather see investment in security at home first, and does not significantly support the expansion of the Brazilian Navy, unlike the internationalist coalition; the coalition would therefore favor a policy of persistence, where the Navy is not downgraded to coastal defense only, but neither is it significantly upgraded.

8.3.3   Threat assessment

At the international level, Brazil does not face a significant threat, especially since the end of the Cold War and of intense bipolar competition. No significant international actor holds hostile intent towards Brazil. Furthermore, the remoteness of the South American continent from the main flashpoints of the post-Cold War further diminishes the vulnerability of South American countries in general; only Venezuela had an antagonistic relationship with the US, and even there, the likelihood that it would have escalated into actual armed confrontation was extremely low. China and the US both trade quite a bit with Brazil, and individual EU member states have good relationships, both economic and strategic with Brazil. The various deals with France for military hardware and civilian nuclear technology are one benefit. The internationalists sense the benefits of promoting a prestige-maximizing strategy, but the nationalists do not, as it detracts from domestic issues. Thus there is no foreign policy coalition and the FPE is slightly constrained (scenario B).

In general, the level of international threat is very low, and the level of state power is comparatively limited as well. The FPE is slightly constrained and should be expected to argue

for limited balancing, and a continuation of the existing maritime strategy of regional sea control.

At the regional level, interstate conflict and competition in South America has all but ended, the last instance being the 1995 Pastaza conflict between Peru and Ecuador. Even the maritime dispute between Chile and Argentina has lost much of its fervor. Furthermore, Brazil is the largest country, the largest economy, and has the largest population in South America. Brazil is not a regional hegemon, but it is nonetheless the strongest state in South America. Brazilian conduct in the region focuses on economic development and on the promotion of its MERCOSUR project as a vehicle for regional integration, much as the EU did. The internationalists are the main driver of MERCOSUR, but the nationalists do not, as it detracts from domestic issues. Thus there is no foreign policy coalition and the FPE is slightly constrained (scenario B).

In general, the level of regional threat is very low, and the level of state power is comparatively limited as well. The FPE is slightly constrained and should be expected to argue for limited balancing, and a continuation of the existing maritime strategy of regional sea control.

The Brazilian FPE did identify a threat nonetheless – the low status of Brazil – which does not stem from the neoclassical realist understanding of threat, but rather harks back to Morgenthau's notions of prestige. Much as its supporters in the internationalist coalition think, the solution is to boost prestige through development, internationally-oriented megaprojects, regional integration, and a maritime force capable of operating independently. Thus the FPE would choose to persist in the strategy of sea control Brazil has used since independence. This is also supported by the Navy itself, as there is strong internal competition over the more prestigious commissions, which in turn brings in significant benefits in Brazilian society after retirement from active service; given the history of the Brazilian Navy, prestigious posts are in the larger surface ships, especially the sole carrier (Stepan 2015).

At the domestic level, the supporters of the FPE have invariably been the internationalist coalition. During the economic boom of the 2000s, Brazilian foreign policy

invariably benefited the internationalist coalition. Since the start of the recession in 2013, which shows no signs of ending, populist voices in Brazil have been strengthened. The cost of the 2014 World Cup, and the perceived wastefulness of constructing stadiums in remote Manaus, just as an example, further strengthened the nationalist coalition. The 2014 election exposed the vulnerability of the PT, the main domestic supporter of the FPE, both within the internationalist coalition, where the challenger was the PSDB *(Partido da Social Democracia Brasileira* – Brazilian Social Democrat Party) representing the growing middle class, and arguing for a more fiscally prudent approach, and from the nationalist coalition, where the unexpected success of the PSB (*Partido Socialista Brasileiro* – Brazilian Socialist Party) in the first round exposed the dissatisfaction of working-class Brazilians with the pace of reforms conducted by PT, and by the high level of corruption exposed by the Petrobras embezzlement scandal.

In general, the level of domestic threat to the FPE's supporters was low until 2013, when it increased significantly. The FPE would be expected to maintain the existing maritime strategy until 2013, as it benefited the internationalist coalition; but starting in 2013, expensive projects such as military modernization would instead boost the position of the nationalist coalition at the expense of the internationalist, and thus the FPE would be expected to freeze spending and modernization, or even to limit balancing even further by reducing the size of the Navy.

A final type of threat not included in the complex threat assessment model, but that is of significant concern to Brazil, is the threat from crime such as smuggling, illegal logging, and drug trafficking. As the Navy is rather helpful in combating these threats, and the level has remained consistently high in the 2001-2015 period, it would be expected that the FPE would advocate in support of improving riverine and naval infantry forces. The internationalist coalition wishes to improve Brazil's prestige, and would certainly support measures that reduce crime, but the nationalist coalition would be more reluctant, as many of its members are from segments of the population disproportionately targeted by the forces of *order.*

8.3.4   Findings

In the period 2001-2013, the FPE would face limited constraints and a scenario B, as its chosen strategy was supported by the internationalist coalition, but not supported by the

nationalist coalition. The FPE would be expected to balance, though perhaps inefficiently, and to engage in limited emulation. That was indeed the case, as the FPE consistently overbalanced during this period, greatly modernizing and expanding the Navy, and furthermore engaging in MOOTW abroad in order to highlight Brazil's status as a responsible practitioner of benevolent power projection. This strengthened the position of the internationalist coalition during the years of growth, as the ruling PT party was able to link in the popular consciousness the Navy, the success of Petrobras, and the redistribution of Petrobras revenues into popular social welfare programs.

Since 2013 and the beginning of economic troubles, the FPE would be expected to face extensive constraints and a scenario C, as its policy would harm its supporters in the internationalist coalition, as popular perception began to link internationalist policies with Brazil's economic woes. The FPE would certainly balance inefficiently, and it would struggle to continue a policy of emulation. This was definitely the case. Underbalancing replaced overbalancing as military modernization was largely frozen; the fate of Brazil's only carrier is a good example, as it is largely a carrier without an air wing. Other programs may take longer to complete, and once acquired, vessels may be effectively mothballed.

In both periods, the limited area of policy coalition is in fact related to the provision of domestic security through law enforcement missions by the marines of the CFN in dangerous urban areas. These policies are rather popular across a broad segment of society, as they bring much-needed law and order (Bailey and Taylor 2009).

In the case of Brazil, I find strong support for the hypotheses of the complex threat assessment model. Two findings are of interest. One is Brazil's apparent nature as a prestige-maximizing state, as it faces no significant security threats apart for internal security issues of a non-traditional nature. The second regards the fact that the FPE and the two coalitions were able to agree on a narrow issue – urban security – even as the overall domestic threat landscape changed. This suggests that much like power, which can be disaggregated into individual components, so can the foreign policy agenda, and the FPE might influence one

sector of foreign policy in order to achieve results in another. This confirms Christensen's findings on secondary and primary policy priorities (Christensen 1996).

I find more limited support for the hypotheses of the resource extraction model. Brazil faces low state power and low threat throughout the period; the expectation is for persistence. Instead, by choosing sea control and a green-water navy, Brazil engages in limited emulation. The explanation largely lies in the importance that the internationalist coalition places on the prestige perceived to be associated with emulation. Furthermore, Brazilian state power is comparatively limited, but what enables Brazil to emulate is rather its warm bilateral partnerships with a number of states that conduct extensive emulation, especially France. Without the French connection, Brazil could not field neither carrier nor attack submarines. Much as in the other three cases, this highlights the vital importance of outward-oriented procurement policies, as for rising regional powers, they increase capabilities beyond what would be feasible through domestic arms production, and may open up entirely new strategies.

9.   CONCLUSION

9.1   On maritime strategy

The four cases exhibit quite a bit of variance in strategic choice. Brazil and India have very conventional strategies. China and Iran introduce a number of new elements.

Chinese strategy appears to have entered a period of diversification, with the acquisition of a carrier and a few amphibious assault ships for limited force projection. The core focus remains sea denial, and to this end, China continues to enhance its missiles, submarines, missile boats, and combat and strike aircraft. The introduction of LO (low observable) aircraft, developed indigenously, is a rare development and highlights just how advanced China's military modernization is. The J-20 appears to be a reinvention of the Russian Tu-22M, and is likely to be used in the same role, which in Soviet times was the destruction of CVBGs; there are other Chinese developments, and reverse-engineering has been put to good use to expand Chinese military power.

India continues to maintain and expand a significant surface navy focused on sea control. Though Pakistan is no longer the maritime threat it once was, it remains an important concern. Furthermore, the rise of China has led to worries of penetration by PLAN forces into maritime areas traditionally held to be India's. The unconventional nature of much of the PLAN's hardware, especially its many submarines, has led to increased procurement of anti-submarine systems and helicopters. Since 2014 and the election of Modi, India has expanded defense procurement of American defensive systems, in order to better protect against the panoply of advanced missiles fielded by the PLAN.

Iranian strategy is an odd kind of asymmetric sea denial, a direction initially driven by the primacy of the IRGC in setting the national defense agenda; since the 2010s the regular navy has also been able to modestly expand and engage in constabulary duties. Out of all the cases, the Iranian strategy is the most radical due to its focus on denying access to the Persian Gulf, and on attacking merchant shipping and commercial hydrocarbon facilities in the east

coast of the Arabian Peninsula. Aside from a mastery of reverse-engineering, the Iranians have exploited their partnership with China to the fullest, giving them access to the latest in Chinese missile technology, and boosting their efforts to create a credible maritime deterrent on a limited budget.

Brazil continues to field a surface navy centered on a single carrier, much as it has done so since 1960. Brazilian strategy since independence has been to gain command of the sea, and there are no strong motivators to change from the perspective of the Brazilian maritime establishment. Since Brazil faces no significant international or regional threats, the Navy has had to reinvent itself. Partly this has been done by linking the Navy to the prestige-boosting projects undertaken by the PT government in the past decade; partly it is done by fielding naval infantry in support of law enforcement in urban areas; and partly by sending the Navy to conduct peace enforcement and disaster relief missions in the Western Hemisphere. These non-traditional missions are the core missions of the Navy, as its actual combat capabilities are rather limited.

9.2   On the complex threat assessment model

The complex threat assessment model posits that threats are assessed at several levels (international, regional, and domestic), and that changes in individual components of power are more salient in perception than broad, long-term trends in the international balance of power. Furthermore, the degree to which the FPE is able to formulate policy is constrained by whether it is able to gather a foreign policy coalition from two broad groups of competing societal elites. If the coalition is limited or nonexistent, then it is likely that incorrect balancing will occur, meaning over- or underbalancing.

9.2.1   Testing the complex threat assessment model

Overall, the cases show strong support for the complex threat assessment model's assumptions. FPEs, as well as societal elites, do indeed react much more to changes in the individual components of the power of rivals. Indeed, it was the sudden proximity of American

power that prompted the rapid expansion of the IRIN and the IRGCN in Iran, whereas growing Chinese capabilities and intrusion in the greater South Asia region drive the Indian maritime debate.

The four states in the study are regional powers, and what most influences their maritime strategy is indeed the regional context, and the tapestry of regional threats. States are very sensitive to extra-regional force projection, and even more so to forward basing. For a regional maritime power, forward basing by an unfriendly power appears to represent the gravest threat.

There is also strong support for the mechanism of domestic constraints through two broad competing coalitions. It was necessary to conduct some adaptive measures in order to fit this in the more autocratic Iranian and Chinese regimes, but the support found for the mechanism in those cases as well suggests it is broadly applicable to a variety of states. Furthermore, the model predicted overbalancing in Brazil and India, and this was observed in Brazil until 2014, and in India, though tentatively, since 2014.

9.2.2 Status seeking and the prestige-maximizing state

The first caveat to the complex threat assessment model manifests most obviously in Brazil, though it is also partly the case in India as well. This is the role of status and prestige seeking as an alternative motivation to threat perception.

Both India and Brazil aspire to a greater role in international affairs, which is evident in a wide range of issues, from their engagement in international organizations, including non-Western dominated organizations like BRICS, to their persistent objective of gaining a permanent UNSC seat, especially in the case of India. Furthermore, post-democratization Brazil faces no significant international and regional threats – internal security and economic problems are far thornier – while India enjoyed a long period late 1990s and early 2000s of maritime dominance over Pakistan, its implacable rival, while simultaneously the Chinese fleet was yet unable to project even a modest amount of force into the Indian Ocean, nor did the Chinese posture and conduct of their government under Hu Jintao suggest they would have an

interest in doing so. Given this decrease in rivals' military capabilities, one would expect a corresponding strategic adjustment, but that was not the case.

In fact, during this period Brazil and India instead increased and diversified their capabilities. Brazil added a carrier and a nuclear submarine. India added a number of surface combatants, newer attack and missile submarines, and a third carrier, all upgraded to the highly capable Su-33M navalized version of the Super Flanker. While this certainly truly cemented either power's status as preeminent maritime power in their region, it ought to also be considered in light of their desire to gain prestige on their international stage, as a way to be recognized as independent regional and great powers, and to signal others as being capable in all areas including military; in Brazil's case, it also fits well with the PT years' obsession with megaprojects designed to display the prosperity of the new Brazil, from the Xingu Dam, to hosting the World Cup and the summer Olympics.

Brazil has also promoted this expanded role for the fleet as a way to engage in MOOTW in its region, which also signals it is a new and responsible international power, able to engage in interventions on its own. As mentioned in the Brazilian case study, this is largely driven by Brazil's wish to promote MERCOSUR as the preeminent South American regional organization, thus competing, at least while it was a significant project, with Chavez' more revolutionary ALBA. Furthermore, it is perceived to add to Brazil's case that it ought to have a greater role in international security organizations, especially the coveted UNSC seat. This highly independent policy, focused on prestige, has been consistently pursued in the timeframe of this study, and is popular with the ruling elites, though it is increasingly challenged by populists that decry what they see as wasted money, and this is likely to become even more prominent as Brazil continues to slide into a persistent recession, already evident in 2014.

India's focus on prestige stemmed from similar sources as Brazil's during the years of Manmohan Singh rule, though there the desire for an UNSC seat is even stronger. Since the triumphal ascension of Narendra Modi and of the BJP to power, the motivation has shifted, though prestige and status are again at stake. Now, the focus is on demonstrating that India has risen again. Having been a truly great power in pre-modern times, it is now India's destiny

to reclaim that status. This highly nationalist standpoint does not shy away from promotion and displays of military power, and the navy is the most desirable of targets.

Whence this desire for prestige? It is a quest for an immaterial good and the status it brings that was recognized by classical realism, especially in the works of Morgenthau. Classical realists often assumed that the quest for power may not be entirely done for the purpose of attaining security or maximizing power for power's sake alone (Morgenthau 1954). In classical realism, status is a power of its own, and this is inextricably linked in the maritime sphere to the prestige brought about by the acquisition and operation of capital ships – once the battleship, today the carrier, and to a lesser extent, the nuclear submarine.

Corbett focused on the fulfillment of foreign policy goals as the prime mission of maritime strategy, and thus he recognized the value of possessing a fleet thought so overwhelming that other powers would simply capitulate rather than face it, since this is a particularly cost-effective way of pursuing policy. In Corbett's day, this meant having the largest battleship fleet, and speculation raged in every Great Power as to which fleet had the best crews, the fastest ships, and the fastest-firing and most accurate guns. In such a contest where uncertainty reigned, prestige meant that other Powers perceived your fleet to be the best, based largely on immaterial factors. Corbett's only complaint would be that a fleet thought to be too strong would simply be avoided though a fleet-in-being strategy.

Today, long-range guided weapons have obliterated that concern, but the debate on fleet quality survives. Rising states especially perceive the acquisition of premium weapons systems – carriers, nuclear submarines, ballistic missiles, 4th generation aircraft – as having value beyond the purely military. At least in the maritime arena, the naked competition of prewar Europe has given way to a more nuanced understanding of prestige, partly based on a conventional understanding of military power, and partly based on the fact that these systems allow one to conduct MOOTW, such as disaster relief, that signal a pattern of behavior as a responsible power and member of the international community, the new moniker of the Great Powers.

Therefore, a state may be compelled to intensively invest in the fleet despite a threat assessment that may suggest a low level of actual direct threat; it is also possible that for rising powers, being ignored and dismissed at the international level is perceived as a threat in and of itself. Such a narrative of re-emergence, of independence, of washing away humiliation, and of reclaiming status is not uncommon, and not only in Brazil and India. China and Russia also often use this trope, based partly of their historical trajectories – in Russia's case, the collapse of the USSR and the chaos that followed in the 1990s, and in China's case, the "century of humiliation" mentioned in Chapter 5. It is simply that it is more prominent in India and Brazil, which face lesser perceived threats than China and Russia.

Therefore, it can be said that the realist debate that pits security maximization versus power maximization as primary drivers of foreign policy should be amended with a third motivation – prestige maximization. This is rendered possible today due to the lower likelihood of armed conflict between states, at least when compared to past periods of history, and the appearance of various organizations and forums through which states can extend their influence and display their prestige. A prestige-maximizing state would likely face a threat assessment that concludes that foreign threats are either low or for all purposes non-existent. For a prestige-maximizing state, megaprojects are a perfect tool; it is not surprising then to find states that fulfill the criteria of low threat but great ambitions, notably Brazil and South Africa, are engaging in such projects, especially though the medium of sports, often meaning football, but also through the construction of fleets, given the perceived prestige of operating carriers and nuclear submarines.

9.2.3   Military modernization as investment

Wholesale military modernization is a strong feature of the maritime strategy of China and India, as well as their overall national defense policy in general. As demonstrated, there are good reasons for doing so, especially in China's case, which sees itself as threatened by a powerful external power able to use forward basing in the region and thus project significant power, as well as the need to maintain the capability for a decisive resolution of the Taiwan dispute, which from a military perspective is an enormously difficult operation. Furthermore,

military operations by Western forces since the end of the Cold War have decisively demonstrated that a post-Cold War conventional force can defeat larger Cold War style conventional forces, so for any state wishing to balance a Western state or coalition, or a state or coalition supported and armed by Western powers, it is necessary to modernize.

Nonetheless, enhancing one's security and capability for both modern defense and force projection is not the only purpose of military modernization, and this is evident in both China and India. Today, military modernization has a number of indirect economic benefits. One, it is absolutely based on IT and on highly modular COTS components. This is means that investing in modernization can reap dividends down the road in terms of a civilian IT industry. China has been particularly successful at this; Huawei, the electronics giant, started out developing and supplying chips and other electronic components to Norinco, back when Norinco was directly controlled by the PLA. It is not the only case, and military developments as part of China's military modernization program are rapidly converted into civilian purposes, as constructing an indigenous high-tech industry is a priority of Chinese industrial policy.

In India's case, Indian policy overwhelmingly favors procurement arrangements as part of modernization in the form of bilateral deals. These deals come in two forms. If the system of interest exists already, such as the French Rafale fighter, then India will acquire a certain number, of which at least half are to be produced in India, with the industrial technology required to produce them to be full shared – in fact, it is that last provision that has made the Rafale deal so controversial in France, as Dassault and the French government are loath to share so much. If the system does not yet exist, or incremental improvement is thought to be needed, then development is shared, but usually an Indian version is produced for India in India. This is the case in a number of deals with Russia. The T-90 tank, Bishma version, the Agni missile, and the proposed HAL-FA version of the PAK-FA are results of this approach. This is also the case of a number of drone, missile, and helicopter projects done jointly with Israel, which possesses advanced specialized military technology and is a willing partner for India, given that their relationship has traditionally been rather friendly.

This way, rather than simply purchasing systems or producing them under license, India is able to leapfrog its progress and acquire advanced industrial production techniques and military technology, as well as experience and familiarity in using them. Thus state-owned entities – DRDO, HAL, and others – thrive, and India ensures that it is not overly dependent on foreign products in procurement, and that in due course, its military modernization may be chiefly conducted by Indian engineers and scientists in Indian institutes and factories. Ideally, this capacity and human capital would also diffuse in the broader Indian economy; this is already the case for the Indian aerospace industry.

9.2.4   Non-traditional and non-state threats

As demonstrated by the Brazilian case, it is possible to find states whose threat assessment is deeply concerned with domestic threats, these threats being not the threats to the FPE and its supporters in the elite's position, but rather non-traditional security threats, especially organized crime, terrorism, and extremism. Given that realists of all stripes deal primarily, if not exclusively, with states as the relevant actors in international politics, it is not surprising to find that non-traditional threats are omitted.

Fitting this finding into the complex threat assessment model is no easy matter. Consider that crime may at first glance be considered a domestic problem, but modern organized crime, just as much as terrorism, often operates as a globalized and transnational network; this is especially true of drug trafficking, and the deleterious impact of the cartels on a number of Latin American states is proof that it is no small threat. Furthermore, such groups may also be state-supported, as is sometimes the case of terrorist organizations.

Ultimately, except in extreme cases (which are outside the purview of this volume) where external threat is very low, but the threat from these non-traditional challenges is high, grand strategy will not be primarily constructed to address these threats. The case that springs to mind is Mexico, which faces no significant foreign rivals, but does have the cartels to contend with; this fact is evident in Mexican military strategy, which places a premium on both land and sea forces specialized for constabulary purposes and little else. However, the Mexican case is

further complicated by the complex entanglement between the cartels and the state, which greatly complicates the struggle against drug trafficking.

But even for states that mostly fulfill the criteria, but have other primary strategic concerns, this will have an impact as long as it is properly identified by the executive and supported by societal actors. In Brazil's case, as demonstrated earlier, the result is a maritime branch with a high concentration of marines, which can be used for difficult law enforcement operations in urban terrain.

9.3   On the resource extraction and strategic choice model

The resource extraction model posits that two variables drive the choice between persistence, emulation, and innovation when formulating long-term military strategy; persistence refers to a simple continuation of existing practices, emulation refers to copying the practices of the most successful states in the system, and innovation refers to the creation of entirely new technologies and institutions. The model proposes that the choice is driven by state power, which is the state's ability to extract or mobilize resources from society, and by threat perception. Thus four scenarios are possible. If threat is high and power is high, the state will emulate. If threat is high but power is low, the state may emulate or persist. If threat is low but power is high, the state will innovate. If threat is low and power is low, the state will persist.

Based on maritime theory and practice since the 1850s, this volume establishes that persistence is the default maritime strategy of coastal defense, emulation is the conventional strategy of sea control through a powerful surface navy, and innovation is the radical strategy of sea denial through submarines, aircraft, missiles, and swarms of small ships.

9.3.1   Testing the resource extraction model

Overall, the cases show variable support for the resource extraction model. Only in India does strategic choice match theoretical assumptions. In Brazil, owing to the prestige-

maximizing nature of strategy, it is more ambitious than expected, engaging in limited emulation rather than persistence. China and Iran, which are expected to emulate due to high threat and high state power in both cases, do not. Instead, both engage in extensive sea denial, which is a case of innovation.

9.3.2   Extra-regional threats

At first glance then, there may be the expectation that any navy that faces a stronger competitor and is strong enough to go beyond coastal defense would adopt a strategy of sea denial, but consider the case of Pakistan. There has been no significant strategic change since the defeat in 1971, and the strategy remains the same strategy of sea control as it was when Pakistan was more of a peer competitor to India; Pakistan is certainly not the only case. The reason for China and Iran's alternative choice lies in the nature of the perceived American threat. On the one hand, the US is remote, but on the other hand, it is able to use forward basing and force projection in both the Persian Gulf and the Western Pacific, where it enjoys the support of allies. These allies are also regional rivals of China (Japan, ROC) and Iran (Saudi Arabia, UAE).

In fact, this logic is strikingly similar to the course of Soviet maritime history, and the Soviets adopted sea denial as well. It is quite likely that on the whole, the resource extraction model has sufficient explanatory power. But in the case of regional powers facing a more powerful state able to project power in their region, the model should be amended to state that they are likely to pursue military innovation; in the case of maritime strategy, sea denial and A2/AD.

9.3.3   State power versus defense procurement capacity

The concept of state power does offer some explanatory traction when applied to grand strategy, but for the narrower field of maritime strategy, it is better to look at the defense procurement capacity of the state, rather than its overall state power. Consider the case studies. Only Brazil has any real problems in financing its military procurement and modernization programs, largely due to the weakness of the state in extracting and mobilizing

resources. The other three have relatively high levels of state power, and there, what limits them is the extent to which they can purchase weapons systems from the open market, develop these same systems indigenously, or reverse-engineer captured hardware.

When it comes to weapons systems, maritime warfare is rather more complicated than air or land, especially for attack submarines, larger surface warships, and aircraft carriers. In the post-WWII period, no state aside from the Soviet Union developed carriers entirely indigenously. Nuclear submarines are a bit more widespread, but technical assistance greatly speeds up the process.

Therefore, I posit that the concept of state power should be complemented by the concept of defense procurement capacity when analyzing specific instances of national defense policy – military strategy, for example. The ability to procure certain systems may open up strategic paths otherwise not available, or beyond the reach of the state on its own. Conversely, lack of access to the open defense market may disable certain strategic options, even if the state's executive has determined that this particular strategic option is preferable.

Consider the case of Iran. It would have been rather more difficult for the Islamic Republic to pursue sea denial if it did not have access to Chinese hardware. That is not to say it would have been impossible; after all, the Iranians have reverse-engineered nearly all systems they acquired from China, and produce them on their own. But that initial contact was essential.

Now consider China. It is not so unlikely that in the future, the Chinese may feel confident enough, or internal factional dynamics may change enough, that China will wholly pursue a conventional strategy of sea control, and will attempt to field a carrier fleet that challenges the US Navy. But if things are as they stand today, this fleet would be disadvantaged in comparison to American and Japanese systems. Emulation without help from those one seeks to emulate is a difficult business.

9.4   Concluding remarks and future prospects

This volume sought to uncover the motivations that drive states to identify external maritime threats, and the maritime strategies they adopt in order to deal with regional and international systemic factors, most notably the relative distribution of capabilities and the balance of power that is the result. Taking the case of four regional powers, and testing two neoclassical realist models, the volume established a number of finding. It confirmed the importance of domestic constraints on policymaking. It uncovered the intervening effect of force projection and forward basing on threat perception in regional powers. It found support for prestige maximization as a motivation for foreign policy, and it also found support for the hypothesis that under conditions of low interstate threats, the focus moves on to non-traditional threats, especially if these are severe enough. Ultimately, neoclassical realism proved to have reliable explanatory power, though the theoretical body is less well-configured to deal with cases outside the system of interstate relations that dominated between 1815 and 1991. With some adaptations, however, the models pull through.

What hence for maritime strategy? There is significant investment in innovation, especially in the US due to its pivot to Asia, but this is vertical innovation of an incremental nature. Few states innovate horizontally, and as we have seen, this is typically due to unusual circumstances. Nonetheless, it will be interesting to continue observing Chinese and Iranian strategy, as it is unclear whether these states will continue to use sea denial, especially as relations between China and the US worsen, and those between Iran and the US modestly ameliorate. After all, the circumstances that brought about notable earlier attempts – the *Jeune Ecole* and the Soviet New School – burned out in radical fervor after two or three decades, and afterwards, the French receded to a totally conventional strategy, while the Soviets found a compromise. It remains to be seen if that will be the case in China and Iran.

The BRICS have slowed down in their rapid economic growth as of late. This is especially pronounced in Brazil. Given that within the BRICS, Brazil, India, and South Africa have all sought to improve their international status through expensive prestige-generating projects, it remains to be seen whether such projects will instead become politically impossible to pursue due to cost as recessions persist. The Brazilian Navy is especially at risk, as it is difficult to justify due

to the absence of interstate threats. Its survival in its present form will speak volumes on the role of state-society autonomy, balancing domestic coalitions, and popular mobilization. If instead it transitions to a force configured specially for MOOTW, as is already the case for the Mexican Navy or the South African Defense force, this would represent an innovative though unlikely development.

APPENDIX / COMMON ABBREVIATIONS

- PLA   People's Liberation Army

- PLAN   People's Liberation Army Navy

- PLAAF   People's Liberation Army Air Force

- PLANAF   People's Liberation Army Naval Air Force

- SAM   Surface-to-air missile

- BM   Ballistic missile

- SLBM   Submarine-launched ballistic missile

- FPE   Foreign policy executive

- IRIN   Islamic Republic of Iran Navy

- IRGC   Army of the Guardians of the Revolution

- IRGCN   Navy of the Army of the Guardians of the Revolution

- CVBG   Carrier battle group / carrier with escorts

- INC   Indian National Congress

- BJP   Indian People's Party

- MOOTW   Military operations other than war

- A2/AD   Anti-access / area denial strategies

- CFN   Brazilian Marine Corps

- JMSDF   Japan Maritime Self-Defense Force

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SHORT CV / ABOUT THE AUTHOR

Research activities

Alex Burilkov has been a junior research fellow at the GIGA Hamburg, as part of the Institute of Asian Studies (IAS), and earlier the Institute of Middle Eastern Studies (IMES). Since 2015, he is also a research assistant at the project of Prof. Dr. Tobias Lenz entitled "Does the EU Model Diffuse? The European Union's Influence on Global Regionalism" at the University of Göttingen, focusing on implementing statistical modeling and analysis.

Research interests

In his current research, Alex Burilkov focuses on:

- BRICS security policy, especially regarding the processes of military diffusion and innovation.
- Time-series and panel data model design and implementation.

Publications

Lenz, Tobias, and Alexandr Burilkov. "Institutional pioneers in world politics: Regional institution building and the influence of the European Union." European Journal of International Relations (2016): 1354066116674261.

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