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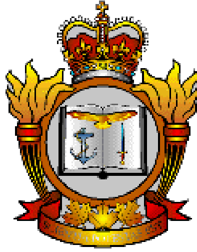

"THEN WHAT CAN I DO FOR YOU, ALL YOU BIG STEAMERS": WHY CIVIL MILITARY INTERACTION DOES NOT STOP AT THE WATER'S EDGE

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JCSP 39

Master of Defence Studies

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"THEN WHAT CAN I DO FOR YOU, ALL YOU BIG STEAMERS": WHY CIVIL MILITARY INTERACTION DOES NOT STOP AT THE WATER'S EDGE

By Lieutenant-Commander N. Smith

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ABSTRACT

Navies, as instruments, fulfil ends laid out in Grand Strategy, the maritime dimension of which is defined by nations' interest in the use of the sea. The two civil uses invest nations in the security of their trade and maritime resources, and that of the global maritime system. Strategy in relation to navies consequently has a civil-military character evidenced in theory and the strategies pursued by navies. This is reflected in, and reflects, the enduring contribution of civil-military interaction to naval operations, manifested in operational design through four functions: Use, Interdiction, Protection and Stabilization. Navies' reliance on the improvisation of civil-military interaction capabilities contrasts with attitudes to the Comprehensive Approach elsewhere, and poses risk. New understandings of security solutions and the capabilities needed to provide them provide an imperative and an opportunity for navies to leverage a climate of trust and embrace civil-military interaction as an element of fighting power.

INTRODUCTION

"Then what can I do for you, all you Big Steamers,
Oh, what can I do for your comfort and good?"
"Send out your big warships to watch your big waters,
That no one may stop us from bringing you food.

"For the bread that you eat and the biscuits you nibble,
The sweets that you suck and the joints that you carve,
They are brought to you daily by all us Big Steamers--
And if one hinders our coming you'll starve!"

\- Rudyard Kipling, *Big Steamers*

Written three years before the outbreak of the First World War, Kipling's poem was prescient. At a time when the Royal Navy's strategists were preparing for a war at sea that was expected to be determined by a decisive battle between "big warships," it foretold what would actually be the principal feature of naval warfare between 1914-1918: an unrelenting, day by day fight to preserve the flow of maritime commerce to Great Britain and her Allies while at the same time disrupting the sea supply chain of Germany and the other Central Powers. By 1917, starvation was a real prospect as a result of German submarine *guerre de course*. That the United Kingdom did not starve - and that, rather, it was the Central Powers that collapsed in the face of famine - was the result of the successful collaboration of navies and civil actors to ensure that the Allies could use the sea to preserve their own maritime commerce while disrupting that of their enemies.

Some one hundred years later, coal generated steam has given way to other forms of propulsion, and starvation seems a remote prospect in the developed world in a strategic environment in which war is adjudged to be a remote prospect. Kipling's lines, however, remain as pertinent to 2014 as to 1914. Nations’ warships big and small are regularly deployed to “big waters" to "watch” over - and occasionally act against - civil

shipping. The "comfort and good" of maritime commerce remains a vital national interest to the overwhelming majority of states. An expanding global maritime system coalesces around the principle that "no one may stop us from bringing" not just food but all the other goods that an interconnected world depends upon. As was the case one hundred years ago, it is not maritime military activities alone that concerns navies.

The theme of this paper is the use of the sea for civil purposes and its implications for navies. Its contention is that the current strategic environment provides both an imperative and an opportunity for navies to embrace civil-military interaction as an element of their fighting power.

The imperative lies in the growing strategic importance of the civil use of the sea allied to the civil-military character of naval strategy, the enduring contribution of civil-military interaction to naval operations and the emergence of the Comprehensive Approach as a significant influence in military thought. In this context, navies' reliance on an improvised just-in-time approach to civil-military interaction poses risk. The opportunity stems from legacy elements of fighting power, lessons learnt from joint operations and the models that have been built for civil-military interaction in land environments. Above all, they lie in the climate of trust navies and civil actors are building from their regular interaction to address security problems in the global maritime system.

This paper is organised as follows:

- Chapter 1 establishes that navies cannot be understood without a comprehension of the "ends of policy" which lie in the use of the sea, the overarching strategic idea in relation to the maritime aspect of Grand Strategy. Its focus in upon maritime commerce, the civil use of the sea, which has two aspects - trade and maritime resource exploitation.

There is international consensus that the growth of both brings prosperity and freedom, nationally and globally. The current strategic environment is one of trade freedom and expansion, with nations increasingly interconnected by a global maritime system. Grand Strategy aligns navies to the civil use of the sea, and to the infrastructure of regimes, agencies and agreements on which it rests, and the diverse and internationalized community of civil actors through which it functions.

• Chapter 2 explores the civil-military character of strategy in relation to navies. This rather cumbersome phrase is chosen in preference to “naval strategy” to denote that the analysis is about more than just what navies do to meet military objectives. The civil-military character arises from the alignment of navies with the civil use of the sea established in Chapter 1. Navies’ roles extend beyond military tasks to include functions in support of the use of the sea for civil purposes. The Chapter demonstrates how the contours of this character have shaped foundational strategic concepts such as maritime strategy, seapower and sea control and their influence on some of the principal strategies navies have pursued over the last one hundred years.

• Chapter 3 discusses the enduring contribution of civil-military interaction – communication, coordination and planning – to naval operations. Navies’ implication in the exploitation of sea control requires the inclusion of a civil-military line of operation in operational design, which will comprise one or more of four functions: Use of civil actors in military operations; Interdiction of adversary maritime commerce; Protection of friendly trade; and Stabilization of the maritime domain. These four functions parallel the contours of the civil-military character of strategy in relation to navies. The analysis establishes that not only is there a civil-military character to strategy in relation to navies,

but that naval history demonstrates that there is more naval operations than actions between ships.

- Chapter 4 examines the implications for naval fighting power of the conclusions from the previous parts of the paper. Fighting power is the mix of components – including conceptual and physical – through which militaries create the ability to succeed in operations. Naval fighting power has traditionally been shaped by the "fleet mentality" that has prized platforms above all. Despite the imperatives laid out in Chapters 1 – 3, civil-military interaction has been conducted more on an improvised than coherent basis. The conclusions of the Chapter in relation to imperatives and opportunities are outlined above.

Literature review

Civil military interaction in the naval context is not a subject on which there is any literature academic or otherwise. The topic itself is relatively new, and discussed principally in the context of the Comprehensive Approach and Civil-Military Cooperation (CIMIC). Operations in Afghanistan in particular have produced several analyses of the Comprehensive Approach, for example, works by Wendling,[1] Rotman[2] and Schnaubelt.[3] Afghanistan has also proved formative for NATO CIMIC doctrine, AJP 3.4.9.[4] While

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[1]Dr. Cécile Wendling, *The Comprehensive Approach to Civil-Military Crisis Management: A critical analysis and perspective* (Paris: Institut de recherche stratégique de l'École militaire, 2010).

[2]Philip Rotmann, "Built on shaky ground: the comprehensive approach in practice," *NATO Defence College Research paper 63*, December 2010.

[3] Christopher M Schnaubelt, *Operationalizing a comprehensive approach in semi-permissive environments*, (Rome: NATO Defense College, 2011).

none of these works addresses maritime matters directly, general principles and lessons in relation to the interaction of civil actors and military forces can be extracted from them. These point to a clear imperative at the joint level to developing civil-military solutions to contemporary security crises, and prompt the question of how this translates into the maritime domain.

That the protection of trade is a basic naval function is so ingrained into a naval professional that it is likely to be his first response when questioned about the role of navies, particularly if the question is coming from a layman. The reasons why this is so were first laid out by Mahan[5] and Corbett,[6] and a rich vein of academic material has been opened up for the student to plunder in the century or so since their seminal works were published. The analyses of Richmond,[7] Roskill,[8] Booth,[9] Till[10] and Gray[11] have proved particularly valuable in the writing of this paper. Their expositions on the meaning of the use of the sea establish that naval operations are about considerably more than the encounters of warships, and that the "more" is principally a matter of the civil use of the sea. They lay out the arguments why this is so in theoretical terms, but also provide illustrations from the history of naval operations. Their work in this latter regard has been supplemented with official and other histories that have studied the Use, Interdiction and

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[4]North Atlantic Treaty Organization. A.J.P. 3.4.9, *Allied Joint Doctrine for Civil-Military Cooperation*. Brussels: NATO Standardization Agency, 2013.

[5]Alfred T. Mahan, *The Influence of Sea Power upon History 1660-1783* (London, Sampson, Low, Marston, 1890).

[6]Sir Julian Corbett, *Some Principles of Maritime Strategy*, Introduction by Eric Grove (Annapolis MD: Naval Institute Press, 1988.

[7]Adm Sir Herbert Richmond. *Statesmen and Seapower* (Oxford: Clarendon, 1946).

[8]Capt Stephen Roskill, *The Strategy of Sea Power* (London: Collins, 1962).

[9] Ken Booth, *Navies and Foreign Policy* (London: Croom Helm, 1977).

[10]Geoffrey Till, *Seapower a Guide for the Twenty-First century* (London: Frank Cass Publishers, 2004).

[11]Colin S. Gray, *The Leverage of Sea Power: The Strategic Advantage of Navies in War* (New York: Free Press, 1992).

Protection functions of navies, for example, Roskill,[12] Medlicott,[13] Tucker,[14] Milner[15] and Tracy.[16]

More recent work such as that of Tan[17] and Haydon[18] has proved use source material to demonstrate the increasing importance to navies of maritime security and good order at and from the sea. This has also drawn upon the latest Australian,[19] British, [20]Canadian[21] and United States[22] naval "strategic publications" (a collective term for works variously described as Doctrine and Operating Concepts but providing some insight into their sponsor's strategies). The accessibility of these publications has made this paper Anglocentric, although the maritime nature of these nations' alliance makes this excusable. Military doctrine, particularly Canada's,[23] has provided the frame of reference for the examination of naval fighting power. Some lonely – but distant – voices in journals such as the *Naval Review* and *Naval War College Review* have provided insight

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[12]Capt Stephen Roskill, *Naval Policy Between the Wars Vols I and II* (London: Collins, 1968 and 1976).

[13]W.N. Medlicott. *History of the Second World War. The Economic Blockade. Volume 1.* (London: Her Majesty's Stationery Office, 1952.

[14]Gilbert Tucker, *The naval service of Canada: its official history Vols I and II* (Ottawa ON: King's Printer, 1952).

[15]Marc Milner, *Canada's navy: the first century* (Toronto ON: University of Toronto Press, 1999).

[16]Nicholas Tracy, *Attack on Maritime Trade* (Toronto: University of Toronto Press, 1991).

[17]Andrew Tan (ed), *The Politics of Maritime Power A Survey* (London: Routledge, 2007).

[18]Peter Haydon, *Navies in the Post-Cold War Era*, Maritime Security Occasional Paper No. 5 (Halifax NS: Dalhousie University, Centre for Policy Studies, 1998); Peter Haydon, *Sea Power and Maritime Strategy in the 21st Century: A "Medium" Power Perspective*, Maritime Security Occasional Paper No. 10 (Halifax NS: Dalhousie University, Centre for Policy Studies, 2000).

[19]Royal Australian Navy, *Australian Maritime Doctrine …*

[20]Ministry of Defence, *British Maritime Doctrine …*

[21]Department of National Defence, *Horizon 2050 A Strategic Maritime Concept for the Canadian Forces* (working draft document) (Ottawa: Canadian Armed Forces, 2012); [21]Department of National Defence, *Leadmark: the Navy's Strategy for 2020* (Ottawa: Directorate of Maritime Strategy, 2001).

[22]United States Marine Corps, United States Navy and United States Coast Guard, *Naval Operations Concept – Implementing the Maritime Strategy* (Washington DC: United States Marine Corps, United States Navy and United States Coast Guard, 2010); [22] United States. United States Marine Corps, United States Navy and United States Coast Guard. *A Cooperative Strategy for 21st Century Seapower* (Washington DC: United States Marine Corps, United States Navy and United States Coast Guard, 2007.

[23]Department of National Defence, B-GJ-005-000/FP-001, *CFJP 01 Canadian Military Doctrine* (Ottawa: Chief of the Defence Staff, 2009).

into navies' attitudes to the civil-military aspects of fighting power, such as Naval Control of Shipping.

Open commercial sources have been used to profile maritime commerce, and the maritime civil actors and infrastructures. They also establish the growing strategic importance of trade, and the nature of the global maritime system that naval strategic publications emphasise. Much of this is available on the internet – for example, through the United Nations, International Maritime Organization and International Chamber of Shipping.

As noted above, civil military interaction in the naval context is largely unaddressed in literature, certainly as a distinct, or discrete construct. This paper has found sufficient source material to demonstrate that the notion of communication, cooperation and planning with civil actors to achieve mission goals should have resonance to navies in terms of their strategies and the functions they perform operationally. In identifying that the resonance has not carried as far as naval fighting power, and suggesting some models to build on and emulate, the paper outlines imperatives and opportunities to ensure that navies are "Ready, Aye, Ready" for the challenges of the current and future strategic environments.

CHAPTER 1: THE CIVIL USE OF THE SEA AND GRAND STRATEGY

States are interested in the use of the sea for three purposes: (1) for the passage of goods and people; (2) for the passage of military force for diplomatic purposes, or for use against targets on land or at sea; and (3) for the exploitation of resources in or under the sea. Navies exist as a means *to further such ends. As it has been understood from earliest times, they exist as part of a state's general maritime policy, whose objective is to attempt to use the sea for one's own purposes, while being in a position to attempt to prevent others from using it in ways which are to one's disadvantage*

- Ken Booth, *Navies and Foreign Policy*

Introduction

While navies have acted strategically, it is only for a little over one hundred years that historians, political scientists and naval professionals have subjected strategy at sea to systemized analysis. Out of that work has emerged naval strategic theory, "a skein of connected thought about the nature, conduct and consequences of naval power."[24] Out of it too has come strategy in relation to navies through which militaries seek "to define how the naval service undertakes its politically directed mandate."[25] Taken together, they illuminate the naval dimension of what the British strategist Sir Basil Liddell Hart called "the art of distributing and applying military means to fulfil the ends of policy."[26]

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[24]Till, *Seapower* ..., 28.
[25]Department of National Defence, *Leadmark* …, 41.

In Liddell Hart's paradigm – and, as illustrated by the epigraph to this Chapter, – navies are means, "instruments of state foreign and domestic policy at sea."[27] Warfighting, patrols, naval presence, power projection, escorts, boardings, amphibious landings and myriad other functions and tasks are all uses of naval instruments in fulfilment of policy ends. Their analysis and study is rewarding, but navies cannot fully be understood without a comprehension of the "ends of policy." This in turn involves an appreciation of Grand Strategy - the highest level of national strategy where the shape of "foreign and domestic policy at sea" and a navy's "politically directed mandate" are determined by a nation's leaders.

Sir Julian Corbett (often seen as the "Clausewitz of the navy"[28] because of his analysis of naval power within the broader context of political goals) was the first to identify that national strategy in relation to the sea is qualitatively different that concerning the land because: "the sea cannot be the subject of political dominion or ownership. We cannot subsist upon it … nor can we exclude neutrals from it."[29]

Unlike land, the sea is not of much value to mankind – humans "cannot live on it, farm it, develop it, buy it or sell it."[30] While disputes over maritime boundaries are often described as territorial disputes, it is the *use* of the sea rather than its *possession* that concerns nations – indeed, it is the potential for taking resources from the sea rather than the ownership of barren reefs and rocks that is at the heart of these disputes. [31] Further,

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[26]Basil Liddell Hart, *Strategy: The Indirect Approach*, 4th ed. (London: Faber & Faber, 1967), 335.
[27]Haydon, *Navies post-Cold War …*, 75.
[28]Department of National Defence, *Leadmark* …, 42.
[29]Corbett, *Some Principles…*, 316.
[30]Paul Kennedy, *The Rise and Fall of British Naval Mastery* (London: Allen Lane, 1976), 2.
[31]See e.g. Banyan, "A Sea of Disputes," *The Economist* (blog), February 21 2014, http://www.economist.com/blogs/banyan/2011/02/

enormous parts of the sea form – along with space and cyberspace – one of the world's global commons, a vast part of the earth's surface to which all nations enjoy rights of access. Use of the sea, in consequence, is a question with strategic implications both nationally and internationally.

The use of the sea is the overarching strategic idea in relation to the maritime aspect of Grand Strategy. It touches upon the national interest - "the security, prosperity and freedom of the state,"[32] although just how it does so for a particular nation will be determined by factors such as its geography, history and economics. In general, throughout history the sea has been a route by which states have invaded territory, and have themselves been invaded. It has also been a barrier by which invasion has been thwarted. Trade carried by sea and resources extracted from it have powered the world's economies for centuries.

As stated in the epigraph, Ken Booth posits that the use of the sea interests states for three reasons: trade, the movement of forces and resource exploitation.[33] It is the two civil uses – maritime trade and maritime resource exploitation, collectively described as "maritime commerce" – and their impact on navies that are the main subjects of this paper.

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[32]Her Majesty's Government, *A Strong Britain in an Age of Uncertainty: The National Security Strategy* (London: Her Majesty's Stationery Office, 2010, 10.

[33]Booth, *Navies and Foreign Policy* …, 15-16.

International trade and the prosperity and freedom of nations

Mankind has engaged in the exchange of goods between societies for millennia - as the International Maritime Organization notes:

> "From the Phoenicians, through the Egyptians, the Greeks and the Carthaginians, the Chinese, the Vikings, the Omanis, the Spaniards, the Portuguese, the Italians, the British, the French, the Dutch, the Polynesians and Celts, the history of the world is a history of ... trade by sea."[34]

Whatever the impulses were for the earliest exchanges, classical economists such as David Ricardo and Adam Smith long ago demonstrated that free trade provides the optimal long-run conditions for global economic growth and the prosperity of individual nations, and leads to a more peaceful international environment.[35] While contemporary controversies about "globalization" show that these ideas are not undisputed, there is broad consensus in the in the post-Cold War era international community that free trade can "cut living costs and raise living standards (and) stimulate economic growth and employment" and "encourage good governance, (and) contribute to peace and stability."[36]

Canada offers a case study of the importance of free trade at the Grand Strategic level. While high tariffs were a cornerstone of Sir John A. Macdonald's National Policy, government strategy since the Second World War has been oriented towards trade liberalization as an engine of economic growth. The 1988 Canada-United States Free Trade Agreement has been followed by the North American Free Trade Agreement

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[34]International Maritime Organization, *International Shipping Facts and Figures – Information Resources on Trade, Safety, Security, Environment* (London: Maritime Knowledge Centre, 2012), section 2.

[35]Free Exchange, "Why did the Economist favour Free Trade," *The Economist* (blog), September 6, 2013, http://www.economist.com/blogs/freeexchange/2013/09/economic-history?zid= 293&ah= e50f636873b42369614615ba3c16df4a.

[36] World Trade Organization, "10 things the WTO can do," last accessed 10 June 2014, http://www.wto.org/english/thewto_e/whatis_e/10thi_e/10thi00_e.htm.

(NAFTA) and, in 2013, the draft Comprehensive Economic Trade Agreement with the European Union, followed in March 2014 by the signing of a free trade pact with South Korea. Benefits of the European agreement are estimated at $12 billion annually[37] and those of the Korean deal at $1.7 billion.[38] Further, and in stark contrast to the national debate at the time of NAFTA, opposition to trade liberalization has moved outside the political mainstream. As *Macleans* noted in respect of the Korean announcement:

> "The agreements also put the opposition — particularly the left-leaning New Democrats — in the unenviable position of either having to cheer "me too" or risk continuing to be portrayed as ideologically set against free trade, rather than a particular deal."[39]

Canada has one of the most trade dependent economies in the world and ranked 12th in the world in terms of exports and imports with a trade to GDP ratio of 61% in 2010 - 2012.[40] However, Canada's trade has historically been dependent upon the United States, which took 75% of Canadian imports in 2013 and supplied 65% of imports.[41] Trade agreements with the EU and South Korea are not only part of a government strategy of growing trade but also one of diversifying it, as *The Toronto Star* reported in March 2014:

> "In a question-and-answer session at a B.C. Chamber of Commerce gathering, [Prime Minister Harper] said his government remains focused on building global trade, "particularly given that some of our traditional trading

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[37] Department of Foreign Affairs, Trade and Development,Minister Fast highlights benefits of Canada-EU |Trade Agreement for North America," last modified 5 November 2013, http://www.international.gc.ca /media/comm/news-communiques/2013/11/05b.aspx?lang=eng

[38] Department of Foreign Affairs, Trade and Development, "Canada – Korea Free Trade Agreement (CKFTA) – Overview, last modified 17 June 2014, http://international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/korea-coree/overview-apercu.aspx?lang=eng.

[39]Julien Beltrame, "Harper close to fulfilling his promise on Trade," *Macleans*, 11 March 2014.

[40]World Trade Organization, "Country Profile Canada," last accessed 10 June 2014, http://stat.wto.org/CountryProfile/WSDBCountryPFView.aspx?Language=S&Country=CA.

[41]Canada. Statistics Canada. "Imports, exports and trade balance of goods on a balance-of-payments basis, by country or country grouping." Last accessed 11 June 2014. http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/gblec02a-eng.htm.

> partners, like the United States, may not have the kind of growth rates that you're talking about for a very long time to come."[42]

International trade and merchant shipping

At the level of Grand Strategy, therefore, nations understand that their national interest lies in international trade as both an engine of prosperity and a mainstay of freedom. This gives particular strategic significance to merchant shipping, variously described as the "lifeblood of world trade"[43] and "lynchpin of the global economy."[44]

It is estimated that 80%[45] to 90%[46] of international trade in goods is moved by sea which will "remain the principal means by which materials are transported between states."[47] 70% of the world's surface is covered by salt water, creating what Mahan described as the "great highway"[48] across the oceans. The highway (not a single path but rather a network of trade routes) is easy to access and inexpensive to operate on. Technological innovation has increased the size of ships and the range of ship types while decreasing their manning requirements and fuel consumption. [49] At the same time the shipping industry has remained fragmented and therefore highly competitive, ensuring that the benefits of innovation have

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[42]Dene Moore, "Stephen Harper hints at reopening NAFTA," *Toronto Star*, 12 March 2014.
[43]International Chamber of Shipping, "International Shipping: Lifeblood of World Trade" (film), last accessed 12 June 2014, http://www.ics-shipping.org/ics-film---international-shipping-lifeblood-of-world-trade.
[44]International Maritime Organization, *International Shipping*…, section 1.
[45]United Nations Conference on Trade and Development, *Review of Maritime Transport 2013* (New York and Geneva: United Nations, 2013), xi.
[46]International Chamber of Shipping, "Lifeblood…"
[47] Ministry of Defence, *British Maritime Doctrine* …, 1-8.
[48] Mahan, *The Influence of Seapower*, 25.
[49]Martin Stopford, *How Shipping has changed the world and the social impact of shipping* (London: Clarksons Research, 2010), 2-4.

flowed through in the former of lower prices. According to the International Chamber of Shipping, bulk shipping costs have risen by 70% over the last 50 years compared to a 700% rise in U.S. retail prices. The cost of transporting crude oil from the Middle East to the U.S. is less than US$0.005 and that of moving a tonne of iron ore from Australia to Europe around US$10, while shipping a can of beer is only US$0.01.[50]

International trade and merchant shipping are therefore interdependent: trade creates the demand for exchanges between economies, and shipping is the optimal means of moving goods across the world. Technological improvements – first sail, then navigational improvements and fossil fuels – has enabled trade in raw materials and finished products to expand beyond local markets to regions and the whole world. As the International Maritime Organization describes, history has seen a trend of ever expanding maritime trade routes:

> "Eventually, the great seaborne trades became established: coal from Australia, Southern Africa and North America to Europe and the Far East; grain from North and South America to Asia, Africa and the Far East; iron ore from South America and Australia to Europe and the Far East; oil from the Middle East, West Africa, South America and the Caribbean to Europe, North America and Asia; and now we must add to this list containerized goods from the People‘s Republic of China, Japan and South-east Asia to the consumer markets of the western world. Global trade has permitted an enormous variety of resources to be widely accessible and thus facilitated the widespread distribution of our planet‘s common wealth."[51]

According to United Nations Conference on Trade and Development (UNCTAD) statistics, maritime trade surpassed 9 billion tonnes for the first time in

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[50] International Chamber of Shipping, "Lifeblood…"
[51] International Maritime Organization, *International Shipping*…, section 2.

2012, with year on year growth exceeding that of the global economy at 4.3%.[52] UNCTAD statistics show the steady expansion of trade since 1970, with volumes doubling between 1990 and 2010 driven by trade liberalization and the integration of countries such as China into the international trading system.

The growth of maritime trade signifies its potential to assume ever increasing importance at the Grand Strategic level. Again, Canada offers a pertinent case study. Due to the size of the nation's trading relationship with the United States, only 25%[53] of Canada's trade is conveyed by sea - a relatively small proportion by international standards. Maritime trade has been of importance to Canada historically, through the fur trade and links with France, Great Britain and the United States. From the late 19th century, however, the North American rail network came to be the main trading artery. Nevertheless, maritime trade has continued to be of significance to the Canadian economy, as evidenced in the continued growth of ports such as Vancouver and Montreal, located on shorter shipping routes to Asia and Europe than their U.S. rivals. The Prime Minister has stated that "the Canadian economy floats on salt water"[54] and his trade minister has observed that the government has "put a very special focus, a singular focus, on using trade and investment to drive economic prosperity in Canada."[55] Given Canada's geography and the likely role of primary sector exports to the world beyond North America, trade expansion and diversification will increase the strategic importance of maritime trade to the country.

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[52]United Nations Conference on Trade and Development, "UNCTAD Statistics – Statistics at a glance," last modified 14 April 2014, http://unctad.org/en/pages/Statistics.aspx.

[53] Department of National Defence, *Horizon 2050…*, 3.

[54]Stephen Harper (speech, opening of Canadian Naval Memorial, Ottawa ON, 3 May 2012).

[55]Gordon Isfield, "Fast Eddie's Trade Mission," *National Post*, 9 August 2014.

Maritime resource exploitation

Maritime trade is not the only civil use of the sea with significance to Grand Strategy. As well as being a highway on which trade is conveyed, the world's oceans contain resources which can be exploited and traded.

Mankind has been taking fish from the sea for centuries - archaeological evidence from coastal communities along Europe's Atlantic coasts show that deepwater fish such as cod and hake was being caught 7,000 years ago.[56] Today, one estimate is the there are 260 million fishery jobs worldwide and that 15% of the world's population relies on fish as a primary source of animal protein.[57] The United Nations Food and Agriculture Organization (FAO) estimates that global fishery production set a new record in 2013 at 160 million tonnes, up from 157 million tonnes the previous year, with exports valued at US$136 billion, a 121% increase over a decade.[58]

The exploitation of Canada's maritime resources has an equally long history with the waters off the East Coast including some of the richest fishing grounds in the world. Following John Cabot's 1497 voyage to Newfoundland, his crew reported "the sea there is full of fish that can be taken not only with nets but with fishing-baskets."[59] Large fisheries developed in Atlantic Canada and in British Columbia and, despite the collapse

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[56]Till, *Seapower* ..., 8.

[57]University of British Columbia, "UBC researchers release estimate of "invisible workforce" in global fisheries," last modified 11 December 2011. http://www.publicaffairs.ubc.ca /2011/12/20 /.

[58]Food and Agriculture Organization of the United Nations, "World Fish Trade to Set New Records," last modified 21 February 2014. http://www.fao.org/news/story/en/item/214442/icode/.

[59]Canadian Geographic, "Cabot, cod and the colonists," last accessed 11 June 2014. http://www.canadiangeographic. ca/magazine/ja97/feature_cabot_trail3.asp.

of the Atlantic cod, the industry contributes $2 billion to the economy annually, [60] its exports making Canada the eighth largest exporter of fish and seafood products in 2009.[61]

In more recent times, technological innovation has led to the exploration and exploitation of the seabed for hydrocarbon and other resources. Since the drilling of the first offshore oil well 10.5 miles off Louisiana into 15 feet of water in 1947, production has moved further and further offshore and deeper and deeper into the seabed. 60 years later, Brazil's Petrobras is producing 500,000 barrels of oil a day from "pre-salt" fields at depths of up to 20,000 feet 200 miles offshore.[62] Discoveries in water deeper than 1,500 metres have been made off the coasts of Angola, Sierra Leone and Nigeria, as well as in the Gulf of Mexico.[63] In December 2013, Reuters reported plans by Iran and Qatar to develop the world's largest gas field in the waters between them which is estimated to contain 51 trillion cubic metres of gas and 50 billion barrels of condensate.[64] Offshore exploration for maritime hydrocarbon resources began in 1959 off Nova Scotia's Sable Island, with oil production commencing in 1992 from the Cohasset and Panuke fields.[65] In the late 1990s, production began in the Hibernia oil field and the Sable Island gas field, off Newfoundland and Nova Scotia respectively. With production now coming from the White Rose and Terra Nova fields, Newfoundland produces excess of 270,000 barrels of

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[60] Department of Fisheries and Oceans, "Canada's Fisheries Fast Facts 2013," last modified 7 April 2014. http://www.dfo-mpo.gc.ca/stats/facts-Info-13-eng.htm.

[61] Department of Fisheries and Oceans. "Exports by Major Exporting Countries 2005 – 2009." Last modified 4 March 2013. http://www.dfo-mpo.gc.ca/stats/trade-commerce/world-mondial/export/wxv0509-eng htm.

[62] Will Connor and Luciana Magalhaes, "Harsh Offshore Field Delivers for Petrobras," *The Wall Street Journal*. 8 August 2014.

[63] The Economist, "Plumbing the Depths," last modified 4 March 2012. http://www.economist.com/node /15582301.

[64] Amena Bakr, "Qatar says can help Iran get more from world's biggest gas field," last modified 23 December 2013. http://www.reuters.com/article/2013/12/23/qatar-iran-gas-idUSL6N0K22U420131223.

[65] National Resources Canada, "Offshore Oil and Gas," last modified 12 December 2013. https://www. nrcan.gc.ca/energy/offshore-oil-gas/5835.

oil a day and its offshore is estimated to hold reserves of 2.9 billion barrels of oil and 10.86 trillion cubic feet of natural gas[66] with exploration activity described as "reaching fever pitch."[67]

The global maritime system

The growth of maritime trade, and the international character of much of maritime resource exploitation, has roots in the concept of the world's seas as a commons to which all nations enjoy rights of access. At the level of Grand Strategy, there has long been significance to these rights, and to the links with trading partners they forge. Increasingly, nations have come to understand that their national interest is invested not just in their own use of the sea but all states' use of the sea. In contemporary Grand Strategy, the maritime domain is "a global system characterised by countless interconnections in which a disturbance in any one component will affect all the others."[68] As one government states:

> "[t]he United States is a maritime nation, and the interconnectivity and stability of our national economy, commerce and security is tied to the global maritime nature of international commerce. The maritime domain plays a critical role in the free flow of goods and services."[69]

At the heart of the global maritime system is the idea of the freedom of the seas which has its origins in the concept of *mare liberum* expounded by Hugo Grotius in his

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[66]Canadian Association of Petroleum Producers, "Newfoundland and Labrador's Offshore Oil and Natural Gas Exploration and Production Industry Contributing to a Strong Provincial Economy," last accessed 10 June 2014. http://www.capp.ca/GetDoc.aspx?DocID=176807.

[67]Yadullah Hussain, "Big Oil takes Deep Dive," *National Post*, 8 August 2014.

[68]Till, *Seapower …*, 338.

[69]Department of Homeland Security, *National Maritime Domain Awareness Plan* (Washington DC: Department of Homeland Security, 2012), 4.

eponymous work of 1609. Freedom of the seas does not mean, however, that the international community is indifferent to what happens on the oceans. To the contrary, there is an infrastructure of agreements, agencies and regimes that delimits rights to the use of the sea and ensures that the maritime domain can be used safely and securely. The seas may be one of the global commons, but they are "regulated ocean commons."[70]

The core of the regulated ocean commons is the legal regime for use of the seas embodied in large part in the United Nations Convention on the Law of the Sea (UNCLOS) concluded in 1982 but also resting on customary principles of international law that have developed over centuries. The regime creates rights of access on water that stand in contrast to those that apply on land; the "high seas" beyond relatively small territorial waters are accepted as open to all nations and belonging to none. Even within those waters subject to the jurisdiction of states, shipping benefits from rights of passage and transit.

There is, however, a tension inherent in UNCLOS. On the one hand, it promotes internationalization by recognizing rights of use and access in relation to maritime trade. On the other, it encourages nationalistic approaches through the derogations from the principle of *mare liberum* that apply to resource exploitation, giving states sole rights in Exclusive Economic Zones (EEZ) out to 200 miles, or further depending on the extent of their Continental Shelves. Although the origins of these provisions lie in an endeavour to prevent conflicts, the possibility of asserting sole rights of exploitation over potentially vast maritime estates provides fertile ground for tensions and disputes between nations,

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[70]VAdm Dean McFadden, "The Navy and Canada's National Interests in this Maritime Century" (Canadian Military Journal 10, no. 4 (Autumn 2010)): 54.

particularly in the numerous instances when claims overlap. There is nothing new in maritime boundary disputes, but the size of the areas that can be claimed and the value of the resources that can be extracted (hydrocarbons and minerals as well as fish) make them more significant. Tensions are most prominent in the South and East China Seas where a series of overlapping claims have brought about diplomatic rifts between Japan, Korea, Taiwan, Philippines, Brunei, Malaysia, Vietnam and (most prominently) China. As *The Economist* notes, the essence of these disputes - and the potential for conflict which they present - is rights over maritime resources:

> "There is a huge amount at stake. Besides fisheries, the sea, particularly around the Spratlys, is believed to be enormously rich in hydrocarbons. The lure of such riches ought to make it attractive to devise joint-development mechanisms so that all could benefit. In practice, the resources potentially available make it even harder for any country to moderate its claim."[71]

In addition to the legal regime underpinning the regulated ocean commons, there is an extensive framework of regulation to ensure that maritime commerce can be conducted safely and securely as well as efficiently and economically. The lead international organization for this is the International Maritime Organization (IMO) established as a specialized agency of the United Nations in 1948 with a mandate:

> "to provide machinery for cooperation among Governments in the field of governmental regulation and practices relating to technical matters of all kinds affecting shipping engaged in international trade; to encourage and facilitate the general adoption of the highest practicable standards in matters concerning maritime safety, efficiency of navigation and prevention and control of marine pollution from ships."[72]

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[71] Banyan, "A Sea of Disputes"…

[72] International Maritime Organization, "Brief History of IMO," last accessed 11 June 2014. http://www.imo.org/ About/HistoryOfIMO/Pages/Default.aspx.

Underlying IMO's mandate is the recognition by states that shipping is a global industry and that consequently, when regulation is required, it is achieved more effectively and efficiently on the basis of common global standards rather than a patchwork of national laws. While this might seem a basic point, it is one that has proved difficult to achieve in other global industries - financial services, for example. In contrast to the balkanized approach in this sector and elsewhere, IMO lists 30 conventions that have been negotiated through its auspices and ratified by its members - for example, the International Convention for the Safety of Life at Sea (SOLAS) 1974, the Convention on International Regulations for the Prevention of Collisions at Sea (COLREG) 1972 and the Convention of the Facilitation of International Maritime Traffic (FAL) 1965.

In accordance with their commitments under IMO Conventions, states have invested in a global infrastructure that allows the global maritime system to function. This includes bodies such as the International Mobile Satellite Organisation that oversees services for maritime safety within the Global Maritime Distress and Safety System (GMDSS) established by the IMO and the International Hydrographic Organization (IHO) that coordinates the work of national hydrographic authorities. The IHO has a sub-committee that coordinates the network of World Wide Navigational Warning Service (WWNWS) authorities that ensures the broadcast of safety of navigation information to mariners throughout the world. At the national level, states have established Maritime Rescue Coordination Centres (MRCC) to deal with distress situations and Marine Communication and Traffic Services to facilitate ship-shore communications and traffic movements. Under a series of memoranda of understanding, states work together to board

and inspect individual ships to ensure adherence to IMO's conventions under the system of port state control.

The global maritime system functions through a diverse and internationalized community of civil actors. The breadth of this can be understood by considering the range of private interests that exist in a single merchant ship voyage. The vessel will have an owner, but its operator might well be different, as might its charterer, to say nothing of the owner (probably owners) of the cargo the ship is carrying and the agents handling the ship in its departure, calling and destination ports. The ship will be insured, but the risk will be spread amongst underwriters of the hull, cargo and protection and indemnity (liability and war risks) cover and backstopped by reinsurers. Marine surveyors will have attested to the ship's being in conformity with relevant technical standards and its fitness to carry its intended cargo.

Over the past forty years, the community has become more internationalized – that is, for a given nation, maritime commerce is increasingly being conducted by non-national civil actors. "Flagging out" – the practice of registering ships in low-cost, minimal regulation jurisdictions – has become standard practice, a by-product of the economic liberal idea that underpins global trade. At the same time, and for much the same reason, trade is increasingly carried by foreign flagged vessels. The dramatic effects can be seen in the example of the United Kingdom, which has seen the number of British owned ships decline by two-thirds between 1950 and 2010, with two-thirds of the owned shipping registered outside the country in the latter year.[73]

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[73]House of Commons Library, *Shipping: UK Policy Standard Note SN/BT/595* (London: House of Commons Library, 2010) 1, 24.

Nevertheless, this diverse and internationalized community of civil actors has some unifying features. The IMO regulatory framework and systems such as WWNWS, GMDSS and MRCC have led to commonality of practice. Economic liberalism has also been accompanied by consolidation, so that large parts of some maritime sectors are dominated by a few key players.[74] Individual interests are likely members of one or more industry associations that represent collective shipping interests, such as the International Chamber of Shipping, the Oil Companies International Marine Forum, the Lloyd's Market Association's Joint War Risks Committee and the International Association of Classification Societies.

Further, the global maritime system's dependence on a few critical points has made these of strategic importance to a large number of states at they have come to see themselves invested in the use of the sea by all nations. As ships have grown in size, more maritime commerce has been conducted through hub ports such as Rotterdam, Long Beach and Singapore.[75] Choke points such as the Straits of Malacca, Gibraltar and Hormuz are vital to the world's oil supplies.[76]

Summary: the strategic significance of the civil use of the sea

The use of the sea is the overarching idea in relation to the maritime aspect of

[74]Over 50% of world container traffic is controlled by five companies - see Molin, Anna, Matthew Curtin and Costas Paris, "Maersk, MSC Clinch New Container-Shipping Pact," *The Wall Street Journal*, 10 July 2014.

[75]Sam J. Tangredi, "The Future of Maritime Power," in *The Politics of Maritime Power A Survey*, ed. Andrew Tan, 131 (London: Routledge, 2007).

[76]Energy Information Administration, "World Oil Transit Chokepoints," last modified 22 August 2012, http://www.eia.gov/countries/regions-topics.cfm?fips=wotc&trk=p3.

Grand Strategy and therefore shapes the policy ends which navies are directed to fulfil. There are three aspects to the use of the sea: trade, the movement of forces and resource exploitation. The first and the third constitute the civil uses of the sea.

States have come to view themselves as invested in the use of the sea by all nations due to the increasingly interconnectedness of the emerging global maritime system. This rests on the regulated maritime commons consisting of an infrastructure of regimes, agencies and agreements that delimits rights to the use of the sea and ensures that they can be used safely and securely. It functions through a community of civil actors which is diverse and internationalized but has certain unifying features, including dependence on a few critical geographical points.

Grand Strategy thus aligns navies with the use of the sea for civil purposes, and with the civil actors and infrastructures which ensure the global maritime systems functions. As global trade expands and accounts for growing proportions of national economic life, and as technology makes maritime resource exploitation more feasible, the contemporary strategic environment is one in which "[t]he historic importance of sea [*sic*] seems more likely to rise than to decline in the immediate future."[77]

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[77]Till, *Seapower* ..., 368.

CHAPTER 2: THE CIVIL MILITARY CHARACTER OF STRATEGY IN RELATION TO NAVIES

Merchant shipping, and its concomitants, are crucial to the prosperity of nations, and to their safety. Naval power depends on it; protecting it is arguably second only in importance as a naval imperative to protecting the homeland against invasion. Navies that forget this do so to their nation's peril because a healthy merchant marine and secure sea line of communication are essential for national security in peace and war.

- Geoffrey Till, *Seapower - A Guide for the Twenty-First Century*

Introduction

On one level, the three strategic uses of the sea – trade, the movement of forces and resource exploitation – can be seen as discrete: every day, thousands of merchant ships transit the world's oceans without interaction with naval forces, while fishing, resource exploration and hydrocarbon production is carried on offshore independent of military activities. By contrast, the military uses of the sea – engagement with the enemy, invasion, the defence against it, amphibious operations, power projection from the sea and, since the mid-twentieth century, the use of the sea by strategic nuclear forces – are clearly distinct from these maritime commercial activities.

Strategically, however, the use of the sea embraces and blends both military and civil activities rather than separates them. When Corbett observed that strategy in relation to navies "should serve the interests of the state, and in war and peace the type of strategy

a navy adopted should reflect national objectives,"[78] he underscored the alignment Grand Strategy makes between navies and the civil use of the sea, not just its military aspect.

This alignment gives strategy in relation to navies a civil-military character; it extends beyond military tasks at sea to include naval functions in support of the use of the sea for civil purposes. The contours of this civil-military character are defined by four themes to which the epigraph to this Chapter alludes. Firstly, a nation's use of the sea for civil purposes generates prosperity, and the wealth to build national strength, including a navy and other maritime assets that can be turned to military use. Next, increasingly interdependencies cause nations to be interested in threats to the functioning of the global maritime system. Third, nations' dependence upon the sea and the global maritime system requires navies to provide security for civil actors given the relative freedom with which hostile forces can manoeuvre at sea. Finally, however, this freedom of manoeuvre cuts both ways, and can be exploited by naval action against enemy maritime commerce and economies.

This Chapter explores how these four themes have shaped naval strategic theory and the more significant strategies that navies have sought to pursue over the last century.

Foundational strategic concepts

The civil-military character of strategy in relation to navies can first be appreciated by considering the basic terms used by naval theorists and strategists. Rather than "naval strategy" and "naval power," the preferred phrases are "maritime strategy" and

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[78] Till, *Seapower* ..., 47.

"seapower" (or sea power). Their use suggests that broader questions than naval operations and warfighting are being analyzed when it comes to strategy in relation to navies.

It is therefore significant that, to give just three examples, "maritime strategy" is the term used to describe the new strategy jointly formulated by the United States Navy, Marine Corps and Coast Guard[79], NATO's strategy in relation to the use of naval forces[80] and the Royal Australian Navy's principal military strategy.[81] The Royal Canadian Navy has a draft "maritime strategic concept."[82]

In John Hattendorf's analysis, maritime strategy is that aspect of Grand Strategy that "touches on the whole range of activities and interests at sea" and is:

> "not purely a naval preserve … (but) involves the other functions of state power that include diplomacy; the safety and defence of merchant trade at sea; fishing; the exploitation, conservation, regulation and defence of the exclusive economic zone at sea; coastal defence; security of national borders; the protection of offshore islands; as well as participation in regional and world-wide concerns relating to the use of oceans, the skies over the oceans and the land under the seas"[83]

Strategy in relation in navies is therefore about more than just engagement and other contacts between naval forces. This is reflected in navies' own strategic publications which stress that the civil use of the sea, in both its national and global maritime system aspects, is a formative strategic influence over them. The United States Navy states that:

> "[a]s a maritime nation, the United States is dependent upon the sea for both national security and economic prosperity…The safety and economic

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[79] United States Navy et al, *Naval Operations Concept* …, cover.

[80] North Atlantic Treaty Organization, "Alliance Maritime Strategy," last modified 18 March 2011. http://www nato.int/cps/en/natolive/official_texts_75615.htm?selectedLocale=en.

[81] Royal Australian Navy, *Australian Maritime Doctrine* …, 48.

[82] Department of National Defence, *Horizon 2050*…

[83] John B. Hattendorf, *What is a Maritime Strategy*?, Soundings No. 1. (Canberra: Sea Power Centre – Australia, 2013), 7.

interests of the United States, its allies and partners critically depend upon the unimpeded trade and commerce that traverse the world's oceans."[84]

British Maritime Doctrine is predicated on the fact that:

"[t]he UK is a maritime nation whose prosperity, stability and security depend upon the vital access provided by the sea and the maintenance of an international system of law and free trade."[85]

The strategic maritime concept for the Royal Canadian Navy is "to contribute to the defence of the global system" because "Canada's prosperity, security and national interest depend deeply on a regulated ocean commons."[86]

Power is the "capacity to influence the behaviour of other people of things."[87] Just as theorists have studied strategy in relation to navies as an aspect of maritime strategy, so they have analyzed naval power through the broader notion of seapower. Again, it is significant that the word is found in the title of "The Influence of Sea Power upon History 1660 - 1783,"[88] Alfred Thayer Mahan's first seminal work of naval strategic theory. It appears in the title of the United States Navy's most recent strategy ("A cooperative strategy for 21st Century Seapower")[89] and in the title of the most famous Russian work on naval strategy ("The Seapower of the State").[90] It is used on the first pages of the most recent Australian Maritime Doctrine[91] while Canadian Military Doctrine describes the Commander of the Royal Canadian Navy as "the principal source of expertise on the

[84]United States Navy et al, *Naval Operations Concept* …, 35.
[85]Ministry of Defence, *British Maritime Doctrine* …, 1-5.
[86]Department of National Defence, *Horizon 2050*…, 11.
[87]Till, *Seapower* ..., 4
[88]Mahan, *The Influence of Seapower*.
[89]U.S. Navy *et al*, *A Cooperative Strategy* …
[90]Sergei Gorshkov. *The Seapower of the State* (London: Pergamon, 1979).
[91]Royal Australian Navy, *Australian Maritime Doctrine* …, v.

development, generation, and employment of sea power."[92]

Paul Kennedy has described seapower as an "elusive and emotive concept." Mahan did not define it, but Kennedy cites the following description from the British theorist and Admiral, Sir Herbert Richmond approvingly:

> "Sea power is that form of national strength which enables its possessor to send his armies and commerce across those stretches of sea and ocean which lie between his country or the countries of his allies, and those territories to which he needs access in war; and to prevent his enemy from doing the same."[93]

The four themes that define the civil-military character of strategy in relation to navies are apparent in Richmond's words. Seapower is firstly a "form of national strength." As Geoffrey Till has observed, this strength "includes the non-military aspects of sea-use" so that "there is more to Seapower than grey-painted ships with numbers on their side."[94] Till posits a "virtuous maritime circle" in which there is "a simple connection. Trade produces wealth that leads to maritime strength. Naval strength protects trade."[95] For some commentators, the military aspect of sea-use is a relatively minor component of strength – the Soviet strategist and Admiral Sergei Gorshkov described it as "of but transitory importance"[96] set against "the totality of means of harnessing the World Ocean."[97] National maritime strength is not just a question of naval forces but "the sum total of a state's resources to control the sea and to project power and influence across the

[92]Department of National Defence, *Canadian Military Doctrine* …, 5-10.
[93]Richmond, *Statesmen and Seapower* …, ix.
[94]Till, *Seapower* …, 4, 5.
[95]*ibid* 21, 40.
[96]Quoted in Bruce M. Stubbs, "Towards a New Understanding of Maritime Power," in *The Politics of Maritime Power A Survey*, ed. Andrew Tan, 3 (London: Routledge, 2007).
[97]Gorshkov, *The Seapower of the State* …, ix.

sea."[98]

The reference to the strategic importance of the global maritime system in naval strategic publications echoes the second theme, that of the increasing strategic importance of the global system as trade makes economies more interdependent, and the concomitant interest of nations in the system functioning without disturbance.

The application of seapower allows nations to defend their maritime commerce and attack that of their adversaries, the third and fourth themes. Mahan identified this when he set out what Kennedy describes as "as near a definition of Seapower as he ever attempted:"[99]

> "that overbearing power on the sea which drives the enemy's flag from it, or allows it to appear only as a fugitive; and which, by controlling the great common, closes the highways by which commerce moves to and from the enemy's shores."[100]

Mahan's words introduces a further theoretical construct: Command of the Sea. This is a resonant but confusing expression since it implies an absolute dominance that has rarely- if ever – been achieved. Contemporary strategists prefer the term "sea control," which is "limited in time and space" but expresses the same idea: the ability "to exploit the sea to our own advantage, while at the same time denying its use to a potential rival or enemy."[101] "Sea control is the essence of seapower"[102] – it is the condition that navies are directed to achieve to ensure that the sea can be used for civil and military purposes as determined by Grand Strategy.

In Corbett's analysis:

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[98]Haydon, *Navies post-Cold War ...*, 78.
[99]Paul Kennedy. *The Rise and Fall of British Naval Mastery* (London: Allen Lane, 1976), 3.
[100]Mahan, *The Influence of Seapower,* 138.
[101]Ministry of Defence, *British Maritime Doctrine* …, 2-10.
[102]United States Navy et al, *Naval Operations Concept* …, 51.

> "Command of the Sea … means nothing but the control of maritime communications, whether for commercial or military purposes. The object of naval warfare is the control of communications."[103]

Similarly, sea Ccntrol is not the end of strategy in relation to navies, but a means of attaining the objective of use of the sea. It is not just the establishment of sea control that has strategic importance: it is also its exploitation. As Hattendorf notes:

> "many people tend to over-emphasise the effort to achieve control, focusing particularly on battles, and to ignore the less glamorous, but far more important, ways in which maritime forces use the control they obtain. After obtaining some degree of control in wartime, the most important functions of naval forces are: protecting and facilitating one's own and allied merchant shipping and military supplies…; denying commercial shipping to an enemy; protecting offshore resources."[104]

It is in the exploitation of sea control that the contours of the civil-military character of strategy in relation to navies are most apparent since they translate into the four naval functions of Use, Interdiction, Protection and Stabilization explored in detail in Chapter 3.

To an extent, however, the civil-military aspect of sea control has been obscured by Corbett's use of the expression "maritime communications." References to sea lines of communication abound in writings about strategy in relation to navies – for example, the United States Navy describes Sea Control as "fundamental … to protecting critical sea lines of communication."[105] But as Sir Peter Gretton pointed out, "[i]t is *ships* which must be protected, not lines drawn across charts."[106] The civil-military character of strategy in relation to navies revolves around ships and the civil actors concerned with their operation and security. The construct of sea Lines of communication confuses this reality, a point

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[103]Corbett, *Some Principles…*, 90.
[104]Hattendorf, *What is a Maritime Strategy*? ..., 8.
[105]United States Navy et al, *Naval Operations Concept …*, 53.
[106]Adm Sir Peter Gretton. *Maritime Strategy* (London: Cassell, 1964), 23.

expanded upon in Chapter 3.

The classical maritime strategy and *guerre de course*

Richmond's definition of seapower cited on page 29 was based in large part on the strategy he concluded the Allies had pursued during the First World War, and which others have assessed as that pursued by the Western powers and their allies in the two World Wars and Cold War. This "classical maritime strategy" has been described as comprising:

> " the attack on the economic life of the enemy while preserving the essential trade of the country, and the use of the sea to conduct outflanking and diversionary movements of military force with the object of obtaining a decisive result on land."[107]

In the classical maritime strategy, sea control is exploited to disrupt enemy trade, preserve friendly commerce and launch amphibious attacks. Booth's ideas of the three uses of the sea are apparent, as are the four themes described above and Corbett's analysis of control of maritime communications. Following his death in 1922, the classical maritime strategy continued to be expounded in the work of Richmond[108] and Liddell Hart.[109] They argued that the Allied Blockade and the preservation of the supply routes across the Atlantic had been instrumental to the Victory of 1918. Within the purely military realm, amphibious operations had been unduly neglected in favour of a costly land war on the Continent. The focus of future British military strategy should therefore be on securing maritime communications and launching outflanking land operations

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[107]Gretton, *Maritime Strategy* …, 3.
[108]See e.g. Richmond, *Statesmen and Seapower* ...
[109]See e.g. Liddell Hart, *The Strategy of the Indirect Approach* …

rather than deploying large field forces in Europe.

In 1939 – 1945, the classical maritime strategy was pursued by the Allies through the Battle of the Atlantic, the Blockade of the Axis powers and a series of amphibious operations in the Pacific, North Africa, Italy and Normandy. In its aftermath, strategists such as Sir Stephen Roskill[110] and Gretton[111] argued for its continued relevance in the nuclear age. Till' description of NATO nations' strategy at sea during that period demonstrates that they found an audience amongst Western decision makers:

> "(t)o the extent that they could profit from the sea as a medium of commercial transportation and trade, the economies of the sea powers would boom; to the extent that could exploit the strategic advantages of deploying decisive military power at sea and then projecting it ashore against the land-bound, their strategies would succeed"[112]

For Colin Gray, writing in the aftermath of the Cold War, the classical maritime strategy has enduring strategic relevance. Its elements – preservation of access to resources through trade; attack on the economic life of the enemy; and diversionary and outflanking movements from the sea – give strategic leverage that have ensured that "[g]reat sea power or maritime coalitions have either won or, occasionally, drawn every major war in modern history."[113] The key to this leverage is the endurance that sea power creates – the ability to sustain a long conflict, giving what the British official history of the Western Front, cited by Gray, described as the "leisure to organize her resources."[114] The civil use of the sea is integral to this endurance.

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[110]See e.g. Roskill, *Strategy of Sea Power …*
[111]See e.g. Gretton, *Maritime Strategy …*
[112]Till, *Seapower …*, 18.
[113]Gray, *Leverage …,* ix, 31.

[114]Gray, *Leverage …,* 283.

While the Allies were applying the classical maritime strategy in the First and Second World Wars, their German enemies adopted an alternative. This was commerce raiding, or *guerre de course*. Whereas the classical maritime strategy exploits Sea Control, *guerre de course* is predicated on its being contested, or even absent. It is a strategy based solely on the attack on maritime commerce, ignoring defence of trade and amphibious operations aspect of the classical maritime strategy. Practised for centuries, it is "the classic weapon of the relatively weak at sea,"[115] a maritime strategy appropriate for Continental powers for which the use of the sea was an incidental part of Grand Strategy.

The theoretical basis for a strategy based on attacks on an enemy's trade was provided by the French *Jeune Ecole* in the 1880s. Its adherents argued that France could defeat the United Kingdom through striking against British trade, forcing commercial interests to pressure the government into suing for peace.[116] Germany put the strategy into practice through her submarine warfare campaigns of the First and Second World Wars, although she sought directly to undermine the United Kingdom's economic life rather than achieve the more indirect effect advocated by the *Jeune Ecole*.[117] Ultimately, the strategy failed, but not without causing considerable dislocation to Germany's enemies, and a significant reorientation from their offensive strategy to the defensive roles of trade protection. While this outcome can be seen as justifying Mahan and Corbett's view that attacks on trade are "an indecisive and wasteful form of warfare" when waged by inferior navies, Gray concludes that the experience of the twentieth century shows that *guerre de course* "has a strategic promise unparalleled in modern history."[118] He points to the U.S.

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[115] *Ibid ...,* 80.
[116] Till, *Seapower ...*, 61.
[117] Andrew Gordon, "1914-18: the proof of the pudding," in *The Development of British Naval Thinking: Essays in Memory of Bryan Ranft* (Abingdon: Routledge, 2006), 99.

campaign of 1941 – 1945 against Japanese shipping to show how effective a campaign of commerce raiding can be: by 1943, Japan had lost one third of her 1941 tonnage, her merchant navy was almost annihilated by 1944[119] and she was unable to replace her losses - "the statistics of national defeat."[120]

Navies' role in relation to the defence of maritime commerce continues to be a central idea in navies' strategic publications. As the citations on page 28 illustrate, however, it is increasingly being articulated in terms not of defence from enemy action in times of war, but of a more general set of threats to maritime security and the functioning of the global maritime system.

The maintenance of good order at or from the sea

The sustained relevance of the classical maritime strategy owed much to the strategic environment of the 20th century in which security was conceived of in terms the protection of nations and their allies from aggression by foreign powers. By the 1970s, however, the absence of actual state on state warfare at sea had prompted theorists to begin to enquire into maritime strategy in circumstances other than war. From this work, ideas emerged of maritime security as being a broader question than that of ensuring "freedom from organized violence caused by armed foreigners."[121] The notion of nations

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[118]Gray, *Leverage* …, 85.
[119]Roskill, *Strategy of Sea Power* …, 209.
[120]Gray, *Leverage* …, 84.

[121]Brooke Smith-Windsor in *Maritime Security in the Twenty-First Century*, Maritime Security Occasional Paper No. 11 ed. Edward L. Tummers, 55 (Halifax NS: Dalhousie University, Centre for Policy Studies, 1995).

having an interest, and navies a role, in the maintenance of general good order at or from the sea has become a firmly cemented strategic concept, as the then Commander of the Royal Canadian Navy explained in 2012:

> "navies are not only a means of military action, employed in pursuit of national interests as states interpret them. They are also the principal guarantor of good order in that wide common."[122]

Early analysis in this area was done by Laurence Martin[123] and Sir James Cable[124] but it is Ken Booth who has exerted the most powerful and durable influence. Booth broke new ground in examining the use of the sea as the overarching idea uniting a naval "trinity" of military, diplomatic and policing (or constabulary) functions.[125] In this "Booth triangle", the military role is the base "for the essence of navies is their military character."[126] The diplomatic role relates to the conduct of foreign policy through a variety of latent and active means short of the use of force, and the constabulary role to the maintenance of order with a focus on a state's own maritime estate.

Booth's work has led the way to a broader understanding of nations' interest in the use of the sea that differs from that underpinning the classic maritime strategy in three ways. Firstly it has increasingly been influenced by the notion of freedom from a variety of threats, the majority of them non-military - for example, maritime terrorism, piracy, illegal exploitation of resources, weapons smuggling, nuclear proliferation and illegal migration.[127] Secondly, it has been shaped by the understanding of nations' political and

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[122]VAdm Paul Maddison, "Strategic Trust and Cooperation in this Maritime Century," *Canadian Military Journal* 13, no. 1 (Winter 2013), 14.

[123]Laurence Martin, *The Sea in modern Strategy*, Studies in Modern Strategy vol. 11 (London: Chatto & Windus for the Institute for Strategic Studies, 1967).

[124]James Cable, *Gunboat Diplomacy, 1919-1979: Political Applications of Limited Naval Force*, 3rd ed. (Basingstoke: Macmillan, 1994).

[125]Booth, *Navies and Foreign Policy …*

[126]Booth, *Navies and Foreign Policy …*, 16.

economic fortunes as being interconnected in the global maritime system and "less tied to territorial frameworks"[128] as explored in Chapter 1. Thirdly, however, it is being affected by developments in international law and politics that seem to counter Corbett's view that "the sea cannot be the subject of political dominion or ownership"[129] by providing a basis for nations to assert territorial-type rights in Mahan's "great common."[130]

Against this new understanding, the classical maritime strategy – based on hard power instruments such as attacks on trade and amphibious landings – has appeared to be of diminishing relevance. In its place, a new strategy, described by Till as centred on "maintaining good order at or from the sea,"[131] has emerged. "Good order" not national security is the main security interest at stake here. There are potentially defence threats – nuclear proliferation for example – but, for the main part, the strategy is oriented towards general order and the countering of illicit activities such as narcotic trafficking and illegal migration. It is more evidently a civil-military strategy than the classical maritime strategy because, in Booth's description of the use of the sea,[132] it is the two civil uses of the sea (maritime trade and resource exploitation) that are at play: the discrete military element (invasion, power projection) is incidental. Further, the strategy's strong constabulary aspect overlaps with the functions and responsibilities of non-military government agencies and forces, such as Coastguards and Fisheries organizations.

The four themes that define the contours of the civil-military character of strategy in relation to navies are apparent in the good order strategy. How this is so can be seen by

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[127]United States Navy et al, *Naval Operations Concept* …, 35.
[128]Jan Aart Scholte, "Global capitalism and the state", International Affairs, 73.3 (1997), 430-32 quoted in Tummunds 60
[129]See p 10
[130]Till, *Seapower* …, 377.
[131]Till, *Seapower* …, 334.
[132]See epigraph p 9

considering the example of counter-piracy operations off Somalia to which a significant amount of naval resource has been devoted since 2010. Piracy first of all impacts on national strength: Somalia sits astride some of the world's busiest sea lines of communications. While it certainly has not crippled any single economy, piracy has imposed significant costs to the shipping industry.[133] Up to 2012, Somalia- based pirates were able to manoeuvre freely, disrupting the global maritime system. This created a demand for navies to defend trade and provide security at sea. In part, their response to pirate attacks and apprehension of those perpetrating them has been a form of attack, both on pirates and the "business model" that sustains them.

Counter-piracy operations are more constabulary than military in nature – indeed, to one British Chief of the Defence Staff, the naval response seemed to be a disproportionate use of military resources: "we have £1 billion destroyers trying to sort out pirates in a little dhow with RPGs costing $50, with an outboard motor [costing] $100…That can't be good."[134] In the absence of competent authorities on the high seas and – in the case of Somalia itself – within territorial waters, however, it is navies that are the obvious instrument of choice to preserve good order at sea in the face of the problem.

As Peter Haydon has pointed out, good order functions mark a "return to [navies'] traditional role of being multi-functional instruments of state authority over the seas."[135] The warfighting that marked most of the twentieth century was an aberration, and navies

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[133]Jerome Bellish (lead author), *The Economic Cost of Somali Piracy 2012* (n.p: Oceans Beyond Piracy, 2013), 8.

[134]James Kirkcup, "Defence chief General Sir David Richards attacks Armed Forces cuts," The Daily Telegraph, 14 November 2012.

[135]Haydon, *A "Medium" Power Perspective* …, 3.

are more likely to have to be employed in "crisis management" roles such as law enforcement, protecting shipping and enforcing sanctions.[136] To an even greater extent than was the case for earlier strategies, however, these are tasks that align with the use of the sea for civil purposes. They are also tasks that touch upon more than just military elements of naval fighting power, as will be discussed further in Chapter 4.

Summary

Strategy in relation to navies has a civil-military character. This is a consequence of the use of the sea being the overarching idea in relation to the maritime aspect of Grand Strategy. Naval tasks at sea extend beyond the purely military to include functions in support of the use of the sea for civil purposes – there is more to seapower than grey painted ships with numbers on their sides.

The contours of the civil-military character of strategy in relation to navies are defined by four themes: the national strength generated by the use of the sea for civil purposes, including the wealth to build and sustain a navy and other maritime assets that can be used for military purposes; nations' interest in the safe and secure functioning of the global maritime system; the requirement for navies to provide security to civil actors given the relative freedom with which hostile forces can manoeuvre on the sea; and the employment of navies against the commerce of the nation's enemies and their economies.

These themes are evident in foundational strategic theoretical concepts such as maritime strategy and seapower which transcend warfighting and look to the use of the sea in its broadest sense, achieved through the exploitation of sea control. They are also

[136]Haydon, *post-Cold War Navies*, 40.

apparent in the strategies navies have sought to pursue in times of peace and war, most notably in the classical maritime strategy applied during the two World Wars and Cold War. In the current strategic environment, these strategies still have relevance, but navies have also sought to pursue strategies of good order at and from the sea which have an even more pronounced civil-military character.

CHAPTER 3: THE CONTRIBUTION OF CIVIL-MILITARY INTERACTION TO NAVAL OPERATIONS

The apparently unending struggle over the defense and attack of trade an military shipping in the Napoleonic war and World War I and II … should remind us that there is a lot more to naval warfare than operations between opposing surface ships

- Geoffrey Till, *Understanding Victory: Naval Operations from Trafalgar to the Falklands*

Introduction

The school of naval strategic theory represented by Mahan and Corbett has been called the "historical school" because of its use of the experience of the past to establish the principles that guide the conduct of naval operations. If these strategists identified the civil-military character of strategy in relation to navies, it is because history proved – in the words of the epigraph – "that there is a lot more to naval warfare than operations between opposing surface ships."

The history of naval operations shows that navies are implicated in the exploitation of sea control, and that their operational design will include a civil-military interaction line of operation. This will comprise one or more of four functions that dovetail with the four themes explored in Chapter 2's examination of the civil-military character of strategy in relation to navies. They are:

● *Use* of civil actors to move men and materiel as an intrinsic part of military operations from the sea. This parallels the national strength theme as it represents the

leverage of non-military maritime assets to meet strategic goals;

● *Interdiction* of maritime commerce to prevent the use of the sea to a nation's disadvantage, for example, as part of a campaign against an adversary's economy or to maintain good order at and from the sea. This reflects the attack on maritime commerce theme;

● *Protection* of maritime commerce and other civil actors against military and other threats as part of a nation's use of the sea for civil and military purposes, echoing the defence of maritime commerce theme; and

● *Stabilization* of the maritime domain and global maritime system. This stems from nations' interest in the undisrupted functioning of the global maritime system.

Records of navies performing these functions date back to the earliest written history. In his *Histories*, Herodotus describes the use of merchant ships to carry the armies of the Persian Kings Darius and Xerxes in their campaigns against the Athenians in the fifth century B.C. By this time, triremes had been developed as specialized ships to protect transports and supply ships. In the Peloponnesian Wars later in the same century, Athens' opponents sought to interdict her grain supplies from the Black Sea and weaken her economy.

In discharging these four functions, navies have had to develop warfighting capabilities for those aspects which have involved encounters with hostile forces, particularly when engaged in Protection. But their successful execution has also depended upon their communication, coordination and planning with civil actors both during operations and in preparation for them. It is this aspect – civil-military interaction – that is the focus of this Chapter.

Use

The potential of merchant ships and mariners to be used for naval tasks has long been appreciated by theorists and governments. Mahan included the seagoing part of the economy and population ("number of population") as one of his six elements of Seapower, seeing it as providing "reserve strength" in times of war.[137] Roskill believed "no fighting fleet can work successfully in war" without a robust "profession of the sea" at home,[138] while Till describes merchant shipping as "an arm of defence" and "[i]ts centrality to strategic success … perfectly obvious."[139] Several nations actively recruit merchant navy officers and other maritime commerce professionals in their Reserve Forces[140] while the strategic implications of the decline of national merchant fleets is an oft-debated question.[141]

Historically, the Use form of civil-military interaction has had two aspects. Firstly, merchant ships and mariners have performed tasks which might otherwise be considered functions of navies. Secondly, they have supported operations from the sea by transporting and supplying troops and materiel. The successful conduct of both has required communication, planning and coordination between navies and civil actors.

For centuries, naval forces essentially consisted of armed merchant ships, and

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[137]Mahan, *The Influence of Seapower*, 17.
[138]Roskill, *Strategy and Sea Power …*, 18.
[139]Till, *Seapower*, 97.
[140]See e.g Royal Navy. "Roles in the Royal Naval Reserve." Last accessed 05 June 2014. http://www royalnavy.mod.uk/The-Fleet/Maritime-Reserves/Royal-Naval-Reserve/Roles-in-RNR; defencejobs.gov.au/navy/jobs/MaritimeTradeOperations.
[141]See e.g. Eric Grove, *The Future of Seapower* (London: Routledge, 1990), 222.

rulers such as the mediaeval English Kings granted trading privileges only in return for ship owners agreeing to perform naval duties.[142] Even when navies began to emerge in recognizable form, rulers continued to grant letters of marque to privateers to attack foreign trade, originally as part of the regulation of private disputes but then in line with broader understandings of belligerent rights.[143]

Navies have continued to employ merchant ships in their operations in the modern era. In the Second World War, Allied merchant ships were subject to requisition, and many were commissioned as warships. Canadian National's three *Prince* liners were transferred to the Royal Canadian Navy serving first as armed merchant cruisers and then landing ships and anti-aircraft escort.[144] The British Mine Counter Measures force in the Falklands War was entirely composed of requisitioned trawlers, and other merchant ships served as oilers, water tankers and repair ships.[145] In the 1991 Gulf War, 40% of the dry cargo moved by the Coalition Logistics Force was lifted by chartered merchant ships.[146]

The use of the sea to attack or invade an enemy's territory has been described as "the oldest form of naval warfare," and, since "the fundamental war potential of shipping lies in its capacity to transport soldiers,"[147] maritime commerce has been an essential component of operations mounted from the sea for centuries. Merchant ships and transports have been used to transport and supply men and materiel in both offensive and defensive operations from the sea, embracing invasion to capture or liberate territory, and

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[142]Roskill, *Strategy of Sea Power* …, 24, 21.

[143]Tracy, *Attack* …, 11-12.

[144]Robert G. Halford, *The Unknown Navy – Canada's World War II Merchant Navy* (St. Catherines ON: Vanwell, 1995), 24.

[145]Secretary of State for Defence. *The Falklands Campaign: The Lessons*. London, Her Majesty's Stationery Office: 1982, Annex A.

[146]USMM.org. "Merchant Marine and Civilian Mariners in 1990-1991 Persian Gulf War." Last modified 15 September 2003. http://www.usmm.org/gulf1 html.

[147]Tracy, *Attack* …, 2.

the use of the sea to move forces to defend overseas possessions and allies. While transport and supply is possible using the air, the capacity of merchant ships cannot be met by aeroplanes, and any large operation from the sea will require their use.[148] Merchant ships took the British Expeditionary Force to France in 1914 and 1939[149] and moved the Canadian and American armies to Europe in both World Wars, while the need for sufficient transport and supply ships was a major factor in the debates over the timing of the opening of the Second Front in 1943- 1944.[150] During the Cold War, NATO's ability to sustain the defence of Europe by conventional means was dependent on its maintaining supply across the Atlantic and the Defence Shipping Authority (DSA) was created with:

> "the authority to pool all allied ocean going merchant vessels for the purpose of maintaining a steady flow of food, supplies, military equipment and armed forces personnel."[151]

The First Gulf War in 1990 - 1991 "showed that the movement of the equipment, supplies and fuel for heavy expeditionary forces remains overwhelmingly dependent upon sea transport,"[152] a fact amply supported by the logistics of NATO forces' withdrawal from Afghanistan in 2014.[153]

As has been discussed in Chapters 1 and 2, nations' interest in the use of the sea includes its use for military purposes. The foregoing shows, however, there is a strong

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[148]Gray, *Leverage* …, 273.

[149]Capt Stephen Roskill, *A Merchant Fleet in War: Alfred Holt & Co 1939 – 1945* (London: Collins, 1962), 24.

[150]Tracy, *Attack* …, 200 – 203.

[151]North Atlantic Treaty Organization. "Planning Board for Ocean Shipping." Last accessed 20 July 2014. http://archives nato.int/planning-board-for-ocean-shipping-2;isaar.

[152]Gray, *Leverage* …, 273.

[153] Henry Ridgway. "Forces Removing Equipment From Afghanistan Keep Eye on Russian Route." Last modified 30 April 2014. http://www.voanews.com/content/nato-forces-removing-equipment-from-afghanistan-keep-eye-on-russian-route/1904755.html.

civil aspect to military operations from the sea as their conduct will often entail the Use form of civil-military interaction at sea. This has involved interaction at the strategic level outside of the context of a particular operation to ensure the availability of civil capabilities that can be employed for military purposes in a contingency. For example, concern over the consequences for defence of the decline in its merchant fleet was one of the factors behind the United Kingdom's introduction of revitalization measures in 1988 and 1998.[154] The United States has adopted protectionist measures such as the Jones Act "to ensure that a viable fleet of private ships – and the mariners trained to operate them – are available during wars and other emergencies."[155] For these navies, the need to Use shipping is linked to their ambitions for power projection from the sea as a naval function. Nations with less wide-ranging strategies have not sought to preserve their national merchant fleets: Canada ceased its attempt to preserve one in 1949, largely on economic grounds.[156]

Interdiction

The Interdiction of maritime commerce strikes at an adversary's economic vitality and his ability to sustain a conflict. As Corbett explained:

> "interference with the enemy's trade has two aspects. It is not only as a means of exerting the secondary economic pressure, it is also a primary

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[154]House of Commons Library, *Shipping* …, 9, 11.

[155]Katrina Peterson, "White House Warns Bill Would Crimp Foreign Food Aid," *The Wall Street Journal*, 24 April 2014.

[156]Robert G. Halford, *The Unknown Navy – Canada's World War II Merchant Navy* (St. Catherines ON: Vanwell, 1995), 151.

> means towards overthrowing the enemy's power of resistance. Wars are not decided exclusively by military and naval force. When other things are equal, it is the longer purse that wins … Anything, therefore, which we are able to achieve towards crippling our enemy's finance is a direct step to his overthrow, and the most effective means we can employ to this end against a maritime State is to deny him the resources of sea-borne trade."[157]

Over the centuries, Interdiction has taken a variety of forms. Its most intense manifestation is *guerre de course* which, as discussed in Chapter 2, "has a strategic promise unparalleled in modern history" in Gray's analysis.[158] Throughout most of history, civil actors – privateers – undertook much of commerce raiding: Congress issued 500 letters of marque in the War of 1812, augmenting the United States' modest Navy with a "private navy of staggering proportions."[159] Following the abolition of privateering by the Declaration of Paris in 1856, commerce raiding became subsumed in regular naval operations, and absorbed in French and German naval strategy as discussed on page 34-35 above. With the diminution of warfighting at sea since 1945, *guerre de course* has become rare, although Nicholas Tracy has characterized the attacks on merchant ships during the Iran-Iraq war as an example[160] and contemporary U.S. Navy exercises[161] highlight the enduring relevance of "the classic weapon of the relatively weak at sea."[162]

Interdiction also takes the form of blockade: the dependence of Imperial Spain on its New World treasure fleet led Sir John Hawkins to propose one as a means for England

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[157]Corbett, *Some Principles* …, 99.

[158]Gray, *Leverage* …, 85.

[159]Wade G. Dudley, "The Flawed British Blockade, 1812 – 1815," in *Naval Blockades and Seapower: Strategies and Counter-strategies 1805 – 2005* ed. Bruce Elleman and Sarah C.M. Paine, 38 (New York: Routledge, 2006).

[160]Tracy, *Attack* …, 225.

[161]Commander, U.S. Naval Force Central Command. "IMCMEX 13 Military Exercise Concludes." Last modified 23 May 2013. http://www.cusnc navy mil/articles/2013/130523%20106.html.

[162]Gray, *Leverage ...,* 80.

to coerce its enemy into suing for peace in 1589.[163] Blockade was the first weapon of the Royal Navy in 1914[164] and described as a "not negligible factor in the Allied war effort" in the official economic history of 1939 – 1945.[165]

Since 1945, blockade has been an enduring naval operational activity under a variety of guises such as embargoes, quarantines and sanctions enforcement actions. In the Korea, Vietnam, India-Pakistan and Falklands Wars, blockades were imposed as part of combat operations primarily to arrest the flow of war supplies to adversaries.[166] Interdiction has also become a diplomatic weapon, with a series of operations having been conducted under United Nations mandates, for example, off Yugoslavia in the 1990s under NATO's Operation Sharp Guard, the series of interdiction operations directed against Iraq between 1990 and 2003[167] and the Libyan campaign in 2011.

A new aspect of Interdiction has emerged with the adoption of good order strategies by navies. This has been directed against the use of the sea by primarily non-state actors for illicit purposes, or for purposes that are prejudicial to good order at sea. Within the national context, these Interdiction functions are related to the enforcement of national laws, as in the case of the Royal Australian Navy's role in countering illegal migration.[168] Internationally, they are part of broader international constabulary initiatives

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[163]Roskill, *Strategy of Sea Power* …, 30.

[164]Tracy, *Attack* …, 124.

[165]Geoffrey Till, "Naval Blockades and Economic Warfare in the European War, 1939 – 1945," in *Naval Blockades and Seapower: Strategies and Counter-strategies 1805 – 2005*, ed. Bruce Elleman and Sarah C.M. Paine, 130 (New York: Routledge, 2006). (New York: Routledge, 2006).

[166]Tracy, *Attack* …, 215 – 224.

[167]James Goldrick, "Maritime Sanctions Enforcement against Iraq, 1990 – 2003," in *Naval Blockades and Seapower: Strategies and Counter-strategies 1805 – 2005*, ed. Bruce Elleman and Sarah C.M. Paine, 200 - 213 (New York: Routledge, 2006). (New York: Routledge, 2006).

to ensure that the sea is used for legitimate purposes - for example, NATO's counter-terrorism operation Active Endeavour[169] and the counter-narcotics operation led by the United States' Joint Interagency Task Force South.[170] Whereas blockades and commerce raiding were usually directed at broad targets – such as all shipping bound for enemy ports, or ships flying an adversary's flag – these operations are much more focused, often involving the interception of a single ship that has to be distinguished from the mass of commercial shipping.

Interdiction has increasingly required communication, planning and coordination between navies and civil actors. The First and Second World Wars proved that implementing a successful blockade was more than a matter of seizing enemy shipping and intercepting their supplies at sea. Indeed, in neither were there sufficient ships for patrol and examination duties.[171] In both, it was necessary to establish an extensive blockade mechanism administered through a separate civilian-led government department to which Admiralty Interdiction functions were subordinate. Limited naval resources meant that the approach had to be one of "off the seas on to the quays," using a variety of shore-based instruments. Not the least of these was a robust intelligence system that leveraged civil sources to assess enemy dependencies and the bona-fides of ships.[172]

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[168]David M. Stevens "'To disrupt, deter and deny': Sealing Australia's Maritime Borders," in *Naval Blockades and Seapower: Strategies and Counter-strategies 1805 – 2005*, ed. Bruce Elleman and Sarah C.M. Paine, 225 – 235 (New York: Routledge, 2006).

[169]"Operation Active Endeavour," last modified 21 June 2013, http://www.nato.int/cps/en/natolive /topics_7932.htm.

[170]Joint Interagency Task Force South, "Mission," last accessed 21 July 2014, http://www.jiatfs.southcom. mil/index.aspx http://www.jiatfs.southcom mil/index.aspx.

[171]Paul G. Halpern "World War I: the Blockade" in *Naval Blockades and Seapower: Strategies and Counter-strategies 1805 – 2005*, ed. Bruce Elleman and Sarah C.M. Paine, 91 - 95 (New York: Routledge, 2006).

Diplomatic efforts to assuage neutrals offended by delays to their commerce were required. Other measures included cooperation with neutral shippers to identify contraband cargo and prevent its transport together with the creation of a network of civil actors to carry out examinations and administer the Navicert system which pre-cleared ships prepared to comply with British restrictions.[173]

Subsequent Interdiction operations have required navies to be supported from shore with diversion ports and examination capabilities.[174] However, cooperation with maritime commerce civil actors has not been as extensive as in the World Wars. Its absence led NATO merchant shipping industries to conclude that the 1990s embargo operations off Iraq, Jugoslavia and Haiti were: "unnecessarily onerous, caused severe operational difficulties and resulted in a significant financial penalty to companies engaged in innocent trade."[175]

Protection

The Protection aspect of naval operations can be seen as the corollary of Use and Interdiction. If a nation intends to use merchant ships and other civil actors in its operations, it will need to consider their defence, since the enemy is unlikely to allow the sea to be used in this way without opposition. Similarly, it will be necessary to protect maritime commerce in the event of conflict because it is likely the enemy has read his

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[172] Medlicott. *The Economic Blockade. Volume 1…*, 124 – 132.

[173] Tracy, *Attack …*, 124 - 137.

[174] Sean M. Maloney, *The hindrance of military operations ashore: Canadian participation in operation Sharp Guard, 1993-1996*, Maritime Security Occasional Paper No. 7 (Halifax NS: Dalhousie University, Centre for Policy Studies, 2000), 14.

[175] A.D. Crosswell, *Operation of Maritime Embargoes by NATO Naval Forces* (Planning Board for Ocean Shipping: file PBOS(L) 94/10, 3 March 1994), Annex, 1.

Corbett and understands that attacks on maritime commerce are an effective means of inflicting economic damage. As Protection often involves countering hostile forces, its execution has required the development of warfighting capabilities as well as civil-military interaction.

For centuries, the primary naval means of Protection has been convoy and escort. Its effectiveness was demonstrated early in history. By the Middle Ages, the English had developed a sophisticated system for organizing and moving convoys of troops and supplies to their Continental possessions and countering the threats posed by pirates and privateers.[176] The passing of a Convoy Act in 1650 made protection of shipping by convoy "the system upon which naval operations were planned and conducted" between that year and 1815.[177] Civil-military interaction in the form of coordination of operations and plans between navies, governments and shipping interests have been intrinsic to the successful operation of convoys for centuries.

As will be discussed further in Chapter 4, however, many considered convoy and escort to have been made obsolete by the transition to steam power and the technological advances of the late nineteenth century. Corbett was one of many held this view, concluding that:

> "[i]t now comes doubtful whether the additional security which convoys afforded is sufficient to outweigh their economical drawbacks and their liability to cause strategical disturbance."[178]

Consequently, navies in the pre-1914 era were generally ill-prepared for the

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[176]D.W Waters, "The Science of Admiralty" Part IV, *The Naval Review* 52, no 1 (April 1964): 179.
[177]Waters, "The Science of Admiralty" Part IV …, 184.

[178]Corbett, *Some principles* …, 236.

Protection function that emerged as a result of German submarine *guerre de course* in the First World War. Much of their fighting power was configured for engagement between "mammoth warships" and suffered "severely from the shortage of cruisers and torpedo-boat destroyers for the protection of our vessels … against submarine attack."[179] An emphasis on offensive patrols to protect sea lines of communication led to resources being squandered on "futile hunts to bring enemy forces to battle"[180] while a dozen Allied ships were being sunk each day once the Germans resorted to unrestricted submarine warfare in early 1917.[181]

As late as January 1917, the Royal Navy rejected convoying, and its introduction three months later came mainly as the result of civil pressure. The results changed the course of the naval campaign:

> "wherever and whenever convoy was introduced the shipping loss rate dropped to one-tenth of that of independent sailings and, no less important, the turn-round of ships in port was expedited. Convoy broke the U-boat blockade completely."[182]

In the Second World War, convoy was adopted by the British from the outset, but the Americans – who lost 1,000,000 tons of shipping to less than two dozen U-boats at the beginning of 1942[183] – were slow to appreciate its effectiveness.

In both Wars, however, Protection was not only a matter of convoy and escort. There was a continual process of adopting and adapting warfighting capabilities to counter the threat to maritime commerce from hostile forces. Some, such as offensive anti-submarine measures, proved misconceived; others – coordinated air support and the

[179]David Lloyd George, *War Memoirs of David Lloyd George volume I* (London: Odhams Press Limited, 1933-34), 5-6.

[180]Gretton, *Maritime Strategy* …, 23.

[181]Gordon, "The proof of the pudding," 99.

[182] D.W Waters, "The Science of Admiralty" Part VI, *The Naval Review* 52, no 4 (October 1964): 429.

[183]Till, *Seapower*, 231.

use of Escort Groups – were more successful.[184]

But the success of navies in the Protection function in both Wars was also the result of extensive civil-military interaction to make the convoy system effective. The focus for this was the Naval Control Service, which was responsible for the movement and routeing of shipping, facilitated by Naval Intelligence.[185] The Control Service worked closely with the civil agencies which controlled the employment of merchant ships, and with commercial shipping and insurance interests. While the popular view of the Battle of the Atlantic might associate it with a dozen or so major convoy battles,[186] coordination and planning between the various naval and civil actors in fact ensured that Atlantic convoys were so routed that 90% arrived without encountering any enemy submarine action.[187]

During the Cold War, navies continued to re-assess the best means of Protection, evaluating concepts for the defence of sea lines of communication such as "protected sea lanes" and "sanitized lanes," and debating whether improved submarine capabilities meant these more offensive measures were preferable to convoy and escort.[188] There seemed to be uncertainty in this respect: the 1980s U.S. Navy was "ambivalent" about convoying and devoting less and less resource to it,[189] but a decade later, the authors of

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[184]Waters, "The Science of Admiralty" Part VI …, 436.

[185]Arthur J Marder, *From the Dardanelles to Oran: studies of the Royal Navy in War and Peace 1915 – 1940* (London: Oxford University Press, 1974), 43 - 44.

[186]Marc Milner. "Naval Control of Shipping and the Atlantic war 1939-4," *The Mariner's Mirror* 83, vol 2 (May 1997): 169.

[187]Eric Grove, "The discovery of doctrine" in *The Development of British Naval Thinking: Essays in memory of Brian Ranft*, ed. Geoffrey Till, 189 (London: Routledge, 1990).

[188] Till, *Seapower*, 231,233.

[189]Cdr. E. Cameron Williams, "The Four Iron Laws of Naval Protection of Merchant Shipping," *Naval War College Review* 39, no 3 (May – June 1986), 47.

the new edition of *British Maritime Doctrine* were keen to cast "as strong a vote of confidence in convoy as possible."[190]

As will be discussed below, in the contemporary security environment, Protection of shipping has seemed often to be a question of preserving the stability of the global maritime system than direct naval protective measures. The Tanker Wars of the 1980s marked an exception to this, and more recent events in the Persian Gulf seemed to have prompted a return to navies exercising Protection with live merchant ships.[191]

The most significant contemporary naval operations involving Protection are those off Somalia, where the number of ship seizures has declined from a peak of 47 in 2010 to zero since May 2012. The operational designs of the various Western naval forces – NATO, European Union Naval Force and Combined Maritime Forces – include a maritime community line of operation. This is based on collaboration with the shipping industry to establish self-protective measures, promulgate advice and guidance and create effective emergency response procedures, including a single point of contact to receive attack reports and notify international forces. Much of this is encapsulated in the

Best Management Practices (BMP) series of self-defence and risk management publications, published jointly by civil and military authorities.[192] As the Chairman of the International Chamber of Shipping (ICS) observed in 2012:

> "we are witnessing a unique collaborative effort on counter piracy where military and civilian units each have a part to play - we cannot have success without the maintenance of these responsibilities."[193]

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[190]Grove, "The discovery of doctrine" …, 188.

[191]Commander, U.S. Naval Force Central Command, "Lucky Mariner 14-1 begins," last modified 29 October 2013, http://www.navy.mil/submit/display.asp?story_id=77317.

[192]NATO Shipping Centre, *et al*. BMP 4. *Best Management Practices for Protection Against Somalia Based Piracy*. Edinburgh: Witherby Publishing Group, 2011

Stabilization

One consequence of the emergence of strategies of good order at and from the sea discussed in Chapter Two[194] is the opening of a new field of civil-military interaction, Stabilization. This works on two dimensions. On the strategic plane, it involves measures to preserve the stability of the global maritime system to ensure that its benefits continue to accrue to all nations. At more a focused level, it relates to operations to respond to disruptions to, or weaknesses in, the system at particular times and places, such as those caused by conflict or natural disaster. In both instances, it requires interaction between a broad range of naval, government and other civil actors, including international and domestic organizations and interests.

There is nothing particularly new about the strategic aspect of Stabilization. To a large extent, it is a consequence of the existence of a nation that disposes of sufficient seapower to deter or counter disruptions to the maritime system. While notions of a global system were not as developed in the past, the role of Roman naval forces in making the Mediterranean safe for trade offers an example. More recently, the Royal Navy was able to maintain the *Pax Britannica* throughout most of the nineteenth century because "our sea power did in general act as a deterrent against aggression."[195] The United States Navy offers the obvious contemporary example, as its maritime strategy makes clear:

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[193]Peter Hinchliffe, Speech, presentation of Operation Ocean Shield medals to HNLMS BRUINVIS ship's company, London, 19 December 2012.

[194]See pp 35 – 39.

[195]Roskill, *Strategy of Sea Power* …, 97.

> "seapower will be applied around the world to protect our way of life, as we join with other like-minded nations to protect and sustain the global, inter-connected system through which we prosper."[196]

What is new, however, is the recognition that the stability of the global maritime system requires civil-military interaction. Thus the United States' maritime strategy goes on to state that:

> "[n]o one nation has the resources required to provide safety and security throughout the entire maritime domain. Increasingly, governments, non-governmental organizations, international organizations, and the private sector will form partnerships of common interest to counter these emerging threats."

While counter-piracy operations off Somalia have been analyzed above from the perspective of Protection, they also illustrate the Stabilization aspect of civil-military interaction. This has included a development line of operation involving work with government and non-government organizations ashore to address the root causes of piracy and build an effective legal response framework. The United Nations Contact Group for Piracy off the Coast of Somalia, established in 2009 has established several Working Groups with civil and military representation to "facilitate the discussion and coordination of actions among states and organizations to suppress piracy off the coast of Somalia."[197]

Stabilization initiatives also include maritime capacity building. In Somalia, EUCAP Nestor is a "civilian mission with some military expertise" that conducts activities to improve Somali maritime security capabilities, including coast guard and

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[196]U.S. Navy *et al*, *A Cooperative Strategy* …, unnumbered.

[197]United Nations Contact Group for Piracy off the Coast of Somalia. "About CGPCS." Last accessed 01 August 2014. http://www.thecgpcs.org/about.do;jsessionid=AB4212D9737C3DBA17DF87744E9CF72E?action=background.

coastal police functions."[198] Similarly, the Royal Canadian Navy is dedicating resources to "build the capacity of other states to regulate their own maritime approaches, working with the other arms of government to effect maritime sector security reform."[199]

In its localized form, Stabilization addresses local or temporary problems in the parts of the global maritime system. One example is the U.S. Navy's restoration of port operations in Haiti following the 2010 earthquake including the establishment of a temporary reporting scheme for vessels carrying relief supplies.[200] The scale of this work demonstrates that there is a naval dimension to Humanitarian Assistance and Disaster Relief that goes beyond the use of naval vessels as platforms supporting land-centric relief operations. The Royal Navy has identified a role for naval forces in re-establishing capacity if "a country's capacity for facilitating and protecting its own economic maritime activities is compromised, either through conflict or natural disaster."[201] As in the instance of Haiti, this role potentially puts navies in the place of civil agencies to ensure that vital maritime infrastructures keep functioning in circumstances where they could otherwise be disrupted.

Summary

The civil-military character of strategy in relation to navies therefore reflects, and is reflected in, the enduring contribution of civil-military interaction to naval operations.

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[198] European Union Naval Force, "EU Comprehensive Approach," last accessed 02 August 2014, http://eunavfor.eu/eu-comprehensive-approach-links/.

[199] Department of National Defence, *Horizon 2050*..., 34.

[200] Eaglespeak, "Haiti: Naval Cooperation and Guidance for Shipping (NCAGS) in operation," *Eaglespeark* (blog), 11 February 2010, http://www.eaglespeak.us/2010/02/haiti-naval-cooperation-and-guidance.html.

[201] Ministry of Defence, *British Maritime Doctrine* ..., 2-27.

Across centuries of naval history, navies have communicated, planned and coordinated with civil actors, proving, in the words of the epigraph, “that there is a lot more to naval warfare than operations between opposing surface ships.”

The exploitation of sea control implicates navies and requires the inclusion of a civil-military line of operation in operational design. This will comprise one or more of four functions each of which reflects one of the four themes of the civil-military character of strategy in relation to navies described in Chapter 2. Navies have worked with civil actors in order to Use shipping to move men and materiel as an integral part of the use of the sea for military purposes. They have undertaken Protection and Interdiction operations in consequence of Grand Strategy “whose objective is to attempt to use the sea for one’s own purposes, while being in a position to attempt to prevent others from using it in ways which are to one’s disadvantage.” As nations have come to understand themselves as invested in a global system where disruptions have international consequences, navies have become engaged in Stabilization, both on the level of the system itself, and that of localized disruptions.

Civil-military interaction has thus been an operational reality for navies in addition to a strategic theoretical construct. The final area that this paper will examine is the extent to which navies have responded to this reality by laying down constructs for the efficient and effective execution of civil-military lines of operations. This will involve an examination of naval fighting power.

CHAPTER 4: CIVIL-MILITARY INTERACTION AND NAVAL FIGHTING POWER

The near defeat of 1917 was due not to previous lack of thought or to the allocation of inadequate resources to the protection of trade, but to the poor quality of the thought and consequent misuse of the resources.

- Geoffrey Till, in *British Naval Thinking*

Introduction

It is through fighting power that military forces create "the ability to fight and achieve success in operations."[202] In the doctrinal models of several militaries – including the Canadian and British – it is not one construct, but rather "an essential mix of interrelated components: conceptual, moral, and physical."[203] It is the first and last that are of primary interest in this paper.

In the British model, the conceptual component "sits over" the others and:

> "provides the coherent intellectual basis and theoretical justification for the provision and employment of Armed Forces. It provides the thought processes needed to develop the ability to fight and comprises both lessons from the past and thinking about how the armed forces can best operate today and in the future."[204]

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[202]Ministry of Defence, *British Maritime Doctrine* …, 3-1.
[203]Department of National Defence, *Canadian Military Doctrine* …, 2-3.
[204]Ministry of Defence, *British Maritime Doctrine* …, 3-2

The physical component follows from the conceptual, consisting of "the actual means to fight [including] elements such as: manpower, equipment, organizational structures, training, force readiness, force generation, and sustainment."[205]

This Chapter is therefore an examination of thought and resources - how navies conceive of civil-military interaction, and what investments they have made to codify, institutionalize and operationalize it. As the epigraph shows, the one shapes the other, not always favourably.

Civil-military interaction and naval fighting power: improvisation

For six hundred years prior to the mid-nineteenth century, as organized naval forces began to develop in forms recognizable today, civil-military interaction – communication, cooperation and planning as well as the development of warfighting capabilities to counter threats to civil actors from hostile forces – was recognized as integral to naval fighting power. European powers operated convoy systems, some of them quite sophisticated and outsourced much of their Interdiction to privateers. Nelson himself observed "I consider the Protection of the Trade to be the first duty."[206]

From the mid-nineteenth, century, however, these capabilities began to be considered redundant as navies transitioned to steam power. As new weapon systems and means of propulsion were introduced, naval officers became more technically focused, and fighting power a question of ships and their employment, particularly those aspects

[205] Department of National Defence, *Canadian Military Doctrine* …, 2-3.
[206] Waters, "The Science of Admiralty" Part IV …, 189.

that involved engagement with enemy units or fleets. This "fleet mentality" led to the physical component of fighting power to be focused on the acquisition of platforms, and the conceptual on doctrine for their use against each other.

By contrast, questions of civil-military interaction – and how the platforms were best utilized for the functions involving civil-military interaction – lacked allure, notwithstanding their strategic importance, and enduring relevance to operations. To the Edwardian naval officer, with his mastery of rapid technological change, the function was considered "inherently demeaning to an officer and gentleman"[207] and "an inglorious task."[208] By comparison with fleet engagement, convoy escort duty seemed "monotonous, frustrating and unromantic" and lacking in "the aura of the offensive."[209] The interwar Royal Navy was characterized by the "antipathy of many senior officers to what was falsely regarded as a defensive, to say nothing of a generally dull and monotonous, measure."[210] In the case of Japan in the Second World War, "an offensive battle-minded naval doctrine disdained such a lowly mission as the protection of merchant shipping"[211]

As the epigraph illustrates, this did not mean that Protection was ignored. In the lead up to the First World War, the Admiralty considered it to be a prime naval function in the event of conflict. However, its thought in relation to the issue – and consequently investment of resource – was based on its interpretation of Mahan; the role of the Royal Navy was "to attack the fleets of the enemy, and by defeating them to afford protection to

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[207]N.A.M. Rodger, "Naval Strategy in the eighteenth and nineteenth centuries" in *The Development of British Naval Thinking: Essays in memory of Brian Ranft*, ed. Geoffrey Till, 30 (London: Routledge, 1990).

[208]Tracy, *Attack* …, 191.

[209]Gretton, *Maritime Strategy* …, 159

[210]Marder, *From the Dardenelles* …, 41.

[211]Gray, *Leverage* …, 84.

British Dominions, and commerce."[212] Allied maritime commerce would be secured, and the enemy's disrupted, by taking the offence and without resort to the obsolete – and essentially defensive – tasks of convoy and blockade. There was thus no impetus to invest in civil-military interaction: the Royal Navy would establish Command of the Sea, and civil actors would then conduct themselves as in peacetime without any more than incidental interaction with civil actors. Nor was the impact just the neglect of the civil-military interaction aspect of naval fighting power in relation to Protection. The Royal Navy failed to anticipate that the Germans would wage war against shipping using mines and submarines, and to develop effective warfighting measures to counter the threat to maritime commerce from them.[213]

Despite the experience of 1917, the fleet mentality prevailed in the interwar years. The emphasis was on "bringing the enemy to action wherever and whenever his forces can be met."[214] while:

> "the anti-submarine lessons of the war, which had never been fully understood anyway, were quickly forgotten … because there was no serious attempt to study the larger meaning of the U-boat campaign of 1917-18 … consequently, the convoy system was understood imperfectly at best."[215]

The Royal Navy held no convoy exercises with merchant ships between the Wars, and only decided that convoys would be reintroduced in the event of war in 1937.[216] The best naval officers were assigned to the Fleet, the "second team" to escort vessels.[217] Nor was this a uniquely Allied phenomenon: the German *Kriegsmarine* shared its British

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[212]Admiralty submission to 1902 Colonial Conference, cited in Till, *Seapower* …, 51.
[213]Waters, "The Science of Admiralty" Part VI …, 425 - 426.
[214]Capt Stephen Roskill, *White ensign: the British navy at war, 1939-1945* (Annapolis MD: United States Naval Institute, 1960), 36.
[215]Marder, *From the Dardenelles* …, 38.
[216]Roskill, *Naval Policy II* …, 337.
[217]Marder, *From the Dardenelles* …, 41.

counterpart's view of the submarine's vulnerability to ASDIC. As late as 1939, its Fleet Plan stressed capital ships over the submarines that were again to prove Germany's most effective naval instrument.[218]

While Protection was seen as a prime naval function in the Cold War, by the 1980s, one commentator was observing:

> "seldom is there any interest in this basic function of the Navy … Protection of carrier battle groups gets a great deal of attention. The battleship and the amphibious group get their share of attention, but not the merchant ship."[219]

In some respects, the U.S. Navy's *Maritime Strategy* of 1986 (later adopted as NATO's Concept of Maritime Operations) echoed thinking in advance of 1914. It outlined a plan for taking war to the Soviet Union at source through a naval-air campaign against its fleet in northern waters, leveraging superior submarine and air defence capabilities. Naval fighting power was thus again a question of investment in ships and submarines and developing the doctrine to make them effective in battle against the putative enemy's fleet. This would secure Sea Control, permitting civil actors to resume their peacetime behaviours.[220]

Contemporary naval strategic publications speak to the imperatives for civil-military interaction through their references to the strategic importance of the use of the sea for civil purposes, good order at and from the sea and cooperation and collaboration with civil actors. However, the parts of their strategic documents that address the elements of naval fighting power are almost entirely about platforms and the offensive and defensive capabilities required against hostile forces. For example, the United States

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[218]Gray, *Leverage* …, 37
[219]Landersman, "Naval Protection …," 29.
[220]Till, *Seapower* …, 45.

"Naval Service capabilities" required to, inter alia, "enhance global maritime security" consist of a series of platforms, from aircraft carriers to icebreakers.[221] Canada's Strategic Operating Concept speaks of the requirement for comprehensiveness and new relationships and partnerships, but the only relationships identified are with other navies, and the only capabilities a series of naval and air platforms.[222]

Navies do, however, possess some civil-military interaction elements of fighting power in the form of Naval Cooperation and Guidance for Shipping (NCAGS) and Maritime Domain Awareness (MDA) capabilities.

NCAGS's roots lie in the Naval Control Service that was the focal point for civil-military interaction with regard to Protection in the two World Wars. Conceptualized as Naval Control of Shipping (NCS), it was given physical form by the creation of a global Naval Control of Shipping Organization (NCSORG), and exercised regularly, through for example the Ocean Safari and Northern Wedding series[223] Coordination with civil agencies was ensured through the Planning Board for Ocean Shipping, charged with developing and maintaining plans for civil shipping support to the Alliance in crisis and war. The Defence Shipping Authority (DSA) was established with the authority to pool all allied ocean going merchant vessels for the purpose of maintaining a steady flow of food, supplies, military equipment and armed forces personnel according to the civil and military shipping priorities set by the Alliance. [224]

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[221]United States Navy *et al*, *Naval Operations Concept* …, 82 – 91.

[222]Department of National Defence, *Horizon 2050*…), 34 – 49.

[223]Cmdre (retd) Jacob Borreson. "Alliance Naval Strategies and Norway in the Final Year of the Cold War. *Naval War College Review* 54, no 2 (Spring 2011): 99 – 100.

However, navies' investment in NCS was not sufficient to permit its rapid adjustment for the post-Cold War world. The first Gulf War "revealed its limitations when faced with trans-national shipping interests, inter-modal transportation conglomerates and shrinking naval forces" and it was not implemented during embargo operations against Yugoslavia "possibly due to the apparent inflexibility/complexity of its procedures, and envisaged large manpower requirement."[225]

By comparison with NCS, which was oriented around mandatory control and the experience of World War II, NCAGS, adopted by NATO in 2001, is based on voluntary cooperation and "provides for a series of measures scaled to the nature of the threat … military or otherwise."[226] NCAGS tactics, techniques and procedures have provided much of the conceptual basis for the civil-military aspects of counter-piracy operations off Somalia.

However, in the majority of NATO navies, the physical component of NCAGS is provided by the Naval Reserve. While Reservists proved more than capable in the Second World War in the context of a static Control Service organization with fairly standard procedures,[227] the greater flexibility inherent in NCAGS is more challenging to generate from a part-time force. Moreover, NCAGS is primarily focused on the Protection function: it has potential to be adapted for Use, Interdiction and Stabilization, but these aspects have not been fully thought out. In addition, Reserve budgets are often the first to fall victim to the exigencies of spending restraints, as is evident in across NATO, with

[224] North Atlantic Treaty Organization, "Planning Board for Ocean Shipping," last accessed 20 July 2014, http://archives.nato.int/planning-board-for-ocean-shipping-2;isaar.

[225]Cdr J.M.C Maughan, "NATO Co-operation with and Guidance for Merchant Shipping," The Naval Review 89, no. 4 (October 2001): 339.

[226]Royal Australian Navy, *Australian Maritime Doctrine* …,104.

[227]See e.g Milner, "Naval Control of Shipping …," 169.

NCAGS exercise opportunities having steadily diminished, fewer personnel available[228] and nations reducing their capabilities or even, as in the case of Canada, eliminating them entirely.[229]

In contrast, navies have proved willing to invest in MDA. The "white shipping" aspect of this function was originally an NCS task, stemming from the need to know the locations of friendly shipping in wartime, and reliance on manual means (such as self-reporting schemes and reporting officers) to obtain the relevant information. MDA was given new impetus in the 1990s as strategies of good order at and from the sea demanded a more complete understanding of what was occurring within navies' areas of operations. The post September 11th 2001 security environment and the functionality created by automated means of tracking shipping (for example, exploitation of IMO mandated programmes such as Automated Identification System and Long Range Identification and Tracking) have institutionalized MDA as a routine naval task. Civil-military interaction is integral to it, primarily through military interaction with other government agencies to identify and respond to maritime threats to domestic security, as in the case of Canada's Marine Security Operations Centres[230] or the U.S.' National Maritime Intelligence-Integration Office.[231]

In general, however, contemporary naval fighting power is reminiscent of the situation at the beginning of the twentieth century when it comes to those aspects that

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[228]Landersman 3600; 180 http://navalforce.wordpress.com/tag/ncags/

[229]Department of National Defence. "Backgrounder: Strategic Review Results – Summary." Last modified 4 April 2012. http://defenceteam-equipedeladefense mil.ca/change-changement/sr-rs/sr-rs-eng.asp#41.

[230]Canadian Coast Guard. "Marine Security Operations Centres (MSOC)." Last modified 24 June 2013. http://www.ccg-gcc.gc.ca/eng/CCG/Maritime-Security/MSOC.

[231] National Maritime Intelligence-Integration Office. "What is NMIO." Last accessed 01 August 2014. http://nmio.ise.gov/

touch upon the four naval functions of Use, Interdiction, Protection and Stabilization. Of the four principal strategic publications examined here, only the British and Australian mention NCAGS;[232] none mentions any other specific civil-military component of fighting power. For contemporary navies, naval fighting power is essentially concentrated in platforms, friendly and potentially hostile. Navies certainly acknowledge the imperatives for civil-military interaction, but have not developed a coherent approach to it in terms of the conceptual and physical elements of their fighting power. The two World Wars showed that these capabilities could be improvised – although at a significant price – and it would seem that navies have defaulted to an "just-in-time" approach some one hundred years later.

The Comprehensive Approach and fighting power

Navies' attitude to civil-military interaction can be contrasted with developments at the level of general military strategy and joint doctrine. Environments such as those in the Balkans, Iraq and Afghanistan have made evident the limitations of military power and provided an impetus for militaries and civil actors to work together to address security and stabilization challenges. There has been increasing recognition that "solutions to … serious events are impossible to achieve by military means alone" and that "modern conflict solutions demand much more than just defeat of the military opponent."[233]

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[232]Ministry of Defence, *British Maritime Doctrine* …, 2-18; Royal Australian Navy, *Australian Maritime Doctrine* …, 104.

Civil-military interaction has come in a number of guises over the last twenty years – Whole of Government; Diplomacy, Defence, Development; Diplomatic Informational Military Economic. In 2010, NATO formally adopted the Comprehensive Approach, a term now used by several of its members, including Canada which describes it as "a collaborative process that includes all actors that may affect the conduct of operations within a joint operating area.[234]

The development of the Comprehensive Approach has been driven by a combination of strategic and theatre level factors. At the strategic level, its adoption by NATO was the result of a process to refashion the Alliance's foundations in the aftermath of the Cold War, in which its civil/political side took the leading role. Perhaps surprisingly for a *military* alliance, there was little controversy about the inclusion of a civil-military element in its strategy.[235] At theatre level, the international community has consistently deployed diplomats, police service, development agencies and aid organizations to work alongside militaries and local institutions to provide security and stability. Interaction and cooperation with a broad – and broadening – range of actors has become a routine experience for military forces as the capabilities and expertise of civil actors have become integral to the achievement of endstates.[236]

The Comprehensive Approach has proved to be an impetus for militaries to incorporate civil-military interaction into their fighting power in a number of ways conceptual and physical.

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[233]North Atlantic Treaty Organization, A.J.P. 3.4.9, *Allied Joint Doctrine for Civil-Military Cooperation* (Brussels: NATO Standardization Agency, 2013), VII, IX.

[234]Department of National Defence, *Canadian Military Doctrin*e …, 2-3.

[235]Karl-Heinz Kamp, "NATO's New Strategic Concept: An Integration of Civil and Military Approaches," in *Operationalizing a comprehensive approach in semi-permissive environments*, ed. Christopher M Schnaubelt, 54, 56 (Rome: NATO Defense College, 2011).

[236]Rotman, "Built on Shaky Ground …, 2.

As suggested by the use of the term Comprehensive *Approach*, the conceptual element can be seen as a philosophy or mindset as much as a distinct capability. For example, the Canadian Army's sought to make its forces in Afghanistan "Joint, Interagency, Multinational and Public (JIMP) enabled" by embracing "a new vision of military operations – one that incorporates a broader view of security as well as those capabilities required to attain that security." Rather than devolving into a specialist capability, JIMP enablement required changes in practices and attitudes across the deployed force and:

> "willingness to *actively engage* other players in …a cooperative, collaborative relationship in pursuit of a desired end-state [and] an awareness of the potential impact that its actions have upon other players, and upon the likelihood of achieving strategic objectives"[237]

As well as this cross-domain aspect, the conceptual component has included the reconceptualization of a number of disciplines. For example, the "institutionalized foundation" for JIMP was provided by Civil Military Coordination (CIMIC).[238] Originating in Second World War U.S. Army capabilities for interaction with civil actors, both national and international, CIMIC is well-established force multiplier in land operations, having proved its value in the various Balkans campaigns of the 1990s. With the Comprehensive Approach, however, came the realization that the legacy CIMIC concept was too narrowly focused:

> "[t]he Cimic label corresponds to the arrangements implemented by the armed forces to obtain the neutrality of the population in a crisis area… Conversely, the comprehensive approach is much more proactive and does not deal exclusively with the theatre of operations. It … aims at winning the

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[237]LGen Andrew Leslie, Peter Gizewski and LCol Michael Rostke, "Developing a Comprehensive Approach to Canadian Forces Operations," *Canadian Military Journal* 9, no. 1: 14, 19.

[238]*Ibid*, 15.

> hearts and minds of the inhabitants of the theatre. It is about seducing the local population by rebuilding and restoring governance. Further, upstream …it is about designing an inter-agency, inter-ministerial or inter-organisational logic to best manage crises as they occur."[239]

A more "all-encompassing capability"[240] was necessary. The conceptual element of this has been developed in AJP-3.4.9, ratified as NATO's current CIMIC standard in 2013. The new publication situates CIMIC as an "enabler and facilitator for … comprehensiveness between NATO forces and civil actors"[241] that occurs at the strategic, operational and tactical levels. It requires continual engagement between military commands and civil actors and the inclusion of civil factors in operational planning.

Besides CIMIC, concepts such as Information Operations and Strategic Communications have matured to align with the information objectives of the Comprehensive framework, while the traditional Intelligence function of "weather, enemy, terrain" now encompasses the "white," or civil, part of the operating environment.

Along with conceptual elements in relation to the Comprehensive Approach, militaries have also developed physical components of fighting power. Underscoring that "solid education & training (E&T) program is a prerequisite for effective and efficient of CIMIC staff work and CIMIC activities,"[242] AJP 3.4.9 provides a guideline for the manpower, training and force generation aspects of fighting power in relation to civil-military interaction. The publication outlines the requirement for CIMIC coursing and the importance of integrating it into exercises in order to root CIMIC into operational conduct. It notes that CIMIC assets need to be present at all levels from strategic to

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[239]Wendling, *The Comprehensive Approach* …, 15.
[240]Leslie *et al*, "Developing a Comprehensive Approach …," 17.
[241]NATO, AJP 3.4.9…., VII.
[242]*Ibid*, 5-1.

tactical but the exact force package will be configured according to mission needs.

As illustrated above, the conceptual aspect has proceed both at a general, cross-domain level through JIMP-type enablement of forces, and through the refinement of specialist capabilities such as CIMIC. One study has found a similar pattern in relation to the physical element:

> "CA or CIMIC training is a core competency interwoven in the training of the general-purpose forces… there are soldiers in most NATO armies specifically trained and employed in CIMIC."[243]

There is no one organizational model.[244] In Afghanistan, several nations deployed troops alongside diplomatic and development personnel in Provincial Reconstruction Teams (PRTs), constituting "one of the most successful examples" of civil-military interaction under the Comprehensive Approach.[245] For future missions, the U.S. Army can draw upon two Regular Force Civil Affairs brigades along with ten Reserve battalions.[246] The Canadian Army has created an Influence Activities Task Force (IATF) with capabilities in Psychological Operations and Information Operations as well as CIMIC.[247] Several European nations have created a NATO accredited CIMIC Centre of Excellence which develops doctrine, training and education.[248]

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[243] LCol Robert R. Scott, Capt. Jeffrey P. Maclay with David Sokolow, "NATO and Allied Civil-Military Co-operation Doctrine, Operations and Organization of Forces," (Washington: Center for Strategic and International Studies, n.d.), 2.

[244] *Ibid*.

[245] Wendling, *The Comprehensive Approach* …, 3.

[246] Joe Gould, "Civil Affairs: The Army's hottest job is hiring now," last modified 1 June 2014, http://www.armytimes.com/article/20140601/CAREERS02/306010022/Civil-Affairs-Army-s-hottest-job-hiring-now.

[247] Department of National Defence. "Influence Activities Task Force." Last modified 21 February 2014. http://lfdts kingston mil.ca/IATF-FOAI/default-eng.asp.

[248] CIMIC Centre of Excellence, "About Us," last accessed 02 August 2014, http://www.cimic-coe.org/about-cimic/.

Civil-military interaction and naval fighting power revisited: imperatives

The Comprehensive Approach has therefore provided an imperative for militaries to embrace civil-military interaction as an element of fighting power, in both conceptual and physical terms. While this has come under the rubric of joint operations, however, it has essentially been concentrated in the land domain. The question then arises of what relevance the Comprehensive Approach has to the maritime domain, and whether a similar imperative exists for navies.

Certainly, higher level strategy makes it clear that the Comprehensive Approach is not unique to ground operations. According to Canadian Armed Forces joint doctrine, for instance, it is "rapidly becoming the norm at all levels of war, from the strategic to the tactical" without limitation to any one domain.[249] NATO's maritime strategy is even more explicit that there is indeed nothing new about the Comprehensive Approach in the naval context:

> "[t]he nature of naval forces has always required interaction with other maritime actors - almost continually - as a normal part of maritime activity regardless of the role being executed. The maritime experience thus teaches the value and necessity of a Comprehensive Approach."[250]

NATO has also sought to apply the Comprehensive Approach operationally. As discussed in Chapter 3, collaboration between navies and civil actors has been a key element in counter-piracy operations off Somalia, exemplified by the presence of merchant shipping representatives in the regular Shared Deconfliction and Engagement

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[249] Department of National Defence, *Canadian Military Doctrine* …, 2-3.

[250] North Atlantic Treaty Organization, "Alliance Maritime Strategy," last modified 18 March 2011, http://www nato.int/cps/en/natolive/official_texts_75615.htm?selectedLocale=en.

(SHADE) meetings, the joint development by of the Best Management Practices publications and the regular exchange of information and advice. The ongoing counter-terrorism Operation Active Endeavour is increasingly being oriented towards networks not platforms, with civil actors very much the focus of the networks.[251]

It is also evident from naval strategic publications that the Comprehensive Approach has particular resonance in the context of strategies of good order at and from the sea. In Canada, maritime security is conducted under a 'Whole of Government' framework in which the Royal Canadian Navy works alongside and in support of partners from other government departments such as the Royal Canadian Mounted Police and Department of Fisheries and Oceans.[252] As the RCN's draft maritime strategic concept notes,

> "[w]e protect and exercise Canadian sovereignty primarily through our support to those federal government departments that are specifically mandated to enforce Canada's jurisdictions, rights and obligations as a coastal state."[253]

The United States Navy's Operations Concept states that "[e]ffective maritime security requires a comprehensive effort to promote global economic stability and protect legitimate ocean-borne activities"[254] while Royal Navy doctrine states that protecting maritime trade requires "the co-ordination and close co-operation of national military, civilian, commercial and governmental organizations."[255]

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[251]NATO Shipping Centre, "Operation Active Endeavour – Cooperation," last accessed 2 August 2014, http://www.shipping nato.int/operations/AE/Pages/default.aspx.

[252]Canadian Coast Guard, "MSOC …"

[253]Department of National Defence, *Horizon 2050…,* 15.

[254]United States Navy et al, Naval Operations Concept …, 35.

[255]Ministry of Defence, *British Maritime Doctrine* …, 2-18.

Both navies also stress the importance of regular interaction with civil actors in pursuit of the Comprehensive Approach outside of the context of a particular mission. R.N. doctrine goes on to state that “[i]t must be present in peacetime if the benefits are to be realised in the event of an emergency, crisis or conflict.”[256] In a much cited aphorism, a former Chief of Naval Operations underscored why understandings and relationships built through such interaction “are a vital part of the Maritime Strategy:”

> "You cannot surge trust because trust will underpin everything that we do. Trust does not have a switch: you can't turn it on, you can't turn it off. It is something that takes time to build and must be worked cooperatively to maintain that trust."[257]

The question raised at the beginning of this section was what relevance the Comprehensive Approach has to the maritime domain, and whether it provides an imperative to embrace civil-military interaction as an element of naval fighting power. It is evident from NATO’s maritime strategy and the statements from naval strategic publications cited above that navies acknowledge that it has relevance to their operations. It would follow from this that there are such imperatives, and that they are acknowledged by navies themselves.

These imperatives do not derive from the Comprehensive Approach alone, however. The contemporary strategic environment may have thrust the Comprehensive Approach to the forefront of military thought, but, as NATO’s maritime strategy makes clear, the naval experience throughout history has been one of interaction between naval forces and civil actors. This interaction is as much part of the classical maritime strategy as it is of contemporary missions to preserve good order at and from the sea. It is as

[256] *Ibid*, 2-18.

[257] United States Navy, “Chief of Naval Operations Completes Around the World Trip,” last modified 22 August 2008. http://www.navy.mil/submit/display.asp?story_id=39291.

relevant to the naval functions of Use, Interdiction, Protection and Stabilization today as it has been for centuries.

As British Maritime Doctrine states "[u]ltimately, the role of British maritime forces is to conduct war-fighting."[258] The contemporary strategic environment has been characterized by an absence of large scale, interstate warfare. Against this background, it has been difficult to persuade governments and publics to expend funds on war-fighting forces, particularly capital-intensive and often out-of-sight forces such as navies. In their strategic publications, navies make a cogent case for nations to invest in multi-purpose forces – the "£1 billion destroyers trying to sort out pirates in a little dhow with RPGs costing $50, with an outboard motor [costing] $100"[259] – which can be used in operations through the spectrum of conflict.

The logic of these arguments, however, provides yet a further imperative to embrace civil-military interaction as an element of naval fighting power. As Chapter 3 has shown, the lesson of naval history is that if there is fighting at sea, maritime commerce will be directly impacted, and navies deeply involved in its Use, Interdiction and Protection. Indeed, these are likely to be routine operational activities; engagement between warships is the exception in wartime, not the norm.

Further, navies' apparent default to improvising civil-military interaction capabilities on a just-in-time basis carries with it the risk of their being unprepared for future eventualities. It is nearly 70 years since navies last executed the Protection function in a serious threat environment. In the interim, ships have grown larger and more

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[258] Ministry of Defence, *British Maritime* Doctrine …, 2-8.
[259] See p 38.

specialized, ownership has become more diffuse, vessels have become easier to detect and track at sea, naval escorts have become considerably fewer and submarine, missile, mine and aircraft threats more capable. Convoy has been the preferred means of naval Protection throughout history, but NATO nations have not exercised it for years. Nor have they had to address Protection in the context of the Electronic, Cyber and Information dimensions of modern warfare, or that of a world merchant fleet dominated by non-Western registries and opaque ownership. Navies have had considerable experience of Interdiction over the last twenty years, but this has been almost entirely in effectively non-opposed settings and executed through boardings at sea with little in the way of a shore-side preclearance and intelligence infrastructures that made blockade effective during the World Wars. Improvising capabilities may have merit in terms of saving resources, but it could have serious consequences if, as at least one analyst posits, geopolitics are returning, particularly with maritime commerce a significant factor in one of the potential flashpoints, the South China Sea.[260]

Finally, there are lessons for navies in the difficulties that have been experienced with applying the Comprehensive Approach in the land environment. These include: disagreements between Allies; the importance of achieving pragmatic solutions at tactical level; and the need to include the strategic dimension of civil-military interaction in exercises and studies.[261] The experience in Afghanistan points to a requirement for

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[260] Walter Russell Mead, "The Return of Geopolitics; the Revenge of Revisionist Powers" *Foreign Affairs* (May/June 2014): 69 – 79.

[261]Rotman, "Built on Shaky Ground …, 7.

civil-military planning and coordination well in advance of a particular operation. [262] It also demonstrates that civil-military interaction must be institutionalized, not activated only for a mission:

> "Between crises, exchanges should allow for a better comprehension of the challenges facing the various actors. What should bring the actors together is a sense of serving a common objective. The idea is to develop a climate of trust through close exchange and networking."[263]

There are therefore clear imperatives for navies to embrace civil-military interaction as an element of fighting power. The current strategic environment has highlighted that crisis solutions are most effective when militaries combine with civil actors. It has brought the Comprehensive Approach to the fore, with navies recognizing the latter's relevance to good order strategies. But the imperative for navies to embrace civil-military interaction as an element of fighting power is not new. It has existed for centuries in the civil-military character of strategy in relation to navies and the enduring contribution of civil-military interaction in naval operations. Considering the functions navies have performed operationally in exploiting sea control, the current strategic environment and the relevance of the Comprehensive Approach, there are significant risks inherent in navies' reliance on just-in-time improvisation.

Civil-military interaction and naval fighting power revisited: opportunities

Trust is the centre of gravity of civil-military interaction - as noted in the previous section, one of the lessons of Afghanistan is the necessity of developing a "climate of trust" between operations, while naval leaders already acknowledge that "you

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[262]Kamp, "NATO's New Strategic Concept …," 57, 61-62.
[263]Wendling, *The Comprehensive Approach* …, 72.

can't surge trust …[it] takes time to build."[264] The current strategic environment is particularly conducive to the fostering of key relationships and partnerships. A number of developments have made civil actors much more conscious of the advantages of collaboration with navies and the modalities for accomplishing it. They have also presented navies with the opportunity to understand more about the global maritime system.

For example, as the Maritime Domain Awareness is widely recognized as most effective when conducted as a joint venture between navies and government agency and other partners.[265] This has brought navies into contact with civil partners, and given navies a better understanding of their workings. The shipping industry – individual companies, but also associations – have worked alongside naval forces in addressing the piracy problem off Somalia. The comments of the President of the International Chamber of Shipping (ICS) cited on page 55 indicate that a climate of trust is beginning to be built, and relationships created that can be leveraged to devise collaborative approaches to security problems. There is a clear contrast with the shipping industry's assessment of its relationship with navies n in the aftermath of Operation Sharp Guard discussed on page 50

One result of this is that navies are finding civil actors more willing to participate in live exercises.[266] Another is that navies are beginning to demystify the maritime community of civil actors. As explained in Chapter 1, this is diverse and internationalized,

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[264] See p 74.
[265]United States Navy et al, *Naval Operations Concept* …, 15.

[266]Commander, U.S. Naval Force Central Command, "Lucky Mariner 14-1 begins," …

but possesses some unifying factors. Navies' interaction with bodies such as the ICS and International Maritime Organization and key national shipping interests and government partners has brought a deeper understanding of how the global maritime system functions, the identity of the key influences on it and experience in navigating its infrastructures.

On the conceptual plane, the Comprehensive Approach provides a body of military experience which navies can use to re-evaluate their own fighting power requirements. As has been outlined above, land forces have sought to operationalize the Comprehensive Approach by creating an overarching construct that integrates a set of capabilities while permeating all arms with a civil-military mindset in the manner of JIMP. While not all of this is CIMIC, much of it is articulated in CIMIC doctrine.

Hitherto, CIMIC has tended to be seen as land-centric, a situation not helped by the clear orientation of much legacy joint doctrine – for example, that of the Canadian Armed Forces[267] – towards the civil-military aspects of ground operations. NATO's new CIMIC doctrine, however, is oriented around core functions that have clear resonance in the maritime domain: civil-military liaison to facilitate cooperation, information sharing and integrated planning and conduct of operations; support to the force commander by minimising civil disruption to military operations; and support to civil actors to meet mission objectives.

CIMIC also seeks to integrate other capabilities, for example, Intelligence. Civil actors can be a valuable source of information that can be fused with other sources to produce Intelligence. The advantages of CIMIC as a means of facilitating this were

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[267]Department of National Defence, B-GG-0050004/AF-023 *Civil-Military Cooperation in Peace Emergences, Crisis and War* (Ottawa ON: Chief of the Defence Staff, 1999).

demonstrated by operations in Afghanistan.[268] In the maritime context, the benefits of partnerships with civil actors to understand shipping patterns and behaviours are obvious, particularly with regard to MDA missions. The flow of Intelligence is not a one way street, however. The Protection mission in particular is enabled by sharing Intelligence with civil actors on a classified or declassified basis. Indeed, the alarms, advice and guidance given to the maritime community on piracy threats through bodies such as the NATO Shipping Centre has made a major contribution to threat awareness, and encouraged information sharing and collaboration from the international maritime community.[269]

Less obviously to the naval mind perhaps, CIMIC seeks to integrate Information Operations and Strategic Communications. Both have become integral to military operations due to features of the contemporary information environment such as the 24/7 news cycle and social media. Civil actors in the maritime domain must be considered as a key audience for strategic messaging.

A conceptual link to the Comprehensive Approach and CIMIC already exists in the NATO NCAGS doctrine ratified in 2013, ATP 2 (C) vol 1. This outlines a broader concept than previous iterations, aligned with the Comprehensive Approach rather than focused on tactical-level naval tasks. It states that "NCAGS is a contributor to the NATO comprehensive approach through its interface and liaison with merchant shipping civil actors" and notes that "NATO civil-military cooperation (CIMIC) in the

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[268]MGen Michael T. Flynn, Capt Matt Pottinger and Paul D. Batchelo, *Fixing Intel: A Blueprint for Making Intelligence Relevant in Afghanistan* (Washington DC: Center for a New American Security, 2010), 3.

[269]NATO Shipping Centre, "Operation Ocean Shield – Guidance and Advice," last accessed 2 August 2014, http://www.shipping.nato.int/operations/OS/Pages/Guidance-and-advice.aspx.ite.

maritime environment and NCAGS have significant overlap with respect to the NATO comprehensive approach."[270]

On the physical plane, there have also been some investments in institutionalizing capabilities for civil-military interaction. Well before NATO formally adopted the Comprehensive Approach, its maritime commands had stood up the NATO Shipping Centre as the Alliance's point of contact with the international maritime community in 2002. The Alliance's Civil Emergency Planning structure includes the Transport Group for Ocean Shipping, which aims to "[s]trengthen co-operation between the commercial shipping industry and NATO Military Authorities."[271] Individual navies have established mechanisms for collaboration with shipping interests at the strategic level, through SDAC in the United Kingdom, for example, and the Australian Maritime Defence Council.[272]

Summary

For navies, the physical component of fighting power has been consistently viewed as a matter of the acquisition of platforms, and the conceptual as one of doctrine for their use against each other. Civil-military interaction has not been seen as a priority,

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[270]North Atlantic Treaty Organization, A.T.P 02 vol I, *Naval Cooperation and Guidance for Shipping* (Brussels: NATO Standardization Agency, 2013) 2, 6.

[271]North Atlantic Treaty Organization, "NATO seminar examines civil-military maritime security challenges," last modified 25 May 2012, http://www nato.int/cps/en/SID-99D7AD19-6A5811E1/natolive/news_88043 htm.

[272]Andrew Forbes, "Australian Maritime Defence Council," *Semaphore* Issue 05 (October 2011): n.p.

and navies have defaulted to just-in-time improvisation in preference to a coherent institutionalized approach.

In the current strategic environment, the emergence of the Comprehensive Approach reflects the importance in contemporary military thinking of the contribution of civil actors to crisis solutions and the limitations of military power. Naval strategic publications show that navies are attuned to this reality. But there is nothing new in the imperative for navies to embrace civil-military interaction as an element of fighting power. Strategic theory and the history of naval operations prove that it has existed for centuries and that there are significant risks inherent in navies' default to improvisation.

As well as highlighting the imperative for navies to embrace civil-military interaction as an element of fighting power, the current strategic environment presents a number of opportunities. MDA missions and good order operations have brought navies and civil actors in closer contact, and fostered a climate of trust while broadening navies' understanding of the global maritime system.

Civil-military interaction in the maritime domain will always be qualitatively different to that in ground operations. In the naval context, questions of governance, development and reconstruction are less significant than Use, Protection and Interdiction. Nevertheless, land operations have provided a body of experience in the operationalization of the Comprehensive Approach that can be drawn upon. In CIMIC, they have left a model of an overarching civil-military concept that integrates a set of discrete capabilities while inculcating a cross-domain Comprehensive Approach mindset. In NCAGS and MDA, there are some legacy naval capabilities that can be further developed.

CONCLUSION

The necessity of a navy, in the restricted sense of the word, springs, therefore, from the existence of peaceful shipping, and disappears with it.

- Alfred T. Mahan, *The Influence of Seapower in History 1660 - 1783*

The conclusion of this paper can be encapsulated in the following four extracts from authorities cited in it.

"States are interested in the use of the sea for three purposes."[273] The overarching strategic idea in relation to the maritime aspect of Grand Strategy is the use of the sea, which has three purposes: trade, the movement of military forces and maritime resource exploitation. The two civil uses of the sea are expanding and becoming more strategically important, connecting nations through the global maritime system, and investing them in its safe and secure functioning. Grand Strategy thus aligns navies, as one of its instruments, with the global maritime system and with its infrastructure of regimes, agencies and agreements and internationalized community of civil actors.

"There is more to seapower than grey-painted ships with numbers on their sides."[274] Navies' alignment with the civil use of the sea imparts a civil-military character to strategy in relation to navies. Navies' roles extend beyond military tasks to include functions in support of the use of the sea for civil purposes. The contours of this character are fourfold: the national strength generated by the use of the sea for civil purposes, including the wealth to build and sustain a navy and other maritime assets that can be used

[273]Booth, *Navies and Foreign Policy* …, 15.
[274]Till, *Seapower* ..., 4.

for military purposes; nations' interest in the safe and secure functioning of the global maritime system; the requirement for navies to provide security to civil actors given the relative freedom with which hostile forces can manoeuvre on the sea; and the employment of navies against the commerce of the nation's enemies and their economies. This civil-military character has shaped foundational strategic concepts such as maritime strategy, seapower and sea control, and exerted a powerful influence on some of the principal strategies navies have pursued over the last one hundred years.

"The nature of naval forces has always required interaction with other maritime actors."[275] The civil-military character of strategy in relation to navies reflects, and is reflected in, the enduring contribution of civil-military interaction to naval operations. Navies' implication in the exploitation of sea control requires the inclusion of a civil-military line of operation in operational design, which will comprise one or more of four functions: Use of civil actors in military operations; Interdiction of adversary maritime commerce; Protection of friendly trade; and Stabilization of the maritime domain. These functions have been the routine operational tasks of navies for centuries.

"Solutions to … serious events are impossible to achieve by military means alone."[276] Civil-military interaction has begun to be recognized as essential by militaries have come to recognize the limitations of their power and the necessity of their working with civil actors to address security and stabilization challenges. This has provided an imperative for the development of civil-military interaction as an element of land fighting power, in both conceptual and physical aspects. By contrast, naval fighting power

[275]North Atlantic Treaty Organization, "Alliance Maritime Strategy…
[276]NATO, AJP 3.4.9…, VII.

continues to be dominated by the “fleet mentality;” capabilities for civil-military interaction are improvised on a just-in-time basis.

The contention of this paper is that the current strategic environment provides both an imperative and an opportunity for navies to embrace civil-military interaction as an element of their fighting power.

The imperative can be seen in the increasing strategic importance of the civil use of the sea, and nations’ growing investment in the global maritime system and the functions performed through civil infrastructures by the maritime community of civil actors. The emergence of good order at the forefront of navies’ strategies has made the civil-military character of strategy even more apparent, and underscored the enduring contribution of civil-military interaction to naval operations. In parallel, events have prompted new understandings of the limitations of military power more generally, and the advantages of Comprehensive Approach solutions to crises. In this context, there is risk in navies’ improvised approach to civil-military interaction as an element of fighting power.

The opportunities come in part from legacy elements of fighting power that have been under-invested in in the past. They also lie in lessons learned from joint operations, and the models that have been developed for civil-military interaction in land environments. Above all, they lie in the climate of trust navies and civil actors are building from their regular interaction to address security problems in the global maritime system.

This paper began with citing some prescient lines from 1911. It ends with words written some years later about the conflict that came in between, the First World War. “At the outset of the conflict,” wrote Winston Churchill, “we had more Captains of ships than

Captains of war. In this will be found the explanation of many untoward events."[277] Captains of ships need platforms; Captains of war need a complete range of fighting power. Civil-military interaction needs to be embraced as part of their armoury.

[277]Rt. Hon. Sir Winston Churchill *The World Crisis Vol 1* (London: Butterworth, 1927), 93.

BIBLIOGRAPHY

Books

Alexander, Lewis M. and Joseph R. Morgan. "Choke Points of the World Ocean: A Geographic and Military Assessement." In *Ocean Yearbook 7*, edited by Elizabeth Mann Borghese, Norton Ginsburg and Joseph R. Morgan, 340 – 355. Chicago: University of Chicago Press, 1988.

Baer, George W. *One Hundred Years of Sea Power: The U.S. Navy, 1890-1900*. Stanford, CA: Stanford University Press, 1964.

Barnett, Corelli. *Engage the Enemy More Closely: The Royal Navy in the Second World War*. London: Hodder and Stoughton, 1991.

Bell, Christopher M. *The Royal Navy: Seapower and Strategy Between the Wars*. Basingstoke: Macmillan, 2000.

Booth, Ken. *Navies and Foreign Policy*. London: Croom Helm, 1977.

Bridge, Adm. Sir Cyprian. *The Art of Naval Warfare*. London: Smith, Elder, 1907.

Brodie, Bernard. *A Guide to Naval Strategy*. New York: Praeger, 1965.

Cable, James. *Gunboat Diplomacy, 1919-1979: Political Applications of Limited Naval Force*. 3rd ed. Basingstoke: Macmillan, 1994.

Chalk, Peter. *The maritime dimension of international security: terrorism, piracy, and challenges for the United States*. Santa Monica CA: Rand Corporation, 2008.

Churchill, Rt. Hon. Sir Winston. *The World Crisis Vol 1*. London: Butterworth, 1927.

Cole, Bernard D. *Asian maritime strategies: navigating troubled waters*. Annapolis MD: Naval Institute Press, 2013.

Cole, Bernard D. *The Great Wall at Sea*. Annapolis MD: Naval Institute Press, 2010.

Corbett, Sir Julian. *History of the Great War: Naval Operations*. London: Longman, Green, 1920-31.

Corbett, Sir Julian. *Some Principles of Maritime Strategy*. Introduction by Eric Grove. Annapolis MD: Naval Institute Press, 1988.

Crickard, Fred W., Fred Deveaux and Katherine D. Orr. *Multinational Naval Cooperation and Foreign Policy into the 21st Century*. Aldershot: Ashgate, 1998.

Dorman, Andrew, Michael Lawrence Smith and Matthew Uttley. *The Changing Face of Maritime Power*. Basingstoke: Macmillan, 1999.

Douglas, William Alexander. *A Blue Water Navy.* St. Catharines, ON: Vanwell, 2006.

Elleman, Bruce and Sarah C.M. Paine (eds). *Naval Blockades and Seapower: Strategies and Counter-strategies 1805 – 2005*. New York: Routledge, 2006.

Fayle, Sir C. Ernest. *History of the Great War: Seaborne Trade vol 1. The Cruiser Period*. London: John Murray, 1920.

Friedmann, Norman. *Fifty Year War: Conflict and Strategy in the Cold War*. London: Chatham, 2000.

Friedmann, Norman. *The U.S. Maritime Strategy*. London: Jane's, 1988.

Gimblett, Richard H. *Operation Apollo: the golden age of the Canadian navy in the war against terrorism*. Ottawa ON: Magic Light Publishing, 2004.

Goldrick, James and John Hattendorf (eds). *Mahan is Not Enough: The Proceedings of a Conference on the Works of Sir Julian Corbett and Admiral Sir Herbert Richmond*. Newport, RI: Naval War College Press, 1993.

Gorshkov, Sergei. *The Seapower of the State*. London: Pergamon, 1979.

Gray, Colin S. *The Leverage of Sea Power: The Strategic Advantage of Navies in War*. New York: Free Press, 1992.

Gray, Colin S. *Modern Strategy*. Oxford: Oxford University Press, 1999.

Gray, Colin S and Roger W. Barnett (eds). *Seapower and Strategy*. Annapolis, MD: Naval Institute Press, 1989.

Gray, Colin S and Geoffrey Sloan (eds). *Geopolitics: Geography and Strategy*. London: Frank Cass, 1999.

Gretton, Adm Sir Peter. *Maritime Strategy: a study of British defence problems*. London: Cassell, 1964.

Griffiths, Ann L and Peter Haydon. *Maritime Forces in Global Security*. Halifax NS: Dalhousie University, Centre for Policy Studies, 1995.

Griffiths, Ann L, Peter Haydon and Richard Gimblett. *Canadian Gunboat Diplomacy: The Canadian Navy and Foreign Policy*. Halifax NS: Dalhousie University, Centre for Policy Studies, 1998.

Griffiths, Ann L (ed). *The Canadian navy and the new security agenda: proceedings of the maritime security and defence seminar, Toronto, 26-27 April 2004*. Halifax NS: Dalhousie University, Centre for Policy Studies, 2004.

Grove, Eric. *The Future of Seapower*. London: Routledge, 1990.

Haas, Richard. *The Reluctant Sheriff: The United States After the Cold War*. New York: Council on Foreign Relations, 1997.

Halford, Robert G. *The Unknown Navy – Canada's World War II Merchant Navy.* St. Catherines ON: Vanwell, 1995.

Hattendorf, John B. *Mahan on Naval Strategy*. Annapolis MD: Naval Institute Press, 1991.

Hattendorf, John B. *The Evolution of the U.S. Navy's Maritime Strategy, 1977 – 1986*. Newport Papers 19. Newport, RI: Naval War College Press, 2004.

Hattendorf, John B and Peter M. Schwartz (eds). *U.S. Naval Strategy in the 1980s Selected Documents*. Newport Papers 33. Newport, RI: Naval War College Press, 2008.

Hattendorf, John B. *What is a Maritime Strategy*? Soundings No. 1. Canberra: Sea Power Centre – Australia, 2013.

Haydon, Peter. *Navies in the Post-Cold War Era*. Maritime Security Occasional Paper No. 5. Halifax NS: Dalhousie University, Centre for Policy Studies, 1998.

Haydon, Peter. *Sea Power and Maritime Strategy in the 21st Century: A "Medium" Power Perspective*. Maritime Security Occasional Paper No. 10. Halifax NS: Dalhousie University, Centre for Policy Studies, 2000.

Haydon, Peter and Ann Griffiths (eds). *Multinational Naval Forces*. Maritime Security Occasional Paper No. 7.Halifax NS: Dalhousie University, Centre for Policy Studies, 1995.

Haywood, Robert and Roberta Spivak. *Maritime Piracy*. New York NY: Routledge, 2012.

Herrick, R.W. *Soviet Naval Theory and Policy*. Washington DC: US Government Printing Office, 1988.

Hill, Richard. *Maritime Strategy for Medium Powers*. Annapolis MD: Naval Institute Press, 1986.

Hobson, Rolf and Tom Kristiansen. *Navies in Northern Waters, 1721 – 2000.* Londn: Frank Cass, 2004.

Johnston, William *et al*. *The Seabound Coast: the Official History of the Royal Canadian Navy, 1867-1939*. Toronto ON: Dundurn Press, 2010.

Jordan, Robert Smith. *Alliance strategy and navies: the evolution and scope of NATO's maritime dimension*. London: Pinter, 1990.

Kane, Thomas M. *Chinese Grand Strategy and Maritime Power*. London: Frank Cass, 2002.

Kearsley, Harold J. *Maritime Power and the Twenty-First Century*. Aldershot: Dartmouth, 1991.

Keegan, John. *The Price of Admiralty*. London: Hutchinson, 1988.

Kennedy, Paul. *The Rise and Fall of British Naval Mastery*. London: Allen Lane, 1976.

Kipling, Rudyard. "Big Steamers." In *A School History of England*, by C.R.L. Fletcher and Rudyard Kipling. Oxford: Clarendon Press, 1911.

Lambert, Andrew. *The Foundations of Naval History: John Knox Laughton, the Royal Navy and the Historical Profession*. London: Chatham, 1998.

Lehman, John F. *Command of the Seas: Building the 600 Ship Navy*. New York: Charles Scribner, 1988.

Liddell Hart, Basil. *Strategy: The Indirect Approach*. 4th ed. London: Faber & Faber, 1967.

Lloyd George, David. *War Memoirs of David Lloyd George volumes I and II*. London: Odhams Press Limited, 1933-34.

Luttwak, Edward N. *The Political Uses of Sea Power*. Baltimore MD: Johns Hopkins University Press, 1975.

Mahan, RAdm. Alfred T. *The Influence of Sea Power upon History 1660-1783*. London, Sampson, Low, Marston, 1890.

Mahan, RAdm Alfred T. *Naval Strategy: Compared and Contrasted with the Principles and Practice of Military Operations on Land*. Boston MA: Little, Brown, 1911.

Maloney, Sean M. *The hindrance of military operations ashore: Canadian participation in operation Sharp Guard, 1993-1996*. Maritime Security Occasional Paper No. 7. Halifax NS: Dalhousie University, Centre for Policy Studies, 2000.

Marder, Arthur J. *The Anatomy of British Sea Power: a History of British Naval Policy in the Pre-Dreadnought Era, 1880-1905.* London: Putnam, 1941.

Marder, Arthur J. *From the Dardanelles to Oran: studies of the Royal Navy in War and Peace 1915 – 1940*. London: Oxford University Press, 1974.

Martin, Laurence. *The Sea in modern Strategy*. Studies in Modern Strategy vol. 11. London: Chatto & Windus for the Institute for Strategic Studies, 1967.

McNicholas, Michael. *Maritime security: an introduction*. Burlington MA: Butterworth-Heinemann, 2008.

Meijer, Fik. *A history of seafaring in the classical world*. New York NY: St. Martin's Press, 1986.

Miller, Stephen E. and Stephen Van Evera. *Naval Strategy and National Security*. Princeton NJ: Princeton University Press, 1988.

Milner, Marc. *Canada's navy: the first century*. Toronto ON: University of Toronto Press, 1999.

Morin, John H. and Richard H. Gimblett. *Operation Friction: 1990-1991: the Canadian Forces in the Persian Gulf*. Toronto ON: Dundurn, 1997.

Murphy, Martin N. *Contemporary piracy and maritime terrorism: the threat to international security*. Adelphi Paper 388. New York NY: Routledge for International Institute of Strategic Studies, 2007.

Owens, Adm William A. *High Seas: The Naval Passage to an Uncharted World*. Annapolis MD: Naval Institute Press, 1995.

Pokrant, Marvin. *Desert Shield at Sea: What the Navy Really Did*. Westpoint CT: Greenwood, 1999.

Potter, E.B. *Sea Power*. Annapolis MD: Naval Institute Press, 1981.

Pugh, Michael (ed). *Maritime Security and Peacekeeping: A Framework for United Nations Operations*. Manchester: Manchester University Press, 1994.

Ranft, Bryan (ed). *Ironclad to Trident 100 Years of Defence Commentary Brassey's 1886 – 1986*. London: Brassey's Defence Publishers, 1986.

Ranft, Bryan (ed). *Technical Change and British Naval Policy, 1860 – 1939*. London: Hodder & Stoughton, 1977.

Ranft, Bryan and Geoffrey Till. *The Sea in Soviet Strategy*. Basingstoke: Macmillan, 1989.

Reynolds, Clark G. *History and the sea : essays on maritime strategies*. Columbia SC: University of South Carolina Press, 1989.

Reynolds, Clark G. *Navies in History*. Annapolis MD: Naval Institute Press, 1998.

Richmond, Adm Sir Herbert. *Seapower in the Modern World*. London: Bell, 1934.

Richmond, Adm Sir Herbert. *Statesmen and Seapower*. Oxford: Clarendon, 1946.

Rodger, Nicholas. *Naval Power in the Twentieth Century*. Basingstoke: Macmillan, 1996.

Roskill, Capt Stephen. *A Merchant Fleet in War: Alfred Holt & Co 1939 – 1945*. London: Collins, 1962.

Roskill, Capt Stephen. *Naval Policy Between the Wars Vols I and II*. London: Collins, 1968 and 1976.

Roskill, Capt Stephen. *The Strategy of Sea Power*. London: Collins, 1962.

Roskill, Capt Stephen. *White ensign: the British navy at war, 1939-1945*. Annapolis MD: United States Naval Institute, 1960.

Skogan, John Kristen and Arne Olav Bruntland. *Soviet seapower in northern waters: facts, motivation, impact, and responses*. New York: St. Martin's Press, 1990.

Tan, Andrew (ed). *The Politics of Maritime Power A Survey*. London: Routledge, 2007.

Tangredi, Sam J. *Anti-Access Warfare: Countering A2/AD Strategies*. Annapolis MD: Naval Institute Press, 2013.

Tangredi, Sam J. (ed.) *Globalization and maritime power*. Washington DC: National Defense University Press, 2002.

Till, Geoffrey. *Seapower A Guide for the Twenty-First Century*. London: Frank Cass Publishers, 2004.

Till, Geoffrey (ed). *The Development of British Naval Thinking: Essays in Memory of Bryan Ranft*. Abingdon: Routledge, 2006.

Till, Geoffrey. *Understanding Victory: Naval Operations from Trafalgar to the Falklands*. Santa Barbara, CA: Praeger, 2014.

Till, Geoffrey. *Maritime Strategy in the Nuclear Age*. London: Macmillan, 1982).

Tracy, Nicholas. *A two-edged sword: the Navy as an instrument of Canadian foreign policy*. Montreal QC: McGill-Queen's University Press, 2012.

Tracy, Nicholas. *Attack on Maritime Trade*. Toronto: University of Toronto Press, 1991.

Tracy, Nicholas. *Canada's naval strategy: rooted in experience*. Maritime Security Occasional Paper No. 1. Halifax NS: Dalhousie University, Centre for Policy Studies, 1995.

Tucker, Gilbert. *The naval service of Canada: its official history Vols I and II*. Ottawa ON: King's Printer, 1952.

Tummers, Edward L. (ed.). *Maritime Security in the Twenty-First Century*. Maritime Security Occasional Paper No. 11. Halifax NS: Dalhousie University, Centre for Policy Studies, 2000.

Widen, J.J. *Theorist of maritime strategy: Sir Julian Corbett and his contribution to military and naval thought*. Burlington VT: Ashgate Publishing Company, 2010.

Yoshihara, Toshi and James R. Holmes (eds). *Asia looks seaward: power and maritime strategy*. Westport CT: Praeger, 2008.

Zatarain, Lee Allen. *America's First Clash with Iran: The Tanker War, 1987-88*. Philadelphia PA and Newbury CT, 2008.

Other published material

Bellish, Jerome (lead author). *The Economic Cost of Somali Piracy 2012*. n.p: Oceans Beyond Piracy, 2013.

Emmerson, Charles and Paul Stevens. *Maritime Choke Points and the Global Energy System – Charting a Way Forward*. London: Chatham House, 2012.

Flynn, MGen Michael T, Capt Matt Pottinger and Paul D. Batchelor. *Fixing Intel: A Blueprint for Making Intelligence Relevant in Afghanistan*. Washington DC: Center for a New American Security, 2010.

Granatstein, J.L. *Can Canada have a Grand Strategy?* Calgary AB: Canadian Defence & Foreign Affairs Institute, 2011.

Kaye, Stuar and Lowell Bautista. *The Naval Protection of Shipping in the 21st Century: an Australian Perspective*. Canberra: Sea Power Centre – Australia, 2011.

Murphy, Martin N. *Contemporary piracy and maritime terrorism: the threat to international security*. New York NY: Routledge for International Institute of Strategic Studies, 2007.

Schnaubelt, Christopher M (ed.). *Towards a Comprehensive Approach: integrating civilian and military concepts of strategy*. Rome: NATO Defense College, 2009.

Schnaubelt, Christopher M (ed.). *Operationalizing a comprehensive approach in semi-permissive environments*. Rome: NATO Defense College, 2011.

Scott, LCol Robert R., Capt. Jeffrey P. Maclay with David Sokolow. *NATO and Allied Civil-Military Co-operation Doctrine, Operations and Organization of Forces*. Washington: Center for Strategic and International Studies, n.d.

Stopford, Dr. Martin. *How Shipping has changed the world and the social impact of shipping*. London: Clarksons Research, 2010.

Schwarz, Capt (retd) Peter M. and Karin Duggan. *U.S. Navy Capstone Strategies and Documents (2001 – 2010): Strategy, Policy, Concept and Vision Documents*. Arlington VA: CNA Analysis and Solutions, 2011.

Wending, Dr. Cécile. *The Comprehensive Approach to Civil-Military Crisis Management: A critical analysis and perspective*. Paris: Institut de recherche stratégique de l'École militaire, 2010.

Journals

Allen, Matthew. "The Changing Nature of Naval Strategy." *The Naval Review* 81, no 3 (July 1993): 235 – 243.

Avis, Capt (N) (retd) Peter. "Gateways and Corridors in Canada: evolving national security." *Canadian Military Journal* 10, no. 3 (Summer 2010): 59 – 63.

Avis, Capt (N) (retd) Peter. "Developing Security Strategy in the era of integrated government." *Canadian Military Journal* 8, no. 1: 97 – 99.

"A.J.W.W." "Defence of Trade: is it necessary." *The Naval Review* 70, no 4 (October 1982): 287 – 288.

Bedford, Christian. "The View from the West: Navies and non-traditional security threats. *Canadian Naval Review* 6, no. 4 (Winter 2011): 37 – 38.

Ben-Caro, Jared M. "Modern Piracy and current counter-measures. *Canadian Naval Review* 8, no. 3 (Fall 2012): 25– 30.

Borreson, Cmdre (retd) Jacob. "Alliance Naval Strategies and Norway in the Final Year of the Cold War. *Naval War College Review* 54, no 2 (Spring 2011): 97 – 115.

Canadian Naval Review, Editorial "Maritime Blindness, You Say?" Vol 6, no 3 (Fall 2010): 2-3.

Carmel, Stephen. M. "The Cold, Hard Realities of Arctic Shipping." *Proceedings* Vol 139, 7 (July 2013): 38 - 41.

Coombs, Col Howard G. "Afghanistan 2010-2011: Counterinsurgency through Whole of Government." *Canadian Military Journal* 13, no. 3 (Summer 2013): 16 – 24.

Forbes, Andrew. "Australian Maritime Defence Council." *Semaphore* Issue 05 (October 2011): n.p.

Gray, Colin S. "The 21st Century Security Environment and the Future of War." *Parameters* Vol 37, 4 (Winter 2008 – 09), 14 – 26.

Hinchcliffe, Peter. "International Shipping Perspectives" (letter). *The Naval Review* 91, no. 4 (November 2003): 401 – 402.

Hunt, Barry D. "The Outstanding Naval Strategic Writers of the Century. *Naval War College Review* 37, no 5 (September – October 1984): 86 – 104.

Johnson, LCdr Phil. "Security of maritime trade: a cooperative and coordinated approach for the Indo-Pacific region. *Australian Journal of Maritime and Ocean Affairs* 4(1), 2012: 1-9.

Kibble, Lt Cdr D.G. "Naval Control of Shipping and Desert Storm: a Prototype of NCS in a Briefcase." *The Naval Review* 80, no. 1 (January 1992): 22 – 26.

Landesman, Capt (retd) S.D. "Naval Protection of Shipping: A Lost Art?" *Naval War College Review* 39, no 2 (March - April 1986): 23 – 34.

Lehre, Cmdre (retd) Eric. "Canada in the World." *Canadian Military Journal* 14, no. 2 (Spring 2014): 5 – 14.

Leslie, LGen Andrew, Peter Gizewski and LCol Michael Rostke. "Developing a Comprehensive Approach to Canadian Forces Operations." *Canadian Military Journal* 9, no. 1: 11 – 20.

Longhurst, Major Graham M. "The Evolution of Canadian Civil-Military Cooperation (CIMIC). *Canadian Military Journal* 7, no. 4 (Winter 2006-2007): 55 – 64.

Maddison, VAdm Paul. "Strategic Trust and Cooperation in this Maritime Century." *Canadian Military Journal* 13, no. 1 (Winter 2013): 7 – 14.

Maughan, Cdr J.M.C. "NATO Co-operation with and Guidance for Merchant Shipping." *The Naval Review* 89, no. 4 (October 2001): 339 – 341.

McFadden, VAdm Dean. "The Navy and Canada's National Interests in this Maritime Century." *Canadian Military Journal* 10, no. 4 (Autumn 2010): 53 – 58.

Mead, Walter Russell. "The Return of Geopolitics; the Revenge of Revisionist Powers." *Foreign Affairs* May/June 2014: 69 – 79.

Peabody, David. "The challenges of doing good work: the development of Canadian Forces CIMIC capability and NGOs." *Journal of Military and Strategic Studies* 8, issue 3 (spring 2006): 1 – 53.

Posen, Barry R. "Command of the Commons. The Military Foundation of U.S. Hegemony." *International Security* 28, vol 1 (Summer 2003): 5 – 46.

Pratt, Hon. David. "Is there a grand strategy in Canadian foreign policy?" *Policy Options*, September 2007: 6 – 11.

Rotmann, Philip. "Built on shaky ground: the comprehensive approach in practice." *NATO Defence College Research paper 63*, December 2010: 1 – 8.

Scholte, Jan Aart. "Global capitalism and the state." *International Affairs* 73.3 (1997): 427 – 452.

Spearin, Dr. Christopher. "A private security solution to Somali piracy? The U.S. Call for Private Security Engagement and the Implications for Canada. *Naval War College Review* 63, no. 4 (Autumn 2010): 56 – 71.

Stonor, Cdr Philip. "NATO Global Shipping." *The Naval Review* 86, no. 3 (July 1998): 200 – 203.

Tunnicliffe, Mark. "Perpetual Interests … The Admiralty Influence on the Naval Service of Canada." *Canadian Military Journal* 11, no. 2 (Spring 2011): 39 – 47.

Turner, VAdm. Stanfield. "Missions of the U.S. Navy." *Naval War College Review* 26, no 5 (March - April 1974): 2 – 17.

Waters, D.W. “The Science of Admiralty.” Parts I and II. *The Naval Review* 51, no 4 (October 1963): 395 – 410. Part III. *The Naval Review* 52, no 1 (January 1964): 15 – 26. Part IV. *The Naval Review* 52, no 1 (April 1964): 15 – 26. Part V *The Naval Review* 52, no 3 (July 1964): 291 – 309. Part VI *The Naval Review* 52, no 4 (October 1964): 423 – 437.

Warner, Leslie-Anne. “Pieces of Eight: An Appraisal of U.S. Counterpiracy Options in the Horn of Africa.” *Naval War College Review* 63, no. 2 (Spring 2010): 61 - 87

Williams, Cdr. E. Cameron. “The Four Iron Laws of Naval Protection of Merchant Shipping.” *Naval War College Review* 39, no 3 (May – June 1986): 35 – 42

Magazines and Newspapers

Ariyanti, Dessianing. “Deal to boost global trade reached at WTO summit despite eleventh hour objections from Cuba.” *National Post*, 7 December 2013.

Bell, Michael H. “Oil via Hudson Bay.” *National Post*. 28 November 2013.

Byers, Michael. “Newfoundland’s new northern frontier. *National Post*. 20 December 2013.

Connor, Will and Luciana Magalhaes. “Harsh Offshore Field Delivers for Petrobras.” *The Wall Street Journal*. 8 August 2014.

Crowley, Brian Lee. “Winners’ message matters most on trade.” *The Globe and Mail*. 29 November 2013.

Cryderman, Kelly. “Think tank tempers B.C.’s LNG dreams. *The Globe and Mail*. 29 October 2013.

Beltrame, Julien. “Harper close to fulfilling his promise on Free Trade.” *Macleans*. 11 March 2014.

Deveau, Scott. “Canada’s busiest port beefs up security in truckers’ strike that’s costing $885-million a week.” *National Post*, 10 March 2014.

Hall, Simon. “Shipyards turn to LNG Tankers. *The Wall Street Journal*. 24-26 December 2012.

Hussain, Yadullah. “Big Oil takes Deep Dive.” *National Post*. 8 August 2014.

Isfield, Gordon. “Fast Eddie’s Trade Mission.” *National Post*. 9 August 2014.

Jang, Brent. “Vancouver port doing record business.” *The Globe and Mail*. 25 February 2014.

Kirkcup, James. “Defence chief General Sir David Richards attacks Armed Forces cuts.” *The Daily Telegraph*. 14 November 2012.

McKenna, Barrie. “Canadian exports to gain 5.3 per cent, survey says. *The Globe and Mail*. 29 October 2013.

Molin, Anna, Matthew Curtin and Costas Paris. “Maersk, MSC Clinch New Container-Shipping Pact.” *The Wall Street Journal*. 10 July 2014.

Moore, Dene. “Stephen Harper hints at reopening NAFTA.” *Toronto Star*. 12 March 2014.

News Agencies. “Cuts to Navy a 'national disgrace', says former sea lord.” *The Daily Telegraph*. 8 June 2014.

Peterson, Katrina. “White House Warns Bill Would Crimp Foreign Food Aid.” *The Wall Street Journal*. 24 April 2014.

Unsigned. “Plumbing the Depths.” *The Economist*. 4 March 2012.

Vanderklippe, Nathan. “Energy producers eye new riches with LPG exports. *The Globe and Mail*. 11 June 2013.

Public Documents

Australia. Royal Australian Navy, *Australian Maritime Doctrine*. Canberra: Chief of Navy, 2010.

Canada. Department of National Defence. B-GJ-005-000/FP-001, *CFJP 01 Canadian Military Doctrine*. Ottawa ON: Chief of the Defence Staff, 2009.

Canada. Department of National Defence. B-GG-0050004/AF-023 *Civil-Military Cooperation in Peace Emergences, Crisis and War*. Ottawa ON: Chief of the Defence Staff, 1999.

Canada. Department of National Defence. B-GN-007-000/AG-1, *Securing Canada's Ocean Frontiers: Charting the Course from Leadmark*. Ottawa ON: Directorate of Maritime Strategy, 2005

Canada. Department of National Defence. *Horizon 2050 A Strategic Maritime Concept for the Canadian Forces* (working draft document). Ottawa ON: Canadian Armed Forces, 2012.

Canada. Department of National Defence. *Integrated Capstone Concept*. Ottawa ON: Chief of Force Development, 2010.

Canada. Department of National Defence. *Leadmark: the Navy's Strategy for 2020*. Ottawa: Directorate of Maritime Strategy, 2001.

International Maritime Organization. *International Shipping Facts and Figures – Information Resources on Trade, Safety, Security, Environment*. London: Maritime Knowledge Centre, 2012.

North Atlantic Treaty Organization. A.J.P. 3.4.9, *Allied Joint Doctrine for Civil-Military Cooperation*. Brussels: NATO Standardization Agency, 2013.

North Atlantic Treaty Organization. A.J.P. 3.10, *Allied Joint Doctrine for Information Operations*. Brussels: NATO Standardization Agency, 2009.

North Atlantic Treaty Organization. A.T.P 02 vol I. *Naval Cooperation and Guidance for Shipping*. Brussels: NATO Standardization Agency, 2013.

North Atlantic Treaty Organization. *Bi-SC Civil-Military Cooperation (CIMIC) Planning Guide*. Mons and Norfolk VA: Supreme Allied Commanders, Europe and Transformation, 2012.

North Atlantic Treaty Organization. NATO Shipping Centre, *et al*. BMP 4. *Best Management Practices for Protection Against Somalia Based Piracy*. Edinburgh: Witherby Publishing Group, 2011.

United Kingdom. Her Majesty's Government. *A Strong Britain in an Age of Uncertainty: The National Security Strategy* (NSS). London: Her Majesty's Stationery Office, 2010.

United Kingdom. House of Commons Library. *Shipping: UK Policy Standard Note SN/BT/595*. London : House of Commons Library, 2010.

United Kingdom. Ministry of Defence. *Future Character of Conflict*. London: Ministry of Defence Development, Concepts and Doctrine Centre (DCDC), 2010.

United Kingdom. Ministry of Defence. Joint Doctrine Publication 0-10, *British Maritime Doctrine*. London: Assistant Chief of the Defence Staff (Development, Concepts and Doctrine), 2011.

United Kingdom. Royal Navy. *Future Navy Vision: the Royal Navy Today, Tomorrow and Towards 2025*. London, Royal Navy: 2011.

United Kingdom. Secretary of State for Defence. *The Falklands Campaign: The Lessons*. London, Her Majesty's Stationery Office: 1982.

United Nations Conference on Trade and Development. *Review of Maritime Transport 2013*. New York and Geneva: United Nations, 2013.

United States. Department of Homeland Security. *National Maritime Domain Awareness Plan*. Washington DC: Department of Homeland Security, 2012.

United States. Department of Homeland Security. *National Strategy for Global Supply Chain Security*. Washington DC: Department of Homeland Security, 2012.

United States. Department of the Navy. *Forward from the Sea*. Washington DC: Department of the Navy, 1992.

United States. Department of the Navy. OPNAVINST 3450.18B, *Naval Cooperation and Guidance for Shipping (NCAGS)*. Washington DC: Chief of Naval Operations, 2007.

United States. United States Marine Corps, United States Navy and United States Coast Guard. *A Cooperative Strategy for 21st Century Seapower*. Washington DC: United States Marine Corps, United States Navy and United States Coast Guard, 2007.

United States. United States Marine Corps, United States Navy and United States Coast Guard. *Naval Operations Concept – Implementing the Maritime Strategy*. Washington DC: United States Marine Corps, United States Navy and United States Coast Guard, 2010.

Unpublished Materials

Canada, Department of National Defence. "Horizon 2050 A Strategic Maritime

Concept for the Canadian Force." Working draft document, Canadian Armed Forces, 2012.

North Atlantic Treaty Organization. *MC 411/2 NATO Military Policy on Civil-Military Co-operation* (draft). Brussels: International Military Staff, 2014.

Speeches

Harper, Rt. Hon Stephen. Speech, opening of Canadian Naval Memorial, Ottawa ON, 3 May 2012.

Hinchliffe, Peter. Speech, presentation of Operation OCEAN SHIELD medals to HNLMS BRUINVIS ship's company, London, 19 December 2012.

Correspondence

Crosswell, A.D. *Operation of Maritime Embargoes by NATO Naval Forces*. Planning Board for Ocean Shipping: file PBOS(L) 94/10, 3 March 1994.

Electronic sources

American Shipping Company. "Jones Act Background." Last accessed 21 July 2014. http://www. americanshippingco.com/section.cfm?path=326,346.

Bakr, Amena. "Qatar says can help Iran get more from world's biggest gas field." Last modified 23 December 2013. http://www.reuters.com/article/2013/12/23/qatar-iran-gas-idUSL6N0K22U420131223.

Canada. Canadian Coast Guard. "Marine Security Operations Centres (MSOC)." Last modified 24 June 2013. http://www.ccg-gcc.gc.ca/eng/CCG/Maritime-Security/MSOC.

Canada. Department of Fisheries and Oceans. "Canada's Fisheries Fast Facts 2013." Last modified 7 April 2014. http://www.dfo-mpo.gc.ca/stats/facts-Info-13-eng.htm.

Canada. Department of Fisheries and Oceans. "Exports by Major Exporting Countries 2005 – 2009." Last modified 4 March 2013. http://www.dfo-mpo.gc.ca/stats/trade-commerce/world-mondial/export/wxv0509-eng.htm.

Canada. Department of Foreign Affairs, Trade and Development. "Canada – Korea Free Trade Agreement (CKFTA) – Overview. Last modified 17 June 2014. http://international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/korea-coree/overview-apercu.aspx?lang=eng.

Canada. Department of Foreign Affairs, Trade and Development. "Minister Fast highlights benefits of Canada-EU |Trade Agreement for North America." Last modified 5 November 2013. http://www.international.gc.ca /media/comm/news-communiques/2013/11/05b.aspx?lang=eng.

Canada. Department of National Defence. "Influence Activities Task Force." Last modified 21 February 2014. http://lfdts.kingston.mil.ca/IATF-FOAI/default-eng.asp.

Canada. Department of National Defence. "Backgrounder: Strategic Review Results – Summary." Last modified 4 April 2012. http://defenceteam-equipedeladefense.mil.ca/change-changement/sr-rs/sr-rs-eng.asp#41.

Canada. National Resources Canada. "Offshore Oil and Gas." Last modified 12 December 2013. https://www. nrcan.gc.ca/energy/offshore-oil-gas/5835.

Canada. Statistics Canada. "Imports, exports and trade balance of goods on a balance-of-payments basis, by country or country grouping." Last accessed 11 June 2014. http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/ gblec02a-eng.htm.

Canadian Association of Petroleum Producers. "Newfoundland and Labrador's Offshore Oil and Natural Gas Exploration and Production Industry Contributing to a Strong Provincial Economy." Last accessed 10 June 2014. http://www.capp.ca/GetDoc.aspx?DocID=176807.

Canadian Geographic. "Cabot, cod and the colonists." Last accessed 11 June 2014. http://www.canadiangeographic. ca/magazine/ja97/feature_cabot_trail3.asp.

Centre for Strategic and International Studies. "NATO and Allied Civil-Military Cooperation Doctrine, Operations and Organization of Forces." Last accessed 24 July 2014. http://csis.org/files/media/csis/pubs/090128_nato_civil_military_doctrine_and_ops.pdf.

CIMIC Centre of Excellence. "About Us." Last accessed 02 August 2014. http://www.cimic-coe.org/about-cimic/.

Commander, U.S. Naval Force Central Command. "IMCMEX 13 Military Exercise Concludes." Last modified 23 May 2013. http://www.cusnc.navy.mil/articles/2013/130523%20106.html.

Commander, U.S. Naval Force Central Command. "Lucky Mariner 14-1 begins." Last modified 29 October 2013. http://www.navy.mil/submit/display.asp?story_id=77317.

LGen the Hon. Romeo A. Dallaire, and Krystel Carrier-Sabourin. "Integration: Beyond the inefficiencies of 3-D, 'Whole-of-Government', CIMIC and CMCoord," *Broadsides Forum* (blog), 26 October 2011, http://www.navalreview.ca/2011/10/integration-beyond-the-inefficiencies-of-3-d-whole-of-government-cimic-and-cmcoord-2/.

European Union Naval Force. "EU Comprehensive Approach." Last accessed 02 August 2014. http://eunavfor.eu/eu-comprehensive-approach-links/.

Food and Agriculture Organization of the United Nations. "World Fish Trade to Set New Records." Last modified 21 February 2014. http://www.fao.org/news/story/en/item/214442/icode/.

Gould, Joe. "Civil Affairs: The Army's hottest job is hiring now." Last modified 1 June 2014. http://www.armytimes.com/article/20140601/CAREERS02/306010022/Civil-Affairs-Army-s-hottest-job-hiring-now.

International Chamber of Commerce. "Piracy at sea falls to lowest level in seven years reports IMB." Last modified 17 October 2013. http://www.icc-ccs.org/news/873-piracy-at-sea-falls-to-lowest-level-in-seven-years-reports-imb.

International Chamber of Shipping. "International Shipping: Lifeblood of World Trade" (film). Last accessed 12 June 2014. http://www.ics-shipping.org/ics-film---international-shipping-lifeblood-of-world-trade.

International Maritime Organization. "Brief History of IMO." Last accessed 11 June 2014. http://www.imo.org/ About/HistoryOfIMO/Pages/Default.aspx.

International Maritime Organization. "WFP Logistics Piracy/Naval Escorts." Last accessed 01 June 2014. http://www.imo.org/MediaCentre/HotTopics/piracy/Documents/WFP.pdf.

Joint Interagency Task Force South. "Mission." Last accessed 21 July 2014. http://www.jiatfs.southcom. mil/index.aspx.

Navaltoday.com. "Royal Navy Reservists Safeguard Sea Lanes East of Suez." Last modified 14 May 2014. http://navaltoday.com/2014/05/14/royal-navy-reservists-safeguard-sea-lanes-east-of-suez/.

North Atlantic Treaty Organization. "Alliance Maritime Strategy." Last modified 18 March 2011. http://www.nato.int/cps/en/natolive/official_texts_75615.htm?selectedLocale=en.

North Atlantic Treaty Organization. “Lisbon Summit Declaration 20 Nov 10.” Last accessed 28 June 2014. http://www.nato.int/cps/en/natolive/official_texts_68828.htm?mode=pressrelease.

North Atlantic Treaty Organization. “NATO seminar examines civil-military maritime security challenges.” Last modified 25 May 2012. http://www.nato.int/cps/en/SID-99D7AD19-6A5811E1/natolive/news_88043.htm.

North Atlantic Treaty Organization. NATO Shipping Centre. “Operation Ocean Shield – Guidance and Advice.” Last accessed 2 August 2014. http://www.shipping.nato.int/operations/OS/Pages/Guidance-and-advice.aspx.

North Atlantic Treaty Organization. NATO Shipping Centre. “Operation Active Endeavour – Cooperation.” Last accessed 2 August 2014. http://www.shipping.nato.int/operations/AE/Pages/default.aspx.

North Atlantic Treaty Organization. “Operation Active Endeavour.” Last modified 21 June 2013. http://www.nato.int/cps/en/natolive/topics_7932.htm

North Atlantic Treaty Organization. “Planning Board for Ocean Shipping.” Last accessed 20 July 2014. http://archives.nato.int/planning-board-for-ocean-shipping-2;isaar.

Ridgway, Henry. “Forces Removing Equipment From Afghanistan Keep Eye on Russian Route.” Last modified 30 April 2014. http://www.voanews.com/content/nato-forces-removing-equipment-from-afghanistan-keep-eye-on-russian-route/1904755.html.

The Economist. “The gated globe.” Last modified 10 October 2013. http://www.economist.com/news/leaders/ 21587785-gated-globe?zid=293&ah=e50f636873b42369614615ba3c16df4a.

The Economist. “Plumbing the Depths.” Last modified 4 March 2012. http://www.economist.com/node/15582301.

United Kingdom. Royal Navy. “Roles in the Royal Naval Reserve.” Last accessed 05 June 2014. http://www.royalnavy.mod.uk/The-Fleet/Maritime-Reserves/Royal-Naval-Reserve/Roles-in-RNR; defencejobs.gov.au/navy/jobs/MaritimeTradeOperations.

United Nations Conference on Trade and Development. “UNCTAD Statistics – Statistics at a glance.” Last modified 14 April 2014. http://unctad.org/en/pages/Statistics.aspx.

United States. Commander U.S. Naval Force Central Command. "IMCMEX 13 Military Exercise Concludes." Last modified 23 May 2013. http://www.cusnc.navy.mil/articles/2013/130523%20106.html.

United States. Energy Information Administration. "World Oil Transit Chokepoints." Last modified 22 August 2012. http://www.eia.gov/countries/regions-topics.cfm?fips=wotc&trk=p3.

United States. National Geospatial-Intelligence Agency. "Communications Instructions for U.S. Merchant Ships Part I Naval Cooperation and Guidance for Shipping. Last accessed 23 May 2014. http://msi.nga.mil/MSISiteContent/StaticFiles/NAV_PUBS/RNA/117chapter8.pdf.

United States. National Maritime Intelligence-Integration Office. "What is NMIO." Last accessed 01 August 2014. http://nmio.ise.gov/

United States. United States Navy. "Chief of Naval Operations Completes Around the World Trip." Last modified 22 August 2008. http://www.navy.mil/submit/display.asp?story_id=39291.

United States. U.S. Navy's Military Sealift Command. "Sealift." Last accessed 26 June 2014. http://www.msc.navy.mil/PM5/.

USMM.org. "Merchant Marine and Civilian Mariners in 1990-1991 Persian Gulf War." Last modified 15 September 2003. http://www.usmm.org/gulf1.html.

University of British Columbia. "UBC researchers release estimate of "invisible workforce" in global fisheries." Last modified 11 December 2011. http://www.publicaffairs.ubc.ca/2011/12/20/.

United Nations Contact Group for Piracy off the Coast of Somalia. "About CGPCS." Last accessed 01 August 2014. http://www.thecgpcs.org/about.do;jsessionid=AB4212D9737C3DBA17DF87744E9CF72E?action=background.

World Trade Organization. "Country Profile Canada." Last accessed 10 June 2014. http://stat.wto.org/CountryProfile/WSDBCountryPFView.aspx?Language=S&Country=CA.

World Trade Organization. "10 things the WTO can do." Last accessed 10 June 2014. http://www.wto.org/english/thewto_e/whatis_e/10thi_e/10thi00_e.htm.