
THE BEST OF TIMES, THE WORST OF TIMES: THE GLOBAL MARITIME OUTLOOK 2004

by J. A. BOUTILIER¹

INTRODUCTION

The oceans of the world have gained greater and greater prominence in the post-Cold War era. Globalization has stimulated worldwide trade, most of which moves by sea. Increasingly, major powers like China, India, and Japan have embraced Mahanian visions of seapower, using their navies to project their influence abroad. These same powers have an insatiable appetite for energy and this has spurred the growth of tanker traffic. The export-driven economies of Asia have created a huge demand for containers and container ships, much of it met by the region's burgeoning shipyards. At the same time, the War on Terrorism has acquired a maritime dimension, making every ship and port a potential target. This is particularly true for the megaports of East Asia. Combating the terrorist threat has meant utilizing the full range of maritime agencies and assets. Navies have been drawn more deeply into constabulary work. The counter-terrorist campaign has highlighted the complexity and inadequacy of oceanic regulatory regimes. Furthermore, it has placed a premium on what the practitioners call domain awareness; that is to say the development of a comprehensive picture of everything that moves on the world's oceans. Domain awareness is central to the War on Terrorism not only in the conduct of naval operations but in the provision of maritime and port security. Thus, exploiting the latest technologies to collect, analyze, and manage maritime knowledge has become overarching priority for those engaged in prosecuting the war and dealing with piracy, smuggling, illegal fishing, human trafficking, and the flow of weapons of mass destruction (WMD).

This paper analyzes the global maritime outlook. It provides a snapshot of current conditions and highlights trends. Its primary focus is on the Indo-Pacific region although examples are drawn from elsewhere. The region is demonstrably the world's most dynamic in terms of maritime trade, ship construction, naval growth, competing maritime ambitions, contested oceanic claims, and terrorist activity. Six broad themes will be addressed: information, technology, theatres of operation, regulatory regimes, maritime roles and the growth of navies and merchant fleets. These themes are inter-related in complex ways with ship owners, naval captains, international lawyers, information technicians and a host of other marine interests contributing, in aggregate, to the global maritime outlook. When we review their activities and set them in an oceanic context we

¹ The views expressed in this article are those of the author, and do not reflect the official policy of Canada's Department of National Defence.

can only conclude, as Dickens once did, that this is the best of times and the worst of times in the oceans of the world.

GROWTH

The first thing that strikes us when we look at the Indo-Pacific region is the phenomenon of growth; growth set over and against the vital role that maritime commerce plays in facilitating the global economy. The statistics are both telling and impressive. Seaborne trade has doubled every decade since 1945 and shipbuilding tonnage worldwide has doubled since 1990. Roughly 5.7 billion tons of cargo are shipped annually in 93,000 merchant vessels bound for 8,200 ports.² The world's largest trading nation, the United States, exports and imports about one fourth of global merchandise, by volume, each year. This amounted to \$USD 2 trillion in 2000. The largest part of that trade – over 1.2 billion metric tons – moved by sea. Projections suggest that US foreign trade may grow to four times its present value and almost double its current tonnage by 2020.³

When we turn to worldwide energy flows – with much of the demand originating out of East Asia – we see that the future order book for tankers is “exceptionally strong” with shipyard availability “severely limited” until 2006.⁴ The demand for tankers is the result of two factors. First, seaborne oil movements have increased by an average of 2.3 percent per year since 1990. China accounts for much of this sustained growth. The People's Republic became a net importer of oil in 1993. China's crude oil demand in 1990 was 2.3 million barrels per day (bpd). By 2000, it was 4.6 million bpd.⁵ With China's crude oil imports expected to treble over the next decade, the shipping routes or Sea Lines of Communication (SLOCs) from East Asia via the South China Sea, the Straits of Malacca, and the Indian Ocean to the oil-rich Gulf states are becoming increasingly important, commercially and geo-strategically.⁶ Second, following the loss of the tanker *Erika* in December 1999, the International Maritime Organization (IMO) reacted to demands for the revision of the MARPOL Convention, including the accelerated withdrawal of single-hulled tankers. This decision was reinforced by the break-up and sinking of the *Prestige* off the Iberian peninsula in November 2002.⁷

East Asian trade has increased “nearly twice as fast as world trade in general [over the past 20 years] and has already surpassed that of North America.”⁸ Asia controls and

² http://www.aapa-ports.org/pdf/rankworld_01.pdf; US Department of Transportation, “Maritime Trade and Transportation 2002”, Washington, DC, 2002. Full text found at http://www.bts.gov/publications/maritime_trade_and_transportation/2002/pdf/entire.pdf; http://www.unctad.org/en/docs/rmt_2003_annexes_en.pdf

³ http://www.trans-inst.org/irid_Profile.html.

⁴ Peter Swift, “Structural Transformation and Changes in the Tanker Trade”. Paper presented at the Second Asia Maritime and Logistics Conference, 2003, p.2.

⁵ Peter Rimmer, “commercial Shipping Patterns in the Asia Pacific Region: The Rise and Rise of China,” in *The Strategic Importance of Seaborne Trade and Shipping*, edited by Andrew Forbes, RAN Sea Power Centre, 2003, p. 35.

⁶ James Boutilier, “Reflections on the New Indo-Pacific Maritime and Naval Environment,” unpublished manuscript held by the author, 2004, p. 2.

⁷ Swift, p. 3.

⁸ Seo Hang Lee, “Security of East Asian SLOCs and the Role of Navies” in Forbes, p. 176.

operates over 40 percent of the global commercial fleet while over one quarter of the world's trade and half of its oil and LNG pass through the Straits of Malacca everyday.⁹ China is expected to be the "greatest single factor influencing the world's shipping industry over the next two decades."¹⁰ China's maritime economy grew 17 percent per year in the 1980s and 20 percent per year in the 1990s. China contributes to two major trade flows: trans-Pacific and intra-Asian. Asian shipping companies announced recently that they expect to carry between 10 and 12 percent more cargo from Asia to the United States in 2004 than forecasted earlier.¹¹ Container traffic was up 16 percent from China to the port of Vancouver in the first six months of 2003 and overall trade between these two destinations more than doubled from 1999 to 2002 (1,588,000 metric tons to 3,569,000 metric tons).¹² That said, intra-Asian trade is growing more quickly than trans-Pacific trade. In 2003, for example, South Korea's trade with China surpassed its trade with the United States for the first time. Indeed, more and more Asian states are re-orienting their trade flows towards

China. This phenomenon reflects the power and attractiveness of the China market, the general recovery of East Asian economies in the period after 1997, and the emergence of trade facilitation agreements between China and Southeast Asian states.¹³

Regional statistics underscore this demand. Japan's ship exports doubled in 2003 to a post-war high, with almost 600 ships being exported from Japanese yards. The boom is attributed to the dramatic growth in China with shippers scrambling to keep pace with China's voracious appetite for imported grain, wheat, iron ore, oil, and cement.¹⁴ While these are bulk cargoes, container ships carry an increasing proportion of Asian trade. The production of freight containers in 2003 reached 1.6 million TEUs (twenty-foot equivalent units), an increase of 25 percent over the previous year.¹⁵ Dry freight containers constituted the bulk of this production and made up 80 percent of the total, China dominated container production with 87 percent of the market share.¹⁶ Similarly, UNCTAD figures reveal that while the global tanker fleet increased by 6.6 percent in 2003, the container fleet outpaced it, increasing by 7.4 percent.¹⁷ When one looks more carefully at these figures we see that the trend is not so much toward more container ships but to bigger ones. Vessels with a capability in excess of 3000 TEUs made up 67 percent of the total deliveries in 2002. More significantly, vessels with that capacity made up 79.8 percent of the ships on the order book.¹⁸ The growth in the number of containers and the number of container ships is reflected in regional statistics. Shanghai, for example, is

⁹ Anon., "US Warns Against Attacks on Commercial Vessels", *Reuters*, 31 March 2004.

¹⁰ Andy Mukherjee, "China: Gold Mine or Minefield," *International Herald Tribune*, Wednesday, 28 January 2004, p. B2.

¹¹ Tan-Hwee Ann, "Shippers Raise Forecast for Cargo," *International Herald Tribune*, Wednesday, 28 January 2004, p. B3.

¹² Bruce Constantineau, "China Trade Boosts Shipping," *Vancouver Sun*, Friday 21 November 2003, p. G1.

¹³ Boutilier, p. 2.

¹⁴ Anon., "A Buoyant Time for Shipbuilders," *Asahi Shimbun*, 03 March 2004.

¹⁵ United Nations Conference on Trade and Development, (UNCTAD), "Review of Maritime Transport, 2003", United Nations Publications, New York, 2003, p. 3.

¹⁶ *Ibid.*

¹⁷ *Ibid.*, p. 2.

¹⁸ Andrew Forbes, "Maritime Security in East Asia". Paper presented at the 14th International SLOC Conference, Honolulu, 18 – 20 January 2004.

now the world's third-largest container port and the fourth-largest port in the world.¹⁹ Association of Southeast Asian Nations' reports tell a similar story with ASEAN container traffic rising from 26,307,000 TEUs in 1997 to a projected 68,100,000 in 2010.²⁰

If mercantile activity, global and more especially in the Indo-Pacific region, has been impressive, naval growth has been equally dramatic in the same region. This contrasts with a marked decline in three of the world's major navies, although the third, the Chinese Navy, must be treated as somewhat of an exception. In 1987, as dreams of a 600-ship navy were fading, the United States Navy stood at 376 major surface (and subsurface) combatants (for a total tonnage of 4,782,500). Ballistic and attack submarines constituted 139 of the 376 vessels. By 2003, the figures had declined to 200 (73 ballistic and attack submarines) and 2,643,000 tons. The really significant losses were among the mid-sized combatants, destroyers (down from 69 to 55) and the workhorses of the fleet, the frigates (down from 115 to 32).

It could be argued that the Russian Navy was, or is a very special case. The navy's decline is sobering in the extreme. In 1985, the Soviets had 506 ships with an overall displacement of 4,871,100. By 2000, the figures stood at 124 and 1,198,850. Destroyer numbers fell from 74 to 26. That said, President Putin seems intent on rebuilding the Russian Navy and the Navy adopted a master plan in 1998 for the "long term development of its maritime potential."²¹ The objective is "the transformation of the country back into a leading naval power."²² In pursuit of that goal, the Russians deployed about ten warships from the Pacific and Black Sea fleets to the Indian Ocean in April through June 2003. This was the largest out of area deployment in more than a decade; a Herculean and exhausting effort in view of the beleaguered condition of the Russian Navy, but a harbinger of things to come. The figures tell a somewhat different story when it comes to the People's Liberation Army Navy (PLAN). The PLAN had 163 submarines, destroyers and frigates (the only major combatants in the Chinese Navy) in 1985, amounting to 317, 910 tons. By 2000, the figures stood at 123 and 311,905 tons. Significantly, the number of submarines was down from 117 to 66 while the frigates and destroyers were up by about 16 percent (31 to 36) and 25 percent (15 to 21), respectively. What this bold picture does not reveal is the move toward more sophisticated conventional (Russian Kilos) and nuclear (indigenously designed and constructed) boats. Similarly, while the command and control elements in the latest Chinese mid-sized surface combatants are considered, in some quarters, to be old-fashioned, the newest destroyers and frigates (supplemented by a growing number of powerful Russian Sovremennys) exhibit an increasing array of innovations and capability.²³

¹⁹ Anon., "Foreign Capital Welcomed in Port Construction Project," *China Daily*, 26 February 2004.

²⁰ H.R. Vitasa and Nararya Soeprapto, "Maritime Sector Developments in ASEAN", Paper presented in the Maritime Policy Seminar organized by UNCTAD, Jakarta, 11 – 13 October 1999, p. 7.

²¹ Sam Bateman, "More Spending on Regional Sea Power," *Asia Pacific Defence Reporter*, December 2003, p. 20.

²² *Ibid.*

²³ Haze Gray and Underway: World Navies by Andres Toppan. <http://www.hazegray.org/worldnav>; Federation of American Scientists: <http://fas.org/man/dod-101/sys/ship/row> ; Defence Daily Network: <http://www.defencedaily.com/reports/gonavy.htm>.

Although the USN has suffered from profound budgetary disarmament over the past fifteen years, the US Defense Budget for Fiscal Year 2005 foresees the maintenance of a 300 ship navy (all classes), the allocation of almost half a billion dollars for advanced propulsion systems, and the commencement of work on the Littoral Combat Ship (considered below in the section on technology).²⁴ Despite its straitened circumstances and almost punitive operational tempo, the USN will remain the world's premier navy for the foreseeable future.

Growth is the keyword when it comes to Asia Pacific navies. According to Kerr, Asian Pacific governments are likely to be spending \$USD 14 billion annually by 2009 on new naval vessels, while Europe will be cutting its \$USD 13 billion naval construction expenditure by up to 25 percent during the same period.²⁵ Bateman is less than sanguine about these developments. "Prior to 11 September 2001," he writes, "the maritime security outlook in the [Indo-Pacific] region was reasonably positive but since then it has turned largely negative."²⁶ He ascribes the "general atmosphere of maritime insecurity" to "higher levels of naval activity, increased naval spending and responses to the threat of maritime terrorism". Further, he suggests that "increased naval activity ... could initiate a naval arms race."²⁷ At least two major trends underlie the growth in regional naval power. The first is the increase in the number of submarines. The second is the increasing size of surface combatants. Everywhere one looks, one finds Indo-Pacific nations adding to their stock of conventional and nuclear submarines; a process fostered by aggressive European and Russian arms sales. In February 2004, the Indian Navy and the French shipbuilder DCN concluded negotiations whereby the former will acquire six Scorpene conventional submarines for \$USD 3 billion.²⁸ At the same time the Republic of Singapore was taking delivery of the last two ex-Royal Swedish Navy Sjoormen-class submarines (RSS *Challenger* and RSS *Centurion*).²⁹ The Chinese are reported to be acquiring a further eight Kilo-class submarines from Russia, while the Collins-class have now become fully operational in Australia and the Malaysians and even the Bangladeshis are looking to add submarine capability. According to Bateman, "the number of submarines in East Asia has increased from about 100 to approximately 140 over the past seven years or so ... Over the next decade," he concludes, "as many as 50 additional submarines may enter service in the region."³⁰

The second area of growth is big surface ships. The jewel in the crown, in this regard, is the 44,500-ton Russian aircraft carrier (more precisely, Kiev-class aviation cruiser), which the Indian Navy has just acquired for \$USD 652 million after nearly a decade of

²⁴ <http://www.defenselink.mil/news/Feb2004/040202-D-65TDS-001.pdf>.

²⁵ Julian Kerr, "IMDEX – Details Emerge of New Singapore Frigates," *Asia-Pacific Defence Reporter*, December 2003, p. 28.

²⁶ Bateman, p. 18.

²⁷ *Ibid*, p. 18.

²⁸ Held by the author.

²⁹ Richard Scott, "Submarines Depart for Singapore," *Jane's Defence Weekly*, 28 January 2004, p. 8. The RSN had already taken delivery of RSS *Conqueror* and RSS *Chieftain*. A fifth boat was shipped from Sweden to be used as a source of spares.

³⁰ Bateman, p. 22.

negotiations. As Admiral Madhvendra Singh, the head of India's Navy, observed, "Once we get [the *Admiral*] *Gorshkov* with the MiG-29s we will be in a totally different league."³¹ While New Delhi is waiting for *Gorshkov*'s refit to be completed in 2008, it is pressing ahead with the construction of two Air Defence Ships, the first of which is scheduled to enter service in 2011 and the second in 2016 – 2017.³² These ships, at 37,500 tons, are second only to the new carriers that the Royal Navy is hoping to construct. The carrier club is an elite one. Even the Americans have reduced the number of their carriers from 14 in 1987 to 12 in 1998. The French and a handful of other nations have carriers but the cost of operating these major weapons systems with their embarked airwings suggests that they are a class of ship facing extinction in the mid-term save for three or four navies.

Elsewhere in Asia, regional navies are going upmarket, building or acquiring more powerful naval vessels. The Royal Australian Navy is looking at Air Warfare Destroyers displacing "at least 6000 tons"³³ and two 20,000-ton amphibious warfare ships.³⁴ The Republic of Singapore Navy is moving from missile corvettes to 3,200-ton frigates based on the French Lafayette design.³⁵ The Japanese have ordered two large helicopter "destroyers" that will reportedly displace nearly 20,000 tons when fully loaded. These warships will be the largest vessels in the Japanese Maritime Self-Defense Force (JMSDF). Across the Pacific, the Canadian Department of National Defence has announced that the Canadian Navy will be getting three major Joint Support Ships to replace two aging AORs and even tiny Brunei has trading up with its three Nakhoda Ragam-class, 1,940-ton frigates.³⁶ Malaysia has done the same thing with its MEKO A 100-class building programme, while the Taiwanese are still bent on acquiring four 9,000-ton Kidd-class destroyers (albeit with reduced missile suites) and the South Koreans are committed to building three, 7,000-ton Aegis-equipped KDX III destroyers.

MARITIME THEATRES OF OPERATION

A central feature of the maritime outlook is the shift of naval operations from the deep seas to the shore. A corollary of this transition from blue water to coastal or littoral theatres of operation is the way in which the distinction between the sea and the land has become blurred as naval power is projected farther inland than ever before and land-based weapons systems are being directed against warships offshore.

Littoral operations are particularly demanding and dangerous. Shallow water approaches constitute complex and confusing anti-submarine warfare environments at the very time when more and more conventional submarines (many of them equipped with anti-ship cruise missiles, or ASCMs) are putting to sea in the Indo-pacific region. Asian coastal

³¹ Julian Kerr, "Indian Carrier Deal," *Asia-Pacific Defence Reporter*, January 2004, p. 6.

³² *Ibid.*, p. 6.

³³ Peter La Franchi, "AAW Destroyer to be 'Jewel in RAN's Crown'", *Jane's Navy International*, January/February 2004, p. 34.

³⁴ Peter La Franchi, "Rebuilding the RAN for High-Tempo Ops," *Jane's Navy International*, January/February 2004, p. 26.

³⁵ Kerr, "IMDEX", p. 28.

³⁶ Bateman, p. 20.

waters are extremely crowded by global standards, with a multitude of small craft plying back and forth, fishing, carrying passengers, transporting cargoes, or undertaking other forms of commerce. In essence, these craft amount to an enormous shell game in an age of maritime terrorism. Which of the hundreds of vessels that cross the Straits of Hormuz every day, for example, are carrying Al Qaeda terrorists or are functioning as suicide vessels?

Coastal operations also imply jurisdictional and navigational constraints. Royal Australian Navy vessels undertaking Maritime Interdiction Operations (MIO) on behalf of the United Nations at the northern end of the Arabian Gulf had constantly to be aware of the possibility that they would lose their quarry when small tankers, loaded with illicit Iraqi oil, made a dash for the safety of Iranian territorial waters. In other instances, the application of UN Convention Law of the Sea baselines gave rise to operational uncertainties. Was a vessel standing into territorial waters or not? All this at a time when mines, fast patrol boats fitted out innovatively with multiple rocket launchers, and shore-based weapons (ranging from tanks to conventional missiles) make littoral operations particularly dangerous.

The shift landward implies other things as well. Should navies look more closely at utilizing purpose-built vessels like the fast, light Littoral Combat Ship, or LCS, much discussed in the USN? Should navies alter their weapons mix to include more amphibious capability? If warfare in the approaches to Asia or Africa is likely to be the wave of the future, do navies have to develop new techniques like boarding compliant and non-compliant vessels or undertaking work akin to traditional Coast Guard activities?

There is yet another set of circumstances, a countervailing force if you will, working at odds with the expeditionary deployments that have taken many of the world's navies to distant theatres of operation. Little did the authors of the United States Navy's seminal doctrines, "From the Sea" (September 1992) and "Forward From the Sea" (November 1994) realize how profoundly the events of 11 September would affect their vision of the USN operating in foreign littorals.³⁷ Homeland defence is the order of the day in the United States now and, to a lesser degree in a variety of "Western" nations ranging from Canada to Singapore. Homeland defence, by its various names, raises a series of vexing questions. Foremost amongst them is what should the balance be between overseas deployments and coastal/ port defence in domestic waters. Paradoxically, "From the Sea" has come to mean, in practice, pressure on navies to focus, not on remote coasts, but on their own maritime approaches.

MARITIME ROLES

An equally challenging question in this new domestic security environment is who should do what? The answer is comparatively straightforward in the American case (although the Byzantine complexities of inter and intra-agencies orchestration should not be underestimated for a moment). The US Coast Guard is a full-blown maritime force

³⁷ Boutilier, p. 7.

operating armed vessels at home, and, occasionally, abroad. Clearly, it is the first line of defence in terms of ensuring the maritime integrity of the United States. The Canadian Coast Guard, by way of comparison, is a unionized merchant service that eschews the use of weapons and contents itself with monitoring and reporting. For the moment, at least, the Australians have no coast guard at all. Anecdotal evidence suggests that a number of navies are concerned that they may be drawn more deeply into coastal defence at the expense of their traditional naval warfighting capabilities. As Admiral Gregory Johnson, the Commander of US Naval Forces in Europe observed recently, “we have to develop a much more robust security regime in the maritime dimension.” Further, he noted that “maritime security is a weak link in the United States-led War on Terror that extremists will exploit if action is not taken.”³⁸ In view of the absence or perceived inadequacy of coast guards, the suggestion seems certain to be raised, “why not let the Navy do it.”

In some respects this suggestion is not as wide of the mark as it may appear. Increasingly, navies appear to be moving toward the constabulary side of Booth’s famous triangle of naval power. That triangle captured the traditional roles of navies: warfighting, diplomatic, and constabulary. It could be argued that the boardings associated with MIO operations in the Arabian Gulf and Leadership Interdiction Operations (LIO) in the Arabian Sea (intended to ferret out Al Qaeda and Taliban personnel fleeing westward from the Pakistani or Irani coasts) were essentially constabulary operations. The utilization of eight warships in the Mediterranean (Operation Active Endeavour) to track cargo flows and stem illegal migration falls into the same category.³⁹ Similar arguments could be made with respect to Singaporean, Malaysian and Indonesian anti-piracy patrols in the Straits of Malacca, long-range fishery patrols in the Southern Ocean by the Royal Australian Navy, and anti-poaching operations against Portuguese fishermen off the Grand Banks of Newfoundland by the Canadian Navy.

These activities should not obscure the fact that more and more Indo-Pacific states are standing up coast guards. Indeed, as Bateman has suggested, “coast guards are a growth industry” in the region.⁴⁰ Coast guards are cheaper and less provocative than navies. Thus, the Japanese Coast Guard is a much more acceptable force in the war on piracy in Southeast Asia than the Japanese Maritime Self Defence Force, freighted as the latter is with history. Coast guards perform a wide array of tasks, monitoring maritime pollution, conducting search and rescue, and providing aids to navigation. While these are essential tasks, coast guards often lack the power or the legal authority to address major threats to national security; hence the blurring of distinctions between naval and coast guard roles in an increasing number of instances.

INFORMATION

It is conventional wisdom that we live in a knowledge age; that the management of information is the key to power and success. In many ways the oceans of the world are an

³⁸ *Straits Times*, 10 March 2004. <http://straitstimes.asia1.com.sg>.

³⁹ *Ibid.*

⁴⁰ Sam Bateman, “Coast Guards: New Forces for Regional Order and Security”, *Asia Pacific Issues*, East-West Centre (report), No. 65, January 2003, p. 1.

informational *Arabia deserta*. But this is less and less the case as a consequence of two interlocking phenomena – the evolution of netcentric warfare and the demands of post-9/11 security. Netcentric warfare is predicated on the concept of a system of systems. At first glance this may seem tautological, but, in fact, it means orchestrating systems to maximize their power and effectiveness through synergy. Thus, spy satellite systems need to be linked to fleets of unmanned aerial vehicles and the results of the two coordinated and relayed to warships operating below. They, in turn should be able to share all or part of their findings with other ships in the task force and elements ashore right down, in theory, to the laptop-equipped private.⁴¹ The totality of the information flows should generate sophisticated comprehensive, and precise domain awareness. In short, netcentric warfare should enable commanders to resolve the age-old battlefield conundrum, namely, what is happening on the other side of the hill. Few better examples exist than the domain awareness that prevailed during naval operations against the Taliban and Al Qaeda in the Arabian Sea and Straits of Hormuz. The naval ‘plot’ or regional picture was densely populated with ‘contacts’. These ranged from very large container ships plying between Mumbai and the Red Sea, small tankers outbound from Kuwait, Arab dhows, tramp steamers and hundreds of so-called ‘go-fasts’. Go-fasts were usually small aluminum boats powered by three or four 90-horse-power outboard motors. They swarmed across the ocean between the Pakistani and Iranian coasts and the coastal states of the Arabian peninsula carrying migrant labourers, television sets, cigarettes, liquor, drugs, passengers and, occasionally, terrorists. Coalition warships were obliged to track upwards of 6000 contacts per day. But which of the vessels in this puzzle palace should they go after? And which might be loaded with explosives seeking to replicate the attack on the USS *Cole*.⁴²

Interoperability lies at the heart of netcentric operations. At its simplest, the communications systems on warships must be congruent; they must be able to talk to one another. This is easier said than done and one of the biggest financial and technological challenges facing second and third tier navies round the world is remaining interoperable with the United States Navy. Conventional wisdom suggests that if your communications systems are not kept up to date for six months you will be severely hampered. If they are not kept up to date for a year you will be out of the game. For the moment, at least, the USN has displayed no interest in stepping short on technological innovation. Instead, they seem quite prepared to face the consequences of disenfranchising many of their coalition partners who have not had the foresight or capability to sustain the requisite levels of interoperability.

Interoperability, of course, is not merely a matter of compatible hardware. Rather, it encompasses congruent procedures and a willingness to share information. This can be a

⁴¹ As Rear-Admiral Raydon Gates, Australia’s Maritime Commander, has noted, “I need to start getting the [Australian] Army particularly involved in amphibious operations in this network-centric mentality of constant information, immediate information.” La Franchi, “Rebuilding the RAN”, p. 31.

⁴² In April 2004, Lockheed Martin inaugurated a new, 46,000 square-foot \$USD 9.4 million, Maritime Domain Awareness Centre in Moorestown, New Jersey. The Centre has a 16,000 square-foot laboratory “to support work on systems that electronically link ships, aircraft and shore stations and create a common “picture” of large operational areas.” Anon., “Lockheed Martin to Inaugurate Deepwater Center”, *Homeland Security and Defence*, 21 April 2004, p. 2.

challenge for navies working with the USN since the latter embraces rigorous protocols that limit the sharing of intelligence. Certain navies enjoy privileged access to most if not all of the vast reservoir of US intelligence and find themselves cast in middleman roles forwarding elements of that intelligence through less sophisticated communications links to “junior” coalition warships.

Post-9/11 security has given rise to a vast number of initiatives aimed at enhancing awareness of maritime activities in coastal approaches. The Americans, for example, want to know what ships are approaching their shores, what are those vessels carrying, what ports are they destined for, which vessels need particular scrutiny, which vessels are engaged in operations that defy logic in commercial terms, and so forth. With a certain amount of hyperbole and journalistic flourish, William Langewiesche described the high seas as a “domain increasingly beyond government control, vast and wild, where laws of nations mean little and where the resilient pathogens of piracy and terrorism flourish.”⁴³ How to make sense out of all this? How to achieve what is known as the “recognized maritime picture”? Whereas an elaborate global air traffic system keeps track of the tens of thousands of air movements that take place every day around the world, no comparable comprehensive tracking and intelligence system prevails at sea. But the trend is in that direction; to “wire” ships so that their location, course, speed, cargo, registration, port of departure, and port and time of arrival can be tracked with precision. The same approach is being applied to individual containers. On the one hand, containers have greatly facilitated maritime commerce, ensuring, to a large degree, the integrity of cargoes and standardizing port procedures worldwide. By the same token, however, containers have rendered the process less transparent. What weapons of mass destruction or related components, for example, have made their way out of North Korea bound for Pakistan and the Middle East, their passage rendered invisible by lowly containers? And even if that were not a sufficient problem, in and of itself, how are the authorities to know what is in each of the 5.7 million containers that arrive in 301 US ports each year? As it is, only between 1.5 and 3 percent of the containers are subject to reasonably close surveillance as they enter the continental distribution network.

In many cases the information is readily available but it is locked away on what the business school culture calls silos or stovepipes, institutional frameworks that distribute critical information vertically but not horizontally. What is happening, in fact, in the aftermath of 9/11 is the globalization of information flows. Efforts are being made to breakdown institutional barriers, to share information germane to maritime and riverine security, and to harmonize activities across agency or ministerial boundaries. Thus domain awareness is being achieved in domestic waters that rivals the recognized maritime picture in the Arabian Gulf and Arabian Sea during the War on Terror. Information from coast guard sources, customs, immigration, coastal radar systems, intelligence services, long range naval surveillance flights, the shipping industry, port authorities, and law enforcement agencies is being “fused” to provide a basis for timely and informed action.⁴⁴ Or at least that is the theory. Some ships change their registries or

⁴³ William Langewiesche, “Anarchy at Sea”, *The Atlantic Monthly*, September 2003, p. 50.

⁴⁴ It was announced in March 2004 that Mr. Peter Ho, the Singaporean permanent secretary of defence, would head an interagency team, including Foreign Affairs, Home Affairs, Transport, the Republic of

travel in silence so that they leave no electronic intelligence spoor. Others have dubious or misleading manifests. Whatever the case, a new war is being waged at sea, the informational war; a war destined to become more and more intrusive and comprehensive.

TECHNOLOGY

Rear-Admiral Radon Gates, the Australian Maritime Commander, summed it all up when he said that he was “constantly looking for bandwidth.”⁴⁵ Bandwidth is the key to netcentric warfare. Commanders are constantly in search of “pipes” big enough to handle all the information flowing in and out of the command and control centers on their warships. But bandwidth is only part of the realm of maritime technological innovation. The International Maritime Organization (IMO) has made it mandatory for all ocean-going vessels of 300 gross tons or more to be equipped with an automatic identification system, or AIS, by the end of 2004. “This device forms part of a ship-and-shore-based broadcast network operating in the VHF (very high-frequency) maritime band. The AIS automatically sends and receives ship information such as identity, position, course, speed, ship particulars and cargo information to and from other ships, suitably-equipped aircraft and the shore. Precise time and positional information is integrated via satellite.”⁴⁶ Furthermore, the IMO is looking to develop, in conjunction with INMARSAT C’s global positioning system, “a plan for long-range identification and tracking of ships”; an initiative that it hopes participating states will endorse by December 2004.⁴⁷

One of the more eye-catching applications of technology is the proposed LCS or Littoral Combat Ship. The LCS has been the subject of a variety of iterations – DD(X), CG(X) and Streetfighter – as the USN inches hesitantly toward a decision to build. As envisioned, the LCS is intended to be “Small, fast, and agile ... optimized to operate in the complex geography of coastal warfare.”⁴⁸ Expected to be less than 3000 tons, the LCS will possibly be a catamaran design made of composite materials and capable of being modularized with “plug and play” components. A particularly important feature of this 40 to 50 knot craft is the fact that it will have a core crew of 50 (although planners are contemplating 15), down more than 100 percent from contemporary warships of her displacement. Indeed, a worldwide trend is to abandon many traditional naval building specifications and move toward the less demanding expectations “of the trade” while exploiting automation, redundancy, and information systems to achieve significant cost savings by reducing crew sizes dramatically.

Singapore Navy, the Police Coast Guard and the Maritime and Port Authority to address the question of maritime security. Goh Chin Lian, “High-level Task Force to Boost Maritime Security”, *The Straits Times*, 03 May 2004. <http://straitstimes.asia1.com.sg>.

⁴⁵ La Franchi, “Rebuilding the RAN”, p. 31.

⁴⁶ Michael Richardson, “Maritime Plan Aims to Make the Region’s Waters Secure,” *The Straits Times*, 26 April 2004, p. 2.

⁴⁷ *Ibid.*

⁴⁸ John Dikkenberg, “The LCS: No Shortage of Challenges,” *Asia Pacific Defence Reporter*, March/ April 2004, p. 22.

Air Independent Propulsion for conventional submarines, railguns, new electric propulsion systems, electronic charting, double hulls, advanced missile systems, container tagging, biometric identification cards for seafarers, UAVs, miniature robotic minehunters, radiation monitors in ports and a host of other technological achievements are transforming the maritime environment for merchant vessels and warships.

REGULATORY REGIMES

There are some curious paradoxes associated with the addition (or perhaps more precisely the greatly enhanced prominence) of maritime terrorism to the conventional roster of threats and criminal activities at sea – piracy, armed robbery, hijacking, drug trafficking, illegal migration and fisheries violations. Whereas during the twentieth century huge efforts were devoted to protecting merchant ships from attack, we are faced with the challenge of protecting ourselves from ships. In an age now of maritime terrorism vessels and/ or their crews have become potential weapons although some would argue that the real threat does not derive from the detonation of explosives-filled freighters in crowded waterways but from relatively primitive attacks on the computer ganglia that animate the world's megaports.

The second paradox is that while piracy captures the public imagination (currently the incidence of piratical/ armed robbery attacks in Southeast Asian waters, the “ground zero” of global piracy, and the level of personal violence associated with those attacks is rising)⁴⁹ and is a major source of concern to ship owners, crews, and shippers, it is maritime terrorism that constitutes the greatest source of threat and concern to the maritime community. Why is this a paradox? For the simple reason that while maritime terrorism has only effected a handful of vessels like the USS *Cole* and the M.V. *Limburg* its impact has been infinitely greater in terms of counterterrorist measures that piracy that effects upwards of one to two hundred times as many vessels every year.

Recently the maritime community has been the subject of a spate of regulatory initiatives designed to fill gaps in the law, strengthen relevant national and international legal instruments, and encourage cooperation by like-minded states in the War on Terrorism. Many of these initiatives have originated out of and been driven by the United States. In broad terms the Americans have been subject to a good deal of criticism on the grounds that their initiatives endanger the sovereignty of participating nations and that the initiatives themselves are predicated on weak or inadequate legal precedents. While these criticisms have some validity they are, all too frequently, the product of a fashionable and triumphalist anti-Americanism. Many have maintained that the Americans are moving too quickly and that the initiatives are the product of Washington's penchant for unilateralism. However, as Naim has pointed out, speed (and the speed of implementation is, in fact, pretty slow) is of the essence; that the West, with its dinosaurian bureaucratic responses, will never win against the terrorists and the drug traffickers who are quicker,

⁴⁹ International Maritime Bureau, “Piracy and Armed Robbery Against Ships 2003”, p. 16. Indonesia recorded the highest number of attacks, 121 out of a worldwide total of 445 (up from 370 in 2002). Twenty-one seafarers were killed in 2003 compared with 1010 the year before.

more innovative, and more audacious.⁵⁰ As for unilateralism, the methods of initiation were unilateralist but the audience is distinctly multilateralist. In many instances, the Americans are trying to prod, badger or cajole nations round the world to be more active in combating maritime terrorism and crime by drawing upon existing legal vehicles. Unfortunately, as Mak has pointed out, not one of the ASEAN states is a signatory to the SUA (Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation). Even if they were, the real problem is not ratification but enforcement.⁵¹ Inadequate enforcement capability, cultures of denial, and a paucity of political will fatally compromise the vitality of many maritime conventions.

Compounding these phenomena is the woeful – not to say – criminal inadequacy of the Flags of Convenience system which sees countries like Liberia and Panama being joined by Bolivia and Tuvalu in the provision of ship registrations. Stephen Flynn, the security advisor of the Council on Foreign Relations and a former US Coast Guard commander, has described the system as “managed anarchy.”⁵² The International Transport Workers Federation (ITF) is equally muscular in its scathing indictment of FOCs and the FOC culture which, quite apart from condoning poor safety, pay and training standards, frequently permits hijackers to escape detection by re-registering ships at sea for a nominal fee and serving as a layer of obfuscation in the search for the culpable.⁵³

Three initiatives stand out: the Container Security Initiative (CSI), the Proliferation Security Initiative (PSI), and the Regional Maritime Security Initiative (RMSI). The first of these, the CSI, is intended to strike the maritime terrorist threat at its point of origin; that is to say, in those ports where containers are being filled and embarked on their way to US ports like Long Beach or Baltimore. The object was twofold: to shift much of the inspection burden onto port personnel (frequently supplemented by US Customs officials) in designated foreign countries and to keep potential threats at arms length. The CSI requires detailed manifests, crew lists (and individual documentation), and navigational intentions 24 hours before the US-destined vessel is leaving its Asian port.

The proximate origins of the PSI are the subject of some debate. Conventional wisdom has it that the PSI grew out of the inability of the Americans to seize 15 Scud missiles being carried clandestinely to Yemen on a North Korean freighter, the *So San*, in December 2002. Whatever the case, the PSI reflects Washington’s growing concern about the way in which global non-proliferation regimes are unraveling. North Korea’s failure to honour the 1994 Agreed Framework (which would have seen Pyongyang freeze and terminate its weapons of mass destruction [nuclear weapons] programme in return for two light water reactors for power generation) and revelations that Iran deceived the International Atomic Energy Agency (IAEA) for 18 years about Tehran’s nuclear

⁵⁰ Moises Naim, “The Five Wars of Globalization,” *Foreign Policy*, January 2003, p. 5.

⁵¹ J N Mak, “Piracy in Southeast Asia: Priorities: Perspectives and the Hierarchy of Interests”. Paper presented at a conference on maritime security in East Asia, Honolulu, January 2004, p. 3. One of Mak’s conclusions was that “securing national ocean space against pirates is not a priority for all the ASEAN members” despite the disturbingly high levels of piracy in the ASEAN region.

⁵² Anon., “Brassed Off”, *The Economist*, 16 May 2002.

⁵³ ITF, “A Brief Guide to Flags of Convenience,” *Global Policy Forum*, (ca 2004), p. 1.

programme argued powerfully for the ability to interdict vessels on the high seas suspected of carrying WMDs or related components and materials. The challenge, of course, was how to find some legal justification for boarding ships on the high seas, the last untrammelled zone for seagoing commerce. The American solution, leaving other legal arguments (self-defence through pre-emption, etc.) aside was to broker deals with FOCs like Liberia (February 2004) and Panama (May 2004) whereby Washington acquired prior authorization to board, inspect, and detain. These two deals together mean that almost 50 percent of global commercial shipping is subject to search and seizure by the US Navy.⁵⁴ While such an arrangement gives access to a significant proportion of the world's merchant fleets, it leaves thousands of vessels (save those that are proceeding in a "stateless" condition without any national flag on display, like the *So San*) largely beyond the reach of the law.⁵⁵

The latest security initiative originates out of the US Pacific Command. The Regional Maritime Security Initiative (RMSI), according to Admiral Thomas Fargo, the Regional Combatant Commander for US forces in the Indo-Pacific region, is intended to "forge a partnership of nations willing to identify and intercept 'transnational maritime threats under existing international and domestic laws.'"⁵⁶ What Fargo envisages is participating states forwarding maritime data to PACOM so that a recognized maritime picture can be obtained; a picture which would greatly enhance response options. Unfortunately, while he was quick to emphasize that RMSI would not interfere with national sovereignty and would, instead, "empower each nation to take action it deems necessary to protect itself on its own waters, thereby enhancing our collective security",⁵⁷ it has been widely criticized on sovereignty grounds.

CONCLUSION

The title of this paper was derived from the first sentence in Charles Dickens's Tale of Two Cities. It draws the reader's attention to a paradoxical state of affairs, that it is the best of times and the worst of times. The same could, no doubt, be said for the global maritime outlook in 2004. On the one hand, we have burgeoning regional trade. The number of tankers and container ships is up. Container traffic is booming. Shipbuilding order books are full. Naval budgets are rising. A sense of maritime self-confidence, not to say assertiveness, prevails. On the other hand, the spectre of maritime terrorism haunts the maritime community. When and where will the maritime 9/11 take place? Why has it not taken place already. Billions are being spent in an effort to forestall such a calamity. Meanwhile, a proto arms race, buttressed by the latest marine technology, appears in the eyes of some, to be taking shape in the Indo-Pacific region. Central to the conduct of affairs in the maritime domain is the collection and management of information and a variety of initiatives designed to stiffen international resolve in the campaign against

⁵⁴ Anon., "Panama to allow U.S. to search vessels," *Kansas City Star*, 12 May 2004.

⁵⁵ Calvin Lederer, "The Role of Maritime Law Enforcement in the War on Terrorism". Paper presented at the Military Law Conference, Victoria, Canada, May 2004, p. 5. See also Kerry Lynn Nankivell, "The Container and Proliferation Security Initiatives: A First Look" and Michael Byers, "Policing the High Seas: The Proliferation Security Initiative". Papers held by the author.

⁵⁶ Richard Halloran, "Navy Launches Vast Maritime Security Plan," *The Washington Post*, 10 May 2004..

⁵⁷ *Ibid.*

maritime terrorism and crime and to address the shortcomings of the oceanic legal regime. Thus, the outlook is decidedly mixed. Slowly but surely a new order is being forged in the last great open space – the world’s oceans. The interlocking phenomena of global maritime trade and oceanic insecurity are finally addressing the anarchy of which Flynn spoke.