CANADIAN NAVAL REVIEW

VOLUME 13, NUMBER 3 (2017)

China's Nascent Blue-Water Navy: Angling Towards a Grand Bargain over Maritime Rules?

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VOLUME 13, NO. 3 (2017)

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Credit: Cpl Carbe Orellana

An SH-60 Seahawk from the Japanese Maritime Self-Defence Force destroyer ***Izumo*** *prepares to land on HMCS* ***Winnipeg*** *during Exercise Poseidon Cutlass 17, 9 June 2017.*

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Xue Long and the Northwest Passage

After many years of speculation and expectations, the Chinese finally arrived for a complete transit of Canadian Arctic waters. Specifically, MV *Xue Long* (aka *Snow Dragon)* has just completed its first transit through the Northwest Passage. While this vessel did visit the town of Tuktoyaktuk in 1999, and hence was in a small section of Canadian Arctic waters, it was during the first week of September 2017 that *Xue Long* made a complete transit of the passage. It received Canadian consent to transit the passage to engage in scientific research. But no one should think that this trip was really about the science. Rather it was showing the world – Canada included – that the Chinese have the ability to go where they want to go in the Arctic.

The arrival of the Chinese this summer means that all three of the most powerful states in the international system have now been in or near Canadian Arctic waters. The years of pretending that these waters are somehow immune from the greater geopolitical realities of the modern era are now over. Thus the Royal Canadian Navy (RCN) has one more reason for developing its ability to be a truly three-ocean navy.

Some have suggested that the focus of the voyage really was on science and thus any concerns over the geopolitical impacts are overblown. The problem is that the science was clearly secondary. Normally a vessel engaged in scientific exploration has specific locations that it will target. Thus, ships such as CCGS *Amundsen* or RV *Polarstern* will have routes that they will tend to follow and these may be meandering routes. Their path is not designed with the pursuit of a specific navigational route in mind, but rather they are going to locations that allow them to undertake the scientific enquiries they are conducting. *Xue Long's* route for 2017 was clearly intended to demonstrate that the ship could do a circumnavigation of the Arctic.

The reasons for doing so were made clear in a news release that was published by the Chinese Embassy in Canada. The Xinhua News Agency reported on 7 September that the expedition was to prepare for Chinese shipping in an increasingly ice-free Arctic.[1] The report specifically noted the use of the Northwest Passage and the Northeast Passage for the future use of Chinese shipping. To this end the voyage was reportedly engaged in underwater soundings and other examinations of the waterways. While most Western companies have been very sceptical of the future of large-scale shipping through the Northwest Passage, the Chinese have consistently expressed their confidence in this route. At the Arctic Circle conference in Iceland in October 2016, Ding Nong, Vice-President of the China Ocean Shipping Company (COSCO), stated that he was confident that the Arctic routes are opening and talked of the preparations that China is making for this new reality.[2] In June of 2017, the Chinese government released a document – *Vision for Maritime Cooperation under the Belt and Road Initiative* – which talks of China's intention to use the Arctic as a major shipping route on both the Canadian and Russian side of the region.[3] What this means is that Canada needs to be ready for this shipping sooner rather than later.

The Canadian response is developing. During its transit, *Xue Long* passed by a number of Canadian navy and coast guard vessels. As it sailed up the Davis Strait, HMCS *Goose Bay* was in the area completing its participation in *Operation Nanook*. As it passed though the Northwest Passage, *Xue Long* sailed by the Canadian Coast Guard icebreakers CCGS *Terry Fox*, *Des Groseilliers* and *Sir Wilfrid Laurier*. As it left the passage it then sailed by HMCS *Edmonton*. Regardless of the reasons for all these vessels being in locations where they could monitor the Chinese vessel, the fact remains that they were there and one

Credit: China Ocean Online

***Xue Long**'s crew poses for a photo on 6 September 2017 after successfully transiting the Northwest Passage for the first time.*

Credit: Cpl Tony Chand, Formation Imaging Services

HMCS ***Goose Bay****, displaying its new Nanuk remotely-operated gun system, anchors in Voisey Bay, Labrador, during* ***Operation Nanook*** *on 20 August 2017.*

expects that the navy and coast guard were keeping close watch on the vessel.

Perhaps even more importantly this also ensures that the Chinese are aware that there is a Canadian presence that is meaningful. But as anyone who resides in the Halifax area will know better than most other Canadians, this presence is about to receive a very substantial improvement. The first of the Arctic Offshore Patrol Ships is now being completed. When *Harry DeWolf* soon enters service, the ability of the navy to monitor foreign ships and ensure compliance with Canadian laws and regulations in the Arctic will improve substantially. As the remainder of this class enters service, this ability will continue to grow. Originally derided by some as a 'slush breaker' that will not be needed, the voyage of *Xue Long* demonstrates the wisdom of building this class of vessels.

There is of course one other related and more nebulous concern at which the voyage of *Xue Long* hints. As the news report makes clear, the Chinese are taking efforts to make their own underwater charts of the Northwest Passage. These are stated to be for commercial vessels, but this should not blind us to the possibility that China may also be doing the necessary charting for the future sailing of its submarine forces. Public sources suggest that the Chinese do not currently have ice-capable submarines. But the same sources also point out that the Chinese are in the midst of a very large-scale build-up of their naval forces including building new classes of submarines.

Given its expanding interest in being a near-Arctic power (China's official term for itself when it was seeking observer status on the Arctic Council), it is likely that China may decide to give some of these new submarines under-ice capabilities. It seems very unlikely that China would want to continue to allow both Russian and American submarines to have the sanctuary of the Arctic waters. The Chinese have already begun to deploy their surface vessels much farther north. In 2015 they sent a five-ship task force into the waters off the Aleutians and into the Bering Sea.[4] At the same time, they also sent three other naval vessels for the first port visit to Denmark, Finland and Sweden.[5] This indicates that China is increasingly focusing on developing a stronger northern presence.

Canada remains committed to developing the ability to detect submarines in its Arctic waters as demonstrated by the Northern Watch project and its follow-up Canadian Arctic Underwater Sentinel Experiment (CAUSE), the objectives of which are to use current technologies to provide for surveillance of the waters.[6] The test site is located at Gascoyne Inlet on Devon Island. Its strategic location was demonstrated by the fact that *Xue Long* sailed right past the location this year.

Ultimately, the voyage of *Xue Long* this year establishes that the Chinese are very serious about developing their own knowledge of the shipping routes of the Northwest Passage. When their officials state that they intend to use these waters for commercial purposes, they need to be taken at face value. One needs to be aware, however, that this knowledge may also be used for naval purposes. Current Canadian efforts to provide better surveillance and enforcement capabilities to respond to China's intentions are arriving at the right time. It will be the RCN and the Canadian Coast Guard that will be at the forefront of these efforts. As Fred Crickard and Peter Haydon – two of Canada's most visionary naval thinkers – predicted in the 1990s, Canada needs a three-ocean navy. The voyage of *Xue Long* through the Northwest Passage has just proven that.

Dr. Rob Huebert

Notes

1. Embassy of the People's Republic of China in Canada, "China's First Successful Trial of the Arctic Northwest Passage," 7 September 2017, available at http://ca.china-emb assy.org/chn/zgxw/t1490953.htm.
2. Atle Staalesen, "COSCO Sends Five Vessels through Northern Sea Route," *The Independent Barents Observer*, 10 October 2016, available at https://thebarentsobserver.com/en/arctic-industry-and-energy/2016/10/cosco-sends-five-vessels-through-northern-sea-route.
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China's Nascent Blue-Water Navy: Angling Towards a Grand Bargain over Maritime Rules?

Adam P. MacDonald

Credit: MC2 Edward Guttierrez III, USN

*The Chinese Type 052C guided missile destroyer **Jinan**, left, and the Type 054A frigate **Yiyang** sail in formation with American warships in the North Atlantic on 7 November 2015.*

One of the most visible and impressive aspects of China's rise to the status of great power is its burgeoning navy – known as the People's Liberation Army Navy (PLAN) – which continues to undergo comprehensive modernization and transformation.[1] Though its reach and focus remain largely on regional seas, the PLAN is in the midst of becoming a global-reaching blue-water navy conducting a small but growing number of far seas operations. Despite these deployments being lawful, non-confrontational and largely in direct support of international security missions, there are uncertainties in the West about the exact rationale governing China's blue-water naval force developments as well as their expected mission sets and impact on the global maritime order. In particular, there are concerns that China's maturing blue-water naval power will increasingly sail abroad in a confrontational manner in the home region of other major powers to secure an understanding of the respective geopolitical spheres of influence of each. Most importantly, China wants to pressure the United States to retrench militarily and politically from East Asia to make way for a new Chinese-led regional model.[2]

The strategic importance of naval power to China was made official in its 2015 Defence White Paper where the maritime realm was listed as a critical security domain be-

There are uncertainties in the West about the exact rationale governing China's blue-water naval force developments as well as their expected mission sets and impact on the global maritime order.

cause of its direct relevance to national interests. These included: contributing to the security of sea lines of communications and trade routes which are of vital importance for continued economic growth; growing naval reach as a key trapping of being recognized as a great power; defending and protecting national sovereignty, especially maritime claims which are becoming more contentious in regional seas; and a capability to provide public security goods – such as humanitarian assistance and disaster relief, anti-piracy patrols, and evacuating citizens and foreign nationals from conflict zones – to augment China's status as a 'responsible stakeholder.' In order to achieve these objectives, the PLAN, alongside its primary mission of 'offshore active defence' (possessing the ability to fight and win wars in the immediate locale), has been tasked with a second mandate termed 'open seas protection' requiring the ability to deploy and project power sustainably overseas.

The PLAN continues to undergo a comprehensive force transformation to acquire the capabilities and platforms to fulfill these dual mandates. The total number of ships of the PLAN has not significantly grown, but the percentage of ships considered modern has risen dramatically. As well, there has been a notable increase in a select few platforms capable of blue-water operations, including aircraft carriers which is an entirely new capability. While the fleet remains organized along geographic lines, the PLAN is slowly evolving into two distinct forces: one a littoral/regional seas 'fortress fleet' able to project power on a limited basis (with the support from shore-based units) and focused on sea denial tactics; and the other a blue-water fleet of self-sustaining units able to organize, operate and project power beyond the region.[3] For the foreseeable future, due to technical, operational and geostrategic reasons, the focus of the PLAN will predominately remain in the maritime domain of East Asia. Nevertheless the growing capabilities and overseas deployments of even a select number of ships and task groups provokes speculation about the long-term trajectory of the PLAN in terms of force structure and objectives.

Naval Force Transformation

Ever since the deployment of two American aircraft carrier battle groups during the 1996 Taiwan Strait crisis demonstrated the limit of Chinese power projection in its own waters, Beijing has invested significant effort and resources into building a defence-in-depth military posture comprised of military assets able to operate and engage potential adversaries at further distances from China's borders. In particular, Beijing has focused on the development of asymmetrical capabilities, specifically a missile-centric force of land- and sea-based assets, to thwart sea control supremacy of the United States by being able to strike its in-theatre military forces at further distances from Chinese waters; tactics the Pentagon terms 'anti-access and area denial' (A2/AD).

The nature of East Asian maritime geography, furthermore, poses a challenge to Beijing with no direct access to the oceans except through a number of chokepoints largely in the possession of American allies or partners, many of which also host American forces. China's expansive maritime claims and installation of military infrastructure and assets on disputed topographical features in the South China Sea is partially motivated to project power to the so-called First and Second Island chains surrounding China, raising the stakes of any third-party intervention in a local conflict and/or direct hostilities against China. The island installations help the PLAN's growing competency in patrolling regional waters – although the Chinese Coast Guard is the lead agency operating in disputed areas – but thus far the PLAN does not possess the ability to project power in faraway seas for any significant period of time.[4]

The categorization of the PLAN as a limited blue-water navy will be revised within the next decade as it continues to acquire a suite of new platforms designed to project power far away from the region, with the most obvious example being the construction of aircraft carriers. After commissioning its first carrier, *Liaoning* (a refurbished Soviet vessel bought from the Ukraine in 1998) in 2012, Beijing launched its first indigenously built aircraft carrier (the Type 001A) in summer 2017. It is largely a replica of *Liaoning* and is scheduled to enter service in 2020. There are reports that a third carrier is being designed based on the USN *Nimitz*-class, specifically in terms of power plants and catapult launch systems. The acquisition

Credit: US Navy

The aircraft carrier USS ***Independence*** *(CV 62) takes on fuel from USNS* ***Tippecanoe*** *(T-AO 199) during the Taiwan Strait crisis of March 1996.*

of a number of large, guided-missile surface combatants means the PLAN is forming the constituent components of an aircraft carrier battle group capable of defending itself while projecting power abroad.[5]

The acquisition of a number of large, guided-missile surface combatants means the PLAN is forming the constituent components of an aircraft carrier battle group capable of defending itself while projecting power abroad.

After two decades of constructing a largely sea denial-based navy with innovative asymmetrical capabilities, the PLAN is now shifting, to some degree, to emulate the United States (and other major powers) by building naval power projection forces. Chinese efforts to secure overseas military basing, including its first foreign military installation in Djibouti, may also indicate a desire to create a permanent naval presence in important regions like South Asia and the Middle East. Notwithstanding these impressive capability developments, however, China's naval power must not be overestimated, especially in comparison to the US Navy. There remain major technical, operational and strategic deficiencies limiting China's ability to project power including: anti-submarine warfare capabilities; joint operations with other Chinese services; power plant designs; knowledge of fleet maintenance, including refit cycles; lack of warfare and task group operations experience; and the absence of major power allies, many of which are suspicious of China.

In trying to understand China's emerging blue-water navy, both in terms of rationales and mission sets, Western assessments usually fill in the gap between well-known capability developments and the lack of policy and strategy details from Beijing by importing Western strategic thought and experience. This says more about how they think China *should* use its forces than it does about what Beijing will actually do with them.[6] For example some believe China – following in the footsteps of other great powers – will increasingly adopt a more confrontational expeditionary maritime posture as its naval power matures. This would involve regularly deploying PLAN forces to the home regions of other powers, such as the United States and India, forcing these states to focus on their own region rather than deploying their naval power abroad. While this is a possibility, it is not inevitable that China will adopt such a strategy of bogging down other powers in their home regions, as the United States has done since the end of the Second World War.

Instead, there is a significant element in Chinese strategic thought focused on threats not as specific intentional agents (as is the case with much Western strategic thinking) but rather as conditions which must be overcome, including China's position of inferiority compared to (and potential to be exploited by) other powerful states, exemplified by the United States.[7] Reducing the totality of China's naval developments and missions to one primary and exclusive purpose, such as a determination to evict American sea and military power from East Asia, may obstruct understanding of a broader range of interests and rationales at work. Such perceptions, as well, may unnecessarily exacerbate tensions if Washington views China's naval strategy as aimed towards the United States (or vice versa) especially as the narrowing (but still sizable) power differences between them may create an environment

Credit: US Department of Defense, 2006

This map illustrates the First and Second Island Chains and how they affect the maritime approaches to China.

where each perceives the other as their greatest and most probable existential threat.[8]

Contestation Over (Military) Freedom of Navigation

China's increasingly capable A2/AD technologies and tactics, combined with legal and strategic ambiguities surrounding its expansive maritime claims, have led to uneasiness in both neighbours and the United States. These other states believe Beijing is attempting unilaterally to alter the regional balance of power and geopolitical order to its advantage. This is particularly manifested in the South China Sea where China's exaggerated maritime claims, both in terms of geographic extent and its perceived authority within these areas, is a growing source of contention with the United States, specifically over the issue of freedom of navigation (FON) for foreign military vessels and aircraft. In particular, China believes foreign military activity in its various maritime zones – specifically its Exclusive Economic Zone (EEZ) which Beijing appears to be arguing encompasses almost the entirety of the South China Sea via its 'Nine-Dash' line – must receive formal permission beforehand. In contrast, the United States argues that these are inherent freedoms guaranteed under the UN Convention on the Law of the Sea (UNCLOS) which it views as customary international law (even though it is not formally a signatory of UNCLOS). While a number of coastal states have similar views to Beijing, and UNCLOS contains no detailed list of what are considered peaceful uses of the sea by military assets,[9] China is seen as particularly threatening given its expansive claims and growing naval capability to enforce these views.

Furthermore, more than just the exercising of such freedoms, FON represents the essential mechanism in maintaining regional access for the US Navy: a balancing force seen as instrumental in the stability of the region amid comprehensive reconfigurations of power and influence underway largely caused by China's emergence as a major regional and increasingly global power. As a result, the United States has conducted a limited number of FON patrols with US warships to exercise such freedoms in claimed Chinese waters in close proximity to artificial constructed islands, while remaining officially neutral on ownership disputes of features in the South China Sea. China's opposition to FON patrols stems from a tenuous legal position that all foreign military activities in others' maritime zones (up to and including their EEZs) are illegal under UNCLOS and require coastal state consent beforehand, a position held by a number of other states as well. Despite some legal ambiguities over military activities in the EEZs of coastal states, China's dismissal of a 2016 ruling by the Permanent Court of Arbitration

Credit: MC2 Corey T. Jones, USN

*USS **Lassen**'s helicopter hovers over the ship as it conducts the US Navy's first freedom of navigation operation in the South China Sea, 28 October 2015.*

(brought to the court by the Philippines) delegitimizing its maritime claims is a clear demonstration of China's willingness to disregard UNCLOS and legal proceedings when they do not conform to its interests.

Given China's dependence on the global maritime commons and its so far peaceful integration into the international order, the greatest concern for the West of China's growing naval power should not be a comprehensive revisionist attack on the legal maritime regime or determination to project power at Washington's expense throughout the globe. Rather the biggest concern should be that there will be a calculated attempt by China to exempt itself from certain rules and regulations in its regional waters in order to cement its control and influence as the unquestioned regional power. The vast majority of China's overseas naval deployments will most likely continue to support international security missions and larger Chinese foreign endeavours, though they may increasingly be sent to test other states' understandings of and adherence to UNCLOS.

The biggest concern should be that there will be a calculated attempt by China to exempt itself from certain rules and regulations in its regional waters in order to cement its control and influence as the unquestioned regional power.

The 2015 sailing, for example, of a Chinese task group through the Aleutian Islands, conducting an act of innocent passage, may have been designed to gauge the US views and actions towards foreign military vessels operating in its maritime zones. Other Chinese military activities in 2017, however, including the dispatching of

*HMCS **Toronto** sails alongside the Chinese Type 052B guided-missile destroyer **Guangzhou** in the Red Sea during **Operation Sextant**, October 2007.*

Auxiliary General Intelligence ships within the EEZs of the United States and Australia to monitor military exercises and tests, demonstrate the double standard China is applying with respect to military activities in the EEZs of other coastal states compared to its own.[10] While Washington and Canberra had muted responses to these events, reiterating the rights of such activities in accordance with UNCLOS, it is uncertain if their (and the West in general) views would change if the PLAN regularly conducts military activities, particularly intelligence, surveillance and reconnaissance missions, in their EEZs and coastal waters.

China's violation of maritime rules is narrowly focused on securing greater degrees of freedom to operate and exercise its growing influence and power in East Asia, a tough geopolitical neighbourhood with a number of American allies around the maritime periphery. While continuing to promote the indivisibility of UNCLOS, Washington should understand that a rising China is wary of other major powers in its home region because the United States had many of these same concerns two centuries ago about European imperial powers in North America.[11] China, however, must appreciate that the US military presence in East Asia has supported regional stability and facilitated its transformation into a major power. China should also appreciate the fact that UNCLOS enabled its emergence as a great power by protecting its commercial fleets while enabling its military forces to operate abroad throughout the global commons.

As China's navy expands its operations and reach outwards, assessments of it being inevitably hostile to Western interests (and possibly an existential threat to the maritime order) are premature and must be tempered by the real possibility that China may come to view FON for military assets as a strategic interest because it enables Chinese forces to operate further abroad, legitimately projecting power into regions in which China has growing interests. We should remember that there are many legal regimes – such as binding climate change agreements and the Nuclear Non-Proliferation Treaty – which China initially opposed as constraining its rise but over time came to embrace as important to its national and strategic interests as a major power.

Implications for Canada

Whether and to what degree China will become a revisionist naval power is of the utmost concern to Canada as a Western maritime state supportive of the international order and seeking engagement with East Asia. Successive Canadian governments, however, fixated on augmenting trade and economic links with Beijing (and Asia in general), have remained ambivalent about the strategic implications of China's rise, including its growing naval power. This necessitates clarification of Canadian views and positions on a number of military and legal issues which will guide and shape Canada's military and strategic interactions with China.

Canada should welcome and encourage China's growing contributions to international security missions and presence on the world scene as well as build relations and interactions with its armed forces, developing opportunities for cooperation in areas such as anti-piracy and peacekeeping operations. Alongside these endeavours, however, the Canadian Armed Forces, specifically via the current recapitalization of the Canadian navy, must acquire the weapons systems and tactics in order to operate within areas dominated by Chinese A2/AD technologies and sea denial strategies. Canada must continue to operate around the globe, including in East Asia without acquiescing to Chinese maritime claims and rules because

*HMCS **Regina** pierside in Shanghai as part of its Asia-Pacific deployment in 2006.*

of intimidation by its military power. These efforts are reinforced in the Canadian government's recently released defence policy document stating that given the return of great power rivalry, Canada, in conjunction with its allies, will maintain "advanced conventional military capabilities that could be used in the event of a conflict with a 'near-peer,'"[12] a term which most likely implies Russia, given current tensions between it and NATO, but also includes China.

Canada should engage its Chinese counterparts to gain insights into their views on maritime rules, and state its respect for the freedom of both Chinese commercial and military vessels to operate abroad, in support of upholding the universal application of UNCLOS.

Clarity of the purpose and nature of Canadian military engagements in East Asia, also, is necessary in creating expectations for those in the region and most importantly the United States which may ask for a contribution towards its FON patrols in the South China Sea. Canada should recognize that FON participation may seem on the surface to be a straightforward legal-based matter, but it is entangled within larger strategic matters between China and the United States in which Canada does not have any desire to become involved, at least in an explicit manner. It is not clear, also, whether Ottawa shares the same views as Washington about the range of activities conducted by foreign military assets which would be considered peaceful and lawful in others' waters. Canada should be mindful, as well, that any attempt to construct a regional united front against China's violation of international maritime rules would most likely be interpreted by Beijing as an effort to stunt its rise, significantly destabilizing regional relations. Canada's strategic interactions, including military, with East Asia must not be focused on the preservation of the current balance of power but rather peacefully reconfiguring it to reflect new realities, in accordance with international law.

Diplomatically Canada should engage its Chinese counterparts to gain insights into their views on maritime rules, and Canada should categorically state its respect for the freedom of both Chinese commercial and military vessels to operate abroad, including in sensitive regions to Canada such as the Arctic, in support of upholding the universal application of UNCLOS. This will blunt any attempts by China to create zones of exemptions. Most importantly of all, Canada, along with the West in general, must ensure its views and actions on these matters differentiate between changes in the distribution of power and influence through lawful and accepted uses of naval power (such as securing naval basing in Asian states as part of Beijing's One Belt One Road project), and those that are in clear violation of international law.

Credit: US Navy

*Two Chinese trawlers force USNS **Impeccable**, an ocean surveillance ship, to come to an emergency stop to avoid collision despite sailing outside Chinese territorial waters off Hainan, 7 March 2009.*

It is becoming increasingly evident that China will develop and deploy a blue-water navy with global reach, but whether one of its main tasks will be in the service of securing a grand bargain over maritime rules by threatening the home regions of others is uncertain at this juncture. In any event the West must be unwavering in its promotion of maritime rules as universally applicable, despite the strategic changes in the global distribution of power they facilitate, including China's emergence as a major naval power.

Notes

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2. For an example of such thinking see James Holmes, "Will China Become an Aircraft Superpower?" *Foreign Policy*, 21 January 2016.
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12. Government of Canada, *Strong Secure Engaged: Canada's Defence Policy*, 2017, p. 50.

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Canada is Back – Via the Navy?

Ann Griffiths

Canada is back! This was the triumphal claim of the Liberal government elected in October 2015. But what exactly does that mean, and how do we get there? In two years it has meant paying more attention to international organizations, particularly the United Nations, a more enthusiastic commitment to counter climate change, an embrace of international trade agreements, and an avowedly 'feminist' foreign policy.

Another element is to increase Canadian participation in UN peace support and peacekeeping operations. To achieve this, the government announced the Peace and Stabilization Operations Program (PSOPs) in August 2016. This program was given a budget of $450 million over three years. PSOP is to serve "as a platform for delivering on Canada's commitment to strengthening the capabilities of United Nations and partner peace operations."[1] In addition to early warning and prevention, Canada's approach to peace operations has four core elements:

- provide Canadian personnel and training for UN peace operations;
- strengthen Canadian support for conflict prevention, mediation, and peacebuilding efforts;
- advance the roles of women and youth in the promotion of peace and security; and
- support UN reform efforts to make peace operations more effective, with a particular focus on the prevention of and accountability for sexual exploitation and abuse.[2]

After taking office, the government conducted a comprehensive defence policy review, although oddly, not a foreign policy review. The new Canadian defence policy – *Strong Secure Engaged: Canada's Defence Policy* – was announced in June 2017. The policy is frank in its assessment of the complexity of modern conflict. Much to the surprise and delight of many in the military community, it promised increased funding to the Canadian Armed Forces (CAF) and to increase the CAF by 3,500 personnel to 71,500. As well, it reiterated the government's strong commitment to NORAD and NATO, and added a focus on space, cyber and intelligence.

How does the new defence policy help Canada get 'back'? *Strong Secure Engaged* (*SSE*) states that Canada will be "[e]ngaged in the world, with the Canadian Armed Forces doing its part in Canada's contribution to a more stable, peaceful world, including through peace support operations and peacekeeping."[3] SSE lists eight things that the CAF must be prepared to do. They include the usual suspects – defend Canada and North America, provide assistance to civil authorities to enhance the security of Canadians, assist civil authorities when there are disasters, and conduct search and rescue. In addition to these, the tasks that are most relevant to being 'back' are:

Credit: Government of Canada

Prime Minister Justin Trudeau delivered Canada's national statement at the COP 21 United Nations Climate Change Conference in November 2015, in which he announced "Canada is back."

- "lead and/or contribute to international peace operations and stabilization missions with the United Nations, NATO and other multilateral partners"; and
- "engage in capacity building to support the security of other nations and their ability to contribute to security abroad."[4]

An element of Canada being 'back' is to increase Canadian participation in UN peace support and peacekeeping operations.

The government has led Canadians to believe that 'being back' means Canada will be back participating in UN peacekeeping/peace support operations. Despite the common perception among Canadians, Canada has not been a major troop contributor to UN peacekeeping operations for years, although it does provide funding. As of 31 August 2017, Canada had a total of 73 people participating in UN peacekeeping operations, far less than world powers like Bangladesh, Chad and Burkina Faso.[5] It is ironic that Canada is hosting a peacekeeping conference in November 2017 in which, by its lack of troop contributions, Canada isn't really qualified to participate.

In furtherance of its goal of getting Canada back into peacekeeping/peace support operations, the government

promised personnel and funding – up to 600 troops, 150 police officers and the $450 million to PSOP. Defence Minister Harjit Sajjan went on a tour of several African countries in August 2016 in an attempt to decide in which UN peacekeeping mission Canada would participate, but thus far no decision has been made about where to deploy.

The most likely candidate for a Canadian contribution seems to be Mali but, as noted, no decision has been made. This would be a difficult assignment, and certainly nothing like the 'traditional' peacekeeping Canadians may have in mind. The UN Multidimensional Integrated Stabilization Mission in Mali (MINUSMA) was established in 2013 and has a multifaceted mandate to support political processes and carry out a number of security-related tasks. But there is little peace to keep. As of 31 August 2017, 133 UN peacekeepers had been killed since the mission was established.[6] Canada is also considering joining MONUSCO, the massive UN operation in the Democratic Republic of Congo, in which there have been 112 fatalities since its inception in 2013.[7] As much as we imagine the rosy glow of peacekeeping, both missions are complex and dangerous. The Canadian government is risk-averse, aware that few Canadians want to see casualties among the Canadian forces in a peacekeeping mission.

Could the Canadian Army participate in a peacekeeping mission? As we know, the army was the primary actor in Afghanistan, although air force personnel also served there. More than 40,000 Canadian Armed Forces members served in the Afghan theatre of operations between 2001 and 2014.[8] (This is a total number, and some army personnel may have served more than one tour.) This is a huge number given the size of the army. The army may be in need of a 'pause.' As well, 450 members of mainly the army are now involved *Operation Reassurance* in Latvia as part of a NATO mission, and approximately 200 CAF personnel are in Ukraine as part of *Operation Unifier*. The army is busy. The Canadian air force is back from Iraq, but Canadian Special Forces are still involved there – and these forces are not really appropriate for the tasks envisioned in *SSE*.

Could the RCN be the main element of Canada being 'back'?

That leaves the Royal Canadian Navy. The RCN is not in need of a pause because of Afghanistan, and the frigates have all gone through the modernization program. Could the RCN be the main element of Canada being 'back'? Conflict on land is visible and more likely to get media attention than disputes at sea but that doesn't mean that there are no maritime disputes. There *are* maritime disputes but they have not (yet) degraded into actual conflict.

Of the 17 pending cases on the docket of the International Court of Justice (ICJ), 10 are related to maritime issues.[9]

Credit: Canadian Armed Forces

Canadian and French personnel unload a RCAF CC-177 Globemaster in the Central Africa Republic on 20 November 2016. Canada provided logistical support for French forces in Mali and the surrounding region as part of ***Operation Frequence****.*

A Democratic Republic of Congo soldier rappels from a Bangladeshi Mi-17 helicopter painted in United Nations livery during a training mision conducted by the Bangladeshi MONUSCO contingent in Ndromo, DRC, 8 September 2017.

The cases involve states from Latin America and the Caribbean (Bolivia, Chile, Nicaragua, Costa Rica, Colombia), Asia (Malaysia, Singapore), Africa (Kenya, Somalia, Mauritius) and Europe (Hungary, Slovakia – this dispute is about a river). As well, under the UN Convention on the Law of the Sea (UNCLOS), states can resort to dispute resolution and arbitration mechanisms. The default option is the Permanent Court of Arbitration (PCA) in the Hague. The PCA recently settled a maritime dispute between Australia and Timor-Leste, and it is currently hearing five other maritime cases: Ukraine v. Russia; Italy v. India; Malta v. São Tomé and Príncipe; and the Netherlands v. Russia.[10]

Of the 17 pending cases on the docket of the International Court of Justice, 10 are related to maritime issues, and the Permanent Court of Arbitration is currently hearing five maritime cases.

In addition to the cases in court, there are maritime disputes that are festering – for example multiple disputes in the South China Sea, and a dispute in the East China Sea. And court decisions can be ignored. For example, in 2016 the PCA decided a case brought to it by the Philippines regarding Chinese claims in the South China Sea. The PCA ruling supported the Philippines in virtually all aspects, but the ruling has been ignored by China. The South China Sea and East China Sea continue to be maritime hotspots.

Like it or not, most states are reliant on international trade. There are many challenges inherent in trade across the oceans, but the security challenges multiply on the routes that are close to shore. Imports/exports that travel by ocean must pass through chokepoints. There are seven major chokepoints for shipping around the world:

- Panama Canal. The canal connects the Atlantic and the Pacific Oceans. It saves ships having to make the transit around South America. It opened for business in 1914. A major expansion to the canal was completed in 2016. Most of the traffic passing through the Panama Canal is container ships – approximately 43% of the traffic in 2016 according to the Panama Canal Authority.[11] This canal is not currently an area of dispute, but with its proximity to Venezuela – a country in the midst of convulsion – and its increased importance as a transit for oil going to Asia (Asia became the largest destination of Venezuelan oil in 2013[12]), it could be in the future.
- Danish Straits. These straits connect the Baltic Sea to the North Sea/Atlantic. These straits can be used for Russian oil and gas exports, but since Russia exports most of its oil and gas via pipelines, this chokepoint seems unlikely to be a point of contention in the near future.
- Turkish Straits/Bosphorus Strait. The Bosporus and Dardanelles Straits and the Sea of Marmara, allow ships to move to/from the Black Sea to the Aegean/Mediterranean. Contained entirely within the territory of Turkey, this strait is important because, in particular, it gives Russia the ability to ship products out of the Black Sea, and allows oil from the Caspian region to be shipped out. It is vulnerable in that it is small/narrow, and passes right through the city of Istanbul. Given the uncertainty in Turkey right now, it could be a source of instability and/or a target for extremists.
- Suez Canal. The canal was finished in 1869 to connect the Red Sea with the Mediterranean Sea. This meant that ships could travel between Europe and Asia without having to go around Africa. The traffic through the canal was limited by the size of the

canal, so Egypt decided to build a secondary canal which was completed in 2015. It is a busy canal, and a transshipment point for oil going to Europe. It is also in an unstable area that is vulnerable to extremist attacks – possibly from shore.

- Bab el Mandab (al-Mandab) Strait. This strait is located at the narrow point at the south end of the Red Sea. The strait separates the Arabian Peninsula from the Horn of Africa and links the Red Sea to the Gulf of Aden and the Indian Ocean. Crude oil traffic through here has increased in recent years as Iraq gets back into the oil business. However, as the Asia-Pacific region eats up more petroleum products, this strait may become less important as oil turns east from the Strait of Hormuz to Asia, rather than west to Europe. With conflict-ridden Yemen on one side and Djibouti and Eritrea on the other, and Somalia just down the coast, it is in a fairly troubled neighbourhood. The new Chinese navy base in Djibouti also makes life interesting.
- Strait of Hormuz. This strait connects the Persian Gulf (also known as the Arabian Gulf) to the Gulf of Oman, and then on to the Arabian Sea. The strait passes through Iran and Oman territory. Both Iran and Oman have claimed their 12 nm territorial sea which means that the strait is completely covered into their combined territorial waters. On one side of the Persian Gulf is Iran, on the other side is Saudi Arabia, Qatar, Oman, Bahrain, Kuwait and the United Arab Emirates. This is a hot spot for oil exports (and for politics). Most of the oil exports from here turn toward Asia – to India, China, Taiwan, South Korea and Japan. This is the chokepoint that is most worrisome. In addition to being a major conduit for oil shipments, it is also a location where the Iranian Navy and the US Navy have regularly clashed over the years.[13] The Saudi Arabian-led campaign to isolate Qatar will complicate relations in the region, as the United States has close relations with both sides. It is likely that Qatar will become closer to Iran as it searches for friends, and this may complicate shipping through the strait.
- Strait of Malacca. This strait connects the Andaman Sea in the Indian Ocean to the South China Sea. It passes between the Indonesian island of Sumatra and Malaysia. Almost half of the world's total annual seaborne trade tonnage passes through the Strait of Malacca and the nearby Straits of Sunda and Lombok.[14] There have been times when piracy was a major problem but regional cooperation has reduced the threat. If this strait were to be closed for some reason, it would cause significant economic disruption to most Asian countries.

Both economic outputs (finished products) and inputs (oil/energy for example) of most states travel through at least one of these chokepoints. These inputs and outputs are absolutely crucial to the economic wellbeing of trading states. As noted, most of the oil going to India, China, Taiwan, South Korea and Japan passes through the Strait of Hormuz. And the oil going to China, Taiwan, South Korea and Japan also must pass through the Strait of Malacca, and then through the South China Sea. This provides the potential for passage to be obstructed – and a role for navies to prevent this.

Both economic outputs (finished products) and inputs (oil/energy for example) of most states travel through at least one of seven maritime chokepoints.

The Role of the RCN?

Canada relies on trade – and the trade that doesn't come from the United States, comes via the oceans. The NAFTA negotiations are not going well right now, bogged down in part by the Trump administration's 'America First' policy. So finding new trade partners might be prudent. The Canada-European Union Comprehensive Economic and Trade

Credit: Combat Camera

A CH-146 Griffon helicopter flies over northern Iraq as part of ***Operation Impact*** *on 23 November 2016.*

Credit: Permanent Court of Arbitration

The Secretary of Foreign Affairs of the Philippines presents his country's arguments on 30 November 2015 at the Permanent Court of Arbitration (PCA). The Philippines had taken China to the PCA over its maritime claims in the South China Sea; the PCA ruled in favour of the Philippines on most points.

Agreement (CETA) is in the final stages, and this will increase trade with Europe. The government is also in the early phase of negotiating a trade agreement with China. Any trade unleashed by these treaties will travel over the oceans, and will tie Canada even more firmly into the world.

If Canada wishes to help ease the trade process with both Europe and China, the RCN could be a good tool. Helping European navies and coast guards address the huge influx of migrants arriving across the Mediterranean would build good will. As tempting as such a mission might be, however, this might lead Canada into an awkward situation. It might result in the RCN, contrary to both Canadian and international law, returning maritime migrants to Libya, a place which is not known for its humane treatment of migrants.

We've established that there are international maritime security concerns. Could Canada use its navy to help ensure that security concerns do not become wars? If being 'back' means increased support for UN peace operations, it should be noted that the United Nations acknowledges the importance of maritime forces in increasingly complex UN peacekeeping operations. It published *Peacekeeping Missions: Military Maritime Task Force Manual* in 2015 to "consolidate the relevant dimensions of UN Maritime Task Forces into a single, convenient reference."[15] It states that "the deployment of a UN Maritime Task Force can contribute decisively towards successful achievement of the Mission's goals by providing a wide variety of capabilities such as monitoring cease-fires, enforcing UN sanctions and embargoes or providing humanitarian relief."[16]

Utilizing the RCN for peace support is in keeping with Canada's long-established tradition of supporting the rule of law at sea, whether the UN Law of the Sea Conventions, fisheries conventions, anti-piracy, anti-illegal migrants, anti-smuggling agreements, and so on. Naval diplomacy and capacity-building of navies and coast guards could be very helpful to address potential maritime disputes – and address criminal activity at sea which may lead to disputes on land (such as piracy, illegal fishing, smuggling, terrorism).

If being 'back' means increased support for UN peace operations, it should be noted that the United Nations acknowledges the importance of maritime forces in increasingly complex UN peacekeeping operations.

In an interview with *Canadian Naval Review* in 2016, Vice-Admiral Ron Lloyd talked about the navy's new goal of 'generating forward.'[17] So there's a willingness to work outside the country, if so directed. The RCN regularly participates in the Standing NATO Maritime Group, participates in disaster relief operations, and conducts exercises with other navies – Exercise Poseidon Cutlass 2017 in the Asia-Pacific region and HMCS *St. John's* in the Caribbean for early hurricane relief, are recent examples.

As a good global citizen and a trading state, Canada believes in freedom of navigation and rule of law on the seas. Since the end of WW II, the US Navy has played the role of guarantor of order on the oceans. The US Navy has been active in freedom of navigation (FON) patrols in the South China Sea in an attempt to discourage Chinese claims to the entire sea. However, the US Navy – after several collisions and a loss of 17 lives – took an operational 'pause' in August to review safety training. And the Pacific Fleet undertook a 'reset' to examine how it conducted

Credit: Timothy Choi

*The crude oil tanker **Katja** transits the Bosphorus Strait in Istanbul on 21 October 2010.*

Credit: MC2 Joshua Fulton, US Navy

*Ten US Navy sailors perished when the destroyer USS **John S. McCain** collided with a chemical tanker in the crowded waters off Singapore on 20 August 2017.*

operations and training. Could the RCN take a larger role in FON patrols and guaranteeing good order on the ocean? This might make the Trump administration happy if Canada steps up to take a larger part in a role that the United States seems increasingly unhappy about playing on its own. And, as we hear over and over, Canada is usually welcomed abroad as a state with no colonial baggage and with no global hegemonic aspirations. Perhaps an RCN presence, with other regional allies, could fill in gaps of USN FON patrols and with less pushback from states suspicious of US motives. China might be more amenable to the argument that the patrols are indeed FON patrols if the RCN rather than the USN were to undertake them.

Conclusions

The government of Justin Trudeau announced that Canada was 'back' after the Liberal Party won the 2015 election. Although it's still not entirely clear what that means, we can see a larger focus on the United Nations and other international organizations, and hear talk about Canada getting back into peace support/peacekeeping. The election of Donald Trump threw a spanner into smooth global relations – and delayed the publication of Canada's defence policy – and the retrenchment of the United States presents challenges to the world. But it also presents opportunities.

The navy was not what leapt to mind when Prime Minister Trudeau talked about Canada being back in the world. But given Canada's reliance on the oceans for trade, the potential for insecurity in maritime chokepoints, the pitfalls of modern peacekeeping, the strain on the army from fighting a long war in Afghanistan and now operating in Latvia and Ukraine, the RCN might be able to play a useful part of Canada being 'back.' There are international courts/panels attempting to settle maritime disputes, but as the case of the Philippines versus China illustrates, these disputes aren't always settled civilly. Disputes can become conflicts and wars – and both PSOP and *SSE* emphasize the importance of prevention. The RCN wants to generate forward, and the UN acknowledges the role that maritime forces can play in peacekeeping or peace support operations. So, the doctrine and policy do not rule out a naval role.

In his influential book *Navies and Foreign Policy*, Ken Booth talked about a triangle formed by the three roles of navies – warfighting, constabulary and diplomatic.[18] Warfighting seems (hopefully) out of the question for the RCN right now, and certainly not on its own, but capacity-building, training, naval diplomacy, FON patrols, and constabulary activities could constitute a more engaged global role for Canada. Canada would be back and making a difference in a safe but useful way.

The bottom line, however, is that maritime operations are not very visible and thus may not fulfil the government's hope for the world to see that Canada is back. As well, the RCN needs a supply ship to undertake most missions and it rarely, if ever, would undertake missions alone. Canada needs to get the interim supply ship up to speed and find some friends if the navy is going to be the means for Canada to be 'back.'

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The Gates of the Western Passage: Leveraging Migration Controls on Europe's Periphery

Andrew Bergel

Canada is in the enviable position of having oceans on three sides to protect it from the world. This makes it a challenge to have a navy large enough to oversea these ocean approaches, but it also ensures that Canada rarely faces the onslaught of maritime migration that many other countries face – Europe in particular right now. European coast guards and navies have been on the frontline of the attempt to staunch the flow of migrants across the Mediterranean. The Canadian Navy has not had to play a big role in this, although the Royal Canadian Navy (RCN) regularly sends ships to participate in NATO exercises.

The major influx of migrants into Europe has had significant implications and has led to changes in perceptions and political alignments on the continent. Agreements signed with Morocco in the east and Turkey in the west have reduced the flow of migrants from these regions, and made maritime migration from Libya the main conduit. These agreements, however, are subject to tensions, and they give both Morocco and Turkey significant leverage over the European Union (EU).

Aside from the humanitarian implications of this influx of desperate migrants across the Mediterranean, Canada has deep and longstanding connections with Europe. Canada has allies in NATO and is in the process of finalizing a free trade agreement with the EU. This means that maritime migration to Europe should be of interest to Canada.

Two years ago, my colleague, Michelle Legassicke and I, wrote about the maritime migration from Libya into the EU. During the crisis in 2015, the one migration route that was seen as both a bright spot and a format for best practices was the western Mediterranean route between Morocco and Spain.[1] Between 2006 and 2014, the migration numbers dropped from 31,600 into the Canary Islands to 275, and overall migration into Spain dropped from just below 40,000 to less than 5,000 during that same period.[2] Much of that decrease was attributed to bilateral agreements between Spain and the departure countries of Senegal, Mauritania and Morocco. This recipe has since been used by the EU to stem the flow of migrants via Turkey.

The deal signed with Turkey has been surprisingly successful and has led to a decrease of migration in the eastern Mediterranean. Migration into Greece from Turkey dropped from a total of 176,906 in 2016 to 20,844 between

*Boats sent from the Spanish frigate ESPS **Reina Sofia** rescue migrants in July 2016 while operating as part of EUNAVFOR MED in the Mediterranean.*

1 January and 19 September 2017.[3] No doubt these numbers come as a great relief to Greece and its over-stretched Hellenic Coast Guard. However, they provide little solace to Spain because while irregular migration numbers have dropped dramatically in the eastern Mediterranean, they have been quickly rising in the west. Between 1 January and 20 September, 15,811 people took this route into Spain, already more than the 13,246 that crossed in all of 2016 and nearly half of the 33,465 people who crossed between 1 January 2015 and 20 September 2017.[4]

Much of the decrease of maritime migration in the western Mediterranean was attributed to bilateral agreements between Spain and the departure countries of Senegal, Mauritania and Morocco.

So why has the example of best practices, cited in 2015, suddenly become problematic to the point where photos of irregular migrants disembarking on Spanish beaches in front of bathers go viral in August of 2017? Most of these migrants are classified as economic migrants, rather than refugees, so much could be said about the socio-economic drivers in their countries of origin, most of which are in West Africa. However, from Brussels' perspective, examining what has gone awry with migration policy approaches toward the western Mediterranean, which were being highlighted as a success only two years ago, is likely a pressing short-term directive.

From this point of view, two issues seem to stand out. The first is that the western Mediterranean route is, in part, a victim of the success in the eastern route by some migrants. Success in migration inspires others to migrate. And closing one route will inevitably cause pressures in other regions. From a European and bureaucratic perspective, success could be measured in the decrease of migrants in total along with a decrease in migrant deaths. In terms of fatalities, deaths in the eastern Mediterranean, through to 16 August, have dropped from 383 in 2016 to 45 for the same period in 2017. In the western Mediterranean, in the same period deaths have risen from 107 to 121, resulting in a net decrease of 324 deaths. Undoubtedly this amounts to a certain level of measurable progress. Furthermore, although the western route has experienced an increase from 3,007 in 2015 to the 15,811 cited above, these overall numbers do not represent the same magnitude of crisis that existed on the eastern route during 2015, when 472,754 crossed into Greece compared to the 20,844 in 2017 up to 19 September 2017.[5] Given that the total increase in the west is far lower than the decrease that occurred in the east, a case could be made that, overall, this equates to a modicum of success in the fight to control (and reduce) maritime migration.

That said, examining the migration structures that were put in place in the west over a decade ago to see if there are certain weaknesses that have been exposed seems like a pragmatic thing to do. Such an examination leads to the second, and far more nuanced, issue that could be affecting the migrant flow in the west – an issue that could also presage an eventual resurgence in the east as well.

Closing one route will inevitably cause pressures in other regions.

The Leverage of Gatekeepers

To understand this issue, the relationship between the EU and its critical gatekeeper state in northwest Africa needs to be examined – in this case, the Kingdom of Morocco. Since 2006, Spain and Morocco have worked effectively to mitigate the flow of migrants across the narrow Straits of Gibraltar between Tangier and Tarifa, as well as maintain the integrity of the Spanish enclaves of Ceuta and Melilla on the North African coast. The close working relationship between the EU (Spain in particular) and Morocco to help reduce the migration flow along this route has resulted in the EU relying on Morocco's cooperation. However, any migration relationship that places one state in the role of gatekeeper also confers tremendous leverage.

It is perhaps no coincidence that since 2008, Morocco has undergone a notable consolidation of bilateral relations with the EU, resulting in the Kingdom achieving 'advanced status' with the EU. According to the EU, the objectives of this advanced status are "to strengthen

Credit: Cpl Brandon O'Connell, MARPAC Imaging Services

*HMCS **Vancouver** sails alongside the Italian ship ITS **San Giusto** and Turkish frigate TCG **Gelibolu** at the conclusion of **Unified Protector** on 31 October 2011. The NATO operation supported United Nations resolutions concerning the 2011 Libyan civil war.*

Credit: Hellenic Coast Guard

Since 1998, the Hellenic Coast Guard has operated a small number of CB-90 fast combat boats.

dialogue and cooperation in areas of politics and security, to progressively integrate Morocco into the EU internal market through legislative and regulatory convergence, to extend the partnership to include new participants."[6] These sweeping objectives conspicuously came into effect two years after Morocco helped the EU address the migration along the western Mediterranean route.

Any migration relationship that places one state in the role of gatekeeper confers tremendous leverage to that state.

An examination of the interplay among the objectives of the advanced status might help illuminate why the Spanish are seeing a sudden spike in migration along their southern coastline. Examining the progress toward the second objective of progressively integrating Morocco into the EU internal market will help us understand why cooperation on the first objective – strengthening dialogue and cooperation on political and security matters – might be having a bit of a setback this year.

Since 2013, the EU and Morocco have been negotiating the creation of a Deep and Comprehensive Free Trade Area (DCFTA). This will build on the advanced status Morocco has attained, as well as the most critical trading relationship for the Kingdom. The EU is already the primary market for Morocco. In 2015, trade with the EU totaled 55.7% of all Moroccan trade, and 61.3% of the Kingdom's total exports.[7] However, the current free trade negotiations on agriculture and fisheries met with a setback in December of 2016 when elements of the negotiations were challenged in the European Court of Justice (ECJ). The issue was products that claim their origin in the Western Sahara. The status of the Western Sahara has been in dispute since the mid-1970s with Morocco's sovereignty over the region challenged by the Polisario Front's push for independence. The ECJ ruled that products from the Western Sahara were not to be covered by existing trade agreements between Morocco and the EU.[8]

The ruling amounted to a victory for the Polisario Front which leads a nationalist independence movement for the Western Sahara (and a loss by Morocco), by distinguishing between products produced there and those produced in the rest of Morocco. The diplomatic response from Morocco was swift, with the Kingdom's Minister of Agriculture Aziz Akhannouch stating that the ruling, unless resolved, would have "grave consequences." This was because, to his mind, "any impediment to the application of this agreement is a direct attack on thousands of jobs on both sides in extremely sensitive sectors and a real risk of resumption of migratory flows that Morocco has managed and maintained through sustained effort."[9]

While some might see this as a not-so-veiled threat, in fairness to Morocco, any country adhering to its most basic self-interests would be remiss in not attempting to leverage the burdensome role of gatekeeper. Thus, from Rabat's perspective, the matter is a relatively straightforward case of we scratch your back and you scratch ours – a bargain that the EU is now seen, at least to a degree, as having breached through this ruling at the European

Court of Justice. And while the court was not obliged to take into account the sensitivity of this issue to Morocco, EU policy-makers in Brussels, especially those from Spain, likely understand how matters of Western Saharan sovereignty are a redline issue. Indeed, sensitivity over the status of the Western Sahara is so high that lack of recognition of Morocco's claim to the region stopped it from joining the African Union for many years. Professor Khadija Mohsen-Finan, an expert on North Africa at the Sorbonne, argues that "Morocco's entire foreign policy is influenced by what's happening in the Western Sahara," and if Brussels does not "turn a blind eye to products coming from this region, then [Morocco] will open and close its borders as it sees fit."[10] If this is the case, then the resulting spike in migrants reaching Spanish shores in 2017 comes into better focus.

Any country adhering to its most basic self-interests would be remiss in not attempting to leverage the burdensome role of gatekeeper.

The renewed pressure along the western Mediterranean maritime route also has wider-ranging implications inside the EU. Internally, the court's ruling has caused something of a split among EU member states. According to a report earlier this year in the *Morocco World News,* Spain has now pledged "to do everything possible to defend Moroccan interests to the EU on the agricultural agreement in exchange for maintained police collaboration with the Spanish security team."[11] It is worth noting that this promise from Madrid followed on the heels of a total of 850 migrants crossing the border into Spain on 17 and 20 February of this year, further validating the posits of Mohsen-Finan that Morocco feels free to exercise the leverage that it has with the EU if it sees fit.

Spain doubling down on a strong pro-Moroccan stance equally reflects its particular vulnerability, something not shared to the same degree with many northern European states that have the luxury of wanting to draw legal distinctions over product origin in Moroccan exports. However, despite Spain's concern, the most recent meetings on Mediterranean migration among the leaders of France, Italy, Germany and Spain, primarily focused on stemming the flow from Libya by helping Niger and Chad with more comprehensive border control so that migrants are less able to reach the fractured Libyan state.

Credit: ViaJar24h, Wikimedia Commons

A group of demonstrators in Madrid protest in favour of Western Saharan independence on 21 April 2007, a movement led by the Polisario Front, and opposed by Morocco.

It is a bit too early to tell if the new Spanish promise to Morocco about Western Sahara will lead to further internal turmoil over EU policy vis-à-vis Morocco, but if nothing is done to smooth over the court's ruling it wouldn't be out of line to imagine more large-scale border crossings into Spain.

Similar to Morocco in the west, Turkey acts as the primary gatekeeper of the eastern Mediterranean route – and the leverage that Ankara has is similar in nature but far larger in scale.

The renewed problems in the western Mediterranean migration route could also foreshadow a far larger pending problem for the eastern Mediterranean route. Similar to Morocco, Turkey acts as the primary gatekeeper of the eastern route. While the specifics of the deal struck between Turkey and the EU differ somewhat from those with Morocco, the leverage that Ankara has is similar in nature but far larger in scale. Roughly three million Syrians are living in a state of limbo in Turkey, with many hoping eventually to reach the EU – a critical point of leverage for government of Turkey. If Brussels is seen by Turkey to be in a similar breach of its quid pro quo over migration it is easy to imagine a quick spike in crossings similar to those seen in the western route. Furthermore, Turkey and the EU have been at odds over a far wider set of issues, ranging from issues over NATO to tit-for-tat barring of diplomats with states like the Netherlands earlier this year. If the Moroccan example portends anything, it is that any one of these disputes could easily spiral to the point where Turkey decides to exercise its leverage over migration in a more overt way. Both Morocco and Turkey illustrate that migrants can be used as pawns for political purposes to get concessions from the EU.

Conclusions

Given that maritime migration from Libya into Italy is the biggest problem at the moment, and one without any easy remedy, it is safe to say that the EU will have to find a way to cooperate and, to a degree, satisfy, the gatekeepers on its western and eastern flanks. If not, Brussels risks a situation that further pressures Spain and Greece.

Credit: Spl Zayid Ballesteros, United States Army

A US Army Special Forces commander salutes during the opening ceremony of Flintlock 2017 in Diffa, Niger, 27 Feburary 2017. The annual Flintlock exercise is aimed at building security capacity in trans-Saharan countries in the hope that this will enhance security and allow citizens to remain at home rather than make the dangerous journey to Europe.

Credit: Corporal Anthony Chand, Formation Imagery Services

During its 2016 ***Operation Reassurance*** *deployment, HMCS* ***Fredericton****'s Enhanced Naval Boarding Team conducted drills with Spanish and Moroccan forces. The team is seen here departing a Spanish frigate.*

For Canada, there are both direct and indirect lessons to be taken from the migration situation in the Mediterranean. Over the winter of 2016, during *Operation Reassurance*, HMCS *Fredericton* conducted patrols in the Aegean Sea to assist with monitoring migrant crossings.[12] Canada's alliances in the region, and current predisposition toward joint peacekeeping/stability efforts, could well draw the RCN back into similar operations if the flows over either the western or eastern Mediterranean routes again reach levels that begin to overwhelm Canada's NATO and European allies.

As far as more nuanced lessons to be taken from the experience Europe has had with gatekeeper states bordering its territory, it is not entirely a stretch to imagine that the current crossings into Canada from migrants located in the United States could require at least a short-term change in thinking. The US/Canadian relationship is very deep, covering a long list of understandings, and viewing the United States as a gatekeeper in this manner is likely rather low on that list – though, that too may well be slowly changing.

Notes

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8. See "Morocco Uses Migrant Crisis as Leverage in EU Free Trade Dispute," France 24, 22 February 2017.
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10. Quoted in "Morocco Uses Migrant Crisis as Leverage in EU Free Trade Dispute," France 24, 22 February 2017.
11. *Morocco World News*, "In Exchange of Tightening Borders, Spain Promises Support for Morocco Against EU," 5 March 2017.
12. Government of Canada, Royal Canadian Navy, "Operation Reassurance," available at www.navy-marine.forces.gc.ca/en/deployed-ships/reassurance-2014/op-reassurance.page.

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Making Waves

The RCN Post Defence Policy Review: Headwinds or Tailwinds?

Hugh Segal

There is much in the recent Defence Policy Review and Defence Policy Statement (DPRS) to encourage supporters of a robust Canadian naval capacity as part of the hard power component of Canada's foreign, defence and security policy. As enunciated by Foreign Affairs Minister Chrystia Freeland and Defence Minister Harjit Sajjan, we have what appears to be a substantial refocus of Canada's global stance in terms of anticipating global security challenges and linking military capacity, present and future, to meeting those challenges.

Credit: Foreign Policy Canada

Foreign Affairs Minister Christia Freeland delivers a speech to highlight Canada's foreign policy priorities at the International Economic Forum of the Americas in Montreal, 12 June 2017.

The Chief of the Defence Staff (CDS) and his service chiefs, including naval leadership, their teams and advisors, deserve credit for a frank analysis of medium-term risks and the indication of what instrument – personnel, cyber, kit, intelligence and strategic overlay – will be required to address those risks. Those who advised from outside the forces, former Defence and Foreign Minister Bill Graham, former Justice Louise Arbour, former CDS Ray Henault and former Deputy Cabinet Secretary for Security and Intelligence, Margaret Purdy, not only deserve credit for their contribution but also for the reasonably broad consultation reach they clearly endorsed for the public at large.

The government deserves credit for the role of the Foreign Minister, both for her own statement in Parliament before the Defence Minister's statement and her association as Minister of her department with the Defence Policy Statement itself. The *realpolitik* nature of her identification of the core Canadian values implicit in the liberal-democratic order built after World War II and the extent that they are threatened from a mix of Russian, Chinese and non-democratic actors, a view echoed in the Defence Policy Statement (DPRS), is also quite heartening. Proponents of a strong and multi-capable deployable Royal Canadian Navy (RCN) are rarely naive about the way in which allies can project power and by this often diminish the need actually to engage in combat by making enemies or competitors think of another option. The huge success of NATO between the end of the Second World War and the fall of the Berlin Wall was not through the combat theatres where it won key battles but in the battles that never happened due to the power of deterrence.

It is important to assess the new defence policy from the perspective of continued effective deterrence and especially how the tools and instruments either allocated to or committed to the future RCN may make a difference. Some enhanced deterrence is offered in the new policy, including the following:

- a larger Regular and Reserve force in general should modestly strengthen the RCN complement;
- a less paralytic approach to recruiting, especially for intelligence and cyber specialists, should assist the RCN to maintain and expand vital capacity in these areas;
- a more coherent balance between accrued costs and operating costs will help manage the high capital outlays vital to acquire the fleet Canada needs;
- three billion dollars for equipment upgrades and system modernization fleet-wide is an important and key commitment;
- a commitment to 15 new surface combatants to replace parts of the present fleet, while not earth-shaking, is substantial;
- the inclusion of naval security teams among the Reserve force priorities along with cybersecurity, intelligence and biological and nuclear defence will be an opportunity for Naval Reserve units to strengthen their reach and remit;
- improving support for the cadet program will strengthen what is a vital youth development mission Canada-wide;
- better linkages and investment in academic research areas will enhance naval/academic cooperation and benefits in terms of RCN intelligence and analytics;
- upgrading the existing submarine squadron is

Credit: Timothy Choi

*A CH-124 Sea King helicopter overflies HMCS **Calgary** during a demonstration on 3 October 2016 for participants at the Maritime Security Challenges conference in Victoria, BC. The Sea King fleet, which commemorated its 50th anniversary in 2013, is gradually being replaced by the new Cyclones.*

far better than letting it fade through under-investment;

- continued support of enhanced seaborne helicopter procurement is essential for expanding the reach of a modest fleet on Canada's three coasts and worldwide;
- the uptick in total defence spending, while quite modest, is a step in the right direction;
- the expansion of the operational ability of Special Forces, if married as necessary with RCN operations on, under and above the sea, is a further enhancement of RCN intelligence, surveillance and mission capability;
- the formal identification of Canada's national and global strategic interests as sustaining global stability tied to an international rules-based order in which democracy, rule of law and human rights matter is overdue but welcome;
- regular updating in 2018 and every three years thereafter of actual progress on defence investments will serve to steady a procurement cycle which, in terms of fact and perception, seems anything but deliberate and steady.

All of these constructive steps for the RCN take place against a challenging operational reality. Canada's present fleet is four submarines, 12 *Halifax*-class surface combatants, 12 *Kingston*-class coastal patrol and anti-mining vessels and eight *Orca*-class training vessels. Of this fleet, for the usual reasons of refit cycles, 75% of the ships are at sea or deployable at any one time. This is a reality through no fault of the RCN.

The men and women of all ranks of the RCN have always exceeded the core premise of Sokolsky's Axiom. Dr. Joel Sokolsky, a former principal of Royal Military College, Dean of Arts and specialist in naval history, had a saying about the Canadian Forces that, however diminished the operational budgets, or inadequate or sub-optimal the kit, the Canadian Forces would discharge their duties in the-atre so well, and then some, that the federal government *du jour* would conclude that under-supply of funds or equipment was not actually a problem. The ability of the RCN to make do with far less than a country of Canada's size requires generates pride at one level and frustration at another.

Under the present plan, the 2024 fleet would have all the above plus two new Joint Supply Ships (still not in design), up to six more new Arctic Offshore Patrol Ships, with the 12 *Halifax*-class being replaced with new surface combatants plus three as per the DPRS. The surface combatants and supply ships are still in the design phase.

So, the seas have been worse in the past and some signs of hope are visible like a very distant sunrise from the bridge. But there is the challenge.

While the chain of command and the flag officers of the RCN will, no doubt with vision and competence, prepare a strategic and implementation plan for the navy's future based on the DPRS and the many new technical acuities and determinants outlined, there will be some intra-forces sort-outs that will matter. It will require greater engagement by the Departments of Finance, Treasury Board, Procurement and Government Services actually to meet

Credit: DCNS/Naval Group

*The two **Mistral**-class Amphibious Assault Ships initially built for Russia sit pierside at their French builder's yard, awaiting eventual commissioning into the Egyptian Navy as L1010 ENS **Gamal Abdel Nasser** and L1020 ENS **Anwar Al Sadat**.*

the commitments made to the RCN rather than frustrate them, as has been the case in the past.

The creativity that led RCN leadership to do a supply vessel interim arrangement this year with MS *Asterix* as a repurposed commercial oiler to upscale Canada's oiler capacity from zero should be encouraged as the cycle of design and construction continues. This agreement, approved by two governments and three Ministers of Defence, and the creative flexibility it reflects, should be supported, not investigated. The opportunity to acquire first-class capital ships like the *Mistral*-class, which were available after a sale to Russia was cancelled, was lost to the Egyptians a few years ago. Opportunistic capacity should be advocated, not frustrated. The imperative must be in keeping the fleet mobile and ready, as opposed to holding it hostage to any mix of existing suppliers. It is important for the RCN to get its fair share of new Regular force and Reserve force personnel as well as new cyber, intelligence and research capacities cited in the DPRS. A coherent implementation plan for Special Forces in joint collaboration with RCN units should be advanced.

And at the political level, outside the chain of command, more debate is required in the Senate, the House of Commons and relevant committees about the adequacy of aiming for only a two-task force (four vessels each) global capacity as envisaged by the DPRS. Between China's activities in the Arctic and in its own region, deployments of the Chinese Navy in Eastern European waters, Russian naval deployments in the Mediterranean and in support of rogue criminal regimes like Syria, not to mention the Iranian navy or the North Koreans, I think most Canadians would want their government to have more than two naval task force choices to deploy to prevent trouble, sustain allies, or tackle humanitarian challenges.

The good news is that the moderate tailwinds for the RCN outstrip the headwinds post-DPRS. But it will take continued elbows-up engagement by RCN leadership, and frank talk by other supporters of the navy to help produce a truly helpful following sea.

A Rational Approach to New Navy Ships

Pat Ambrose

There is an old story about the definition of an expert. Experts are people who know more and more about less and less until they know absolutely everything about absolutely nothing. The Canadian government's approach to the navy seems similar. The government expects that the expert Canadian navy can do more and more with less and less until it can do everything every other navy can do and do it with one ship – or at least one ship design.

The government's Canadian Surface Combatant (CSC) program calls for spending $61 billion dollars[1] for up to 15 new ships. The 2017 Parliamentary Budget Office cost estimate covers as few as six ships.[2] Two variants of the CSC will be built based on one common hull design.[3] One variant will be an area-air defence version and the other will be a general-purpose ship to do everything else.

There are various descriptions of what these new ships will be tasked to do. The duties of what I'll call the 'big ship' are classed as open ocean, international fleet capabilities.[4] They include: providing a significant contribution to

international naval operations; transiting and operating in traditional blue-water (open oceans) environments; providing long-range area-air defence for fleet operations; providing command and control for Canadian and allied ships; and delivering humanitarian assistance/disaster relief.

It is important to note that the idea of a warship delivering effective humanitarian assistance/disaster relief makes for good government public relations but the ability of a destroyer or frigate to provide humanitarian assistance would be symbolic at best. Replenishment ships, amphibious landing ships (as used by the United States) or better yet, type-specific ships, could actually provide real HA/DR. It is hard to picture a navy destroyer capable of carrying several hundred tons of relief supplies, a complete emergency field hospital, several hundred tents, a 100-bed on-board hospital, several helicopters and a vehicle bay big enough for bulldozers, dump trucks and ambulances. All of this would be expected of a true humanitarian assistance ship.

The duties of what I'll call the 'small ships' are focused on littoral (near shore) capabilities.[5] They include:

- support operations in and around the increasingly important, complex and challenging littoral environment;
- search and rescue operations;
- sovereignty enforcement;
- counter-piracy operations;
- counter-terrorism patrols;
- counter-narcotic operations;
- interdiction and embargo operations; and
- operations to monitor and to defend Canadian waters.

These lists are not exhaustive or exclusive. Both big and small ships are expected also to provide/conduct:

- anti surface warfare (littoral and open ocean);
- anti-submarine warfare (littoral and open ocean);
- medium-intensity conflict patrol operations (i.e., potentially but not immediately dangerous operations); and
- support of land operations.

With the exception of humanitarian assistance/disaster relief, one ship design may do everything for everybody, but of course, it won't do everything efficiently, effectively or economically. A ship designed for fleet area-air defence and command and control as a part of an international fleet will be, by necessity, a rather large ship. The Parliamentary Budget Office's assessment is for a 5,400 ton lightship weight (LSW) ship.[6] Such ships would not be cost effective for some anticipated roles. They will be

Credit: US Navy, Lockheed Martin

The future Littoral Combat Ship USS ***Little Rock*** *(LCS 9) conducts a high-speed run during trials on Lake Michigan, 25 August 2017.*

Credit: Royal Canadian Navy

*HMCS **Charlottetown** fires an Evolved Sea Sparrow Missile from its Mk. 48 Vertical Launch System, 16 July 2017. An upgrade from the Mk. 48 to the Mk. 41 would dramatically increase the RCN's ability to carry more and greater varieties of guided missiles.*

too big and too expensive for tasks like search and rescue, anti-piracy, anti-smuggling, coastal patrol or economic embargo. Because of their size, they would be poorly optimized for near-shore (littoral) missions. These near-shore missions are important enough in today's military environment that the US Navy is building a whole class of ships for the task.

I suggest that there is no favourable 'one ship' solution given the defined parameters. I suggest that initially, the idea of one hull design may have made sense based on cost when the plan was to design new ships from scratch. Simply designing (never mind building) a new ship can cost up to $2 billion. To design two or more would use up an extraordinary amount of tax dollars. But, the government has decided to use off-the-shelf designs and that concern no longer applies. If you are going to use one current design, why not use two current designs? As a matter of fact, two different designs may (and probably would) mean less modifications in total and therefore lower cost.

It is quite possible that once the government made its decision to use only one hull design, there was zero consideration of any alternative. Or, perhaps any contrary option was immediately discarded. Cognitive science has a term for such decision-making. It is called choice-supportive bias. Once a choice is made, all other options are discarded even in the face of new evidence contrary to the original decision.[7] I believe that the government has also applied choice-supportive bias in the case of the new replenishment ships, but that is another story.

A Rational Proposal

In this proposal, I will suggest a two-ship CSC solution that could provide better military capability, increased versatility and lower cost. Specifically, this proposal suggests construction of at least four, 140 to 160 metres, 6,000 ton, large frigates or destroyers designed for significant contributions to international blue-water fleet operations, with both area-air defence and command and control capabilities. This proposal also suggests building 14 to 16 corvettes that are 95 to110 metres long, 2,400 ton (Littoral Combat Ships in the US designation). These ships would support operations in and around littoral environments, support NATO, or UN missions, participate in naval task groups but not in command roles, and protect Canada's coasts. (Note: the *Halifax*-class frigates are 134 metres long and 4,700 tons.)

Credit: Ein Dahmer, Wikimedia Commons

*The German corvette **Braunschweig** seen in Bremershaven in 2015.*

Credit: DCNS/Naval Group

The ***Gowind****-class corvette ENS* ***El Fateh*** *was commissioned into the Egyptian Navy in September 2017.*

The two ship types would of course use common equipment, weapons systems, radars, etc., wherever possible.

Part 1: A New Area-Air Defence Destroyer

There are several operational ships in contention for the Canadian Surface Combatant (CSC) and they have been well analysed. But there is one ship that is not being considered sufficiently. It is currently in operation and is well thought of by allied navies. This ship is Canadian designed, equipped with the most up-to-date combat management systems, modern radar, modern internal communications, harpoon missiles, up-to-date electronic warfare systems, etc. The case for using this ship was very well argued in an article entitled "Tweaking the Procurement Approach for the Canadian Surface Combatant," by Captain Roger Chaisson, RCN (Retired), in *Canadian Naval Review*.[8] The ship is the current *Halifax*-class frigate, remade to be bigger, better and stronger with a smaller radar cross section through updated superstructure, vertical launch system (VLS), command and control, and variable multi-mission capability.

If Davie Shipyards can take a container ship and turn it into a first-class replenishment ship, then surely that same Canadian innovativeness can take a capable modern frigate produced by Canadians in the first place and make an even more capable, modern area-air defence and command and control destroyer. Captain Chaisson proposes inserting a hull insert forward of the bridge structure to house a VLS and another amidships to improve the current congested machinery spaces. This midship extension could also house a variable mission capability and provide a finished ship of approximately 6,000 tons.

What would this cost? The Canadian government proposes to build 15 CSC ships at about $2.6 billion each (2017 dollars).[9] Surely a project starting with ships that already belong to Canada, are a proven design and already contain modern technology and weapon systems, can be modified and remastered faster and cheaper? But for the purposes of this proposal, let's assume that converting each *Halifax*-class frigate would require the same expense as modifying and building other designs. Four ships would cost $10.4 billion. If we consider that starting with a ship that already exists might provide a modest 20% cost benefit then we could possibly build five ships for the same cost.

Part 2: A New Canadian Littoral Combat Corvette

The proposal here is to build 16 new Canadian corvettes.

Canada has a proud history of having a corvette navy and this could return the navy to ships that worked well in the past. The new ships would be current designs, 90 to 110 metres in length and approximately 2,500 tons. They would be fully armed with modern weapons, modern combat management systems, modern radar, and one helicopter with hangar.

Examples of such ships include:

- Braunschweig F260 Corvette (Germany), 1,800 ton, 90 metres, with anti-ship missiles, mine-laying capability, remote-piloted helicopters and hangar.[10]
- Gowind BAM Maritime Action Ship (Spain), 2,500 ton, 108 metres, with 16 VLS missiles, anti-ship missiles, anti-submarine torpedoes, hull-mounted and variable depth sonar, helicopter and hangar.

The cost of current in-service corvettes is as follows. The Braunschweig (Germany) costs $309 million each as built in Britain, and $260 million each as built in Turkey. The Gowind BAM Maritime Action Ship (Spain) costs $263 million each.[11] The cost of 16 similar ships would be $4.2 billion to $4.9 billion. But let's assume that Canada has additional requirements which would increase the price as the ships are 'Canadianized.' Let's assume a Canadian cost of $500 million each. This would take the cost for 16 ships to $8 billion dollars.

The total cost of this proposal, which includes four destroyers and 16 corvettes for a total of 20 ships, would be $18.4 billion. This represents a savings of $21.54 billion over the current government plan and with an additional five ships.

Conclusion

Canada's navy has a rich tradition. Canadian sailors are among the best in the world. They can do their best work if we give them the best equipment for the job. A great sculptor doesn't do all his work with one type of chisel, and doesn't buy the most expensive chisel in the store if there are better deals to be had.

Notes

1. David Pugliese, "Canadian Surface Combatant: Defining the Future of Canada's Navy," *Esprit de Corps*, 8 November 2016.
2. Parliamentary Budget Office (PBO), "The Cost of Canada's Surface Combatants," 1 June 2017.
3. Pugliese, "Canadian Surface Combatant: Defining the Future of Canada's Navy."
4. *Ibid*.
5. Department of National Defence, "Canadian Surface Combatant, Project Summary," no date, available at www. forces.gc,ca/en/business-equipment/canadian-surface-combatant.page.
6. The PBO used a lightship weight (LSW) of 5,400 tons.
7. For a definition of this see Wikipedia, "Choice Supportive Bias."
8. Roger Chiasson, "Tweaking the Procurement Approach for the Canadian Surface Combatant," *Canadian Naval Review*, Vol. 12, No. 4 (2017).
9. PBO, "The Cost of Canada's Surface Combatants."
10. See ThyssenKrupp AG for information.
11. See Naval Group, formerly DCNS, for information.

Asymmetric Warfare Does Not Mean We Can Have Defence on the Cheap

Vice-Admiral (Ret'd) Sir Jeremy Blackham

Will there be military conflict in the future? An examination of human history demonstrates that it is one of the few absolutely constant features of human activity and relationships. There are of course people who believe, or wish to believe, that human nature has changed and that today better ways of resolving disputes are available. Yet, as Carl von Clausewitz said, war is a continuation of diplomacy by other means, and there is little sign in the

Credit: Cpl Peter Reed, Formation Imaging Services

*HMCS **Halifax** fires a NATO Sea Sparrow missile during a task group exercise in the Atlantic in 2006. The frigate modernization program improved the fleet's ability to defend against physical threats by upgrading the NATO Sea Sparrow to the Evolved Sea Sparrow.*

Credit: Cpl Danny Veillette, Formation Imaging Services

*A security party from HMCS **Ville de Quebec** departs **Golina**, a ship delivering aid to Somalia via the World Food Program, 25 September 2008. Although Somali piracy has gradually declined, its presence is a poignant reminder that asymmetric threats can pose major problems for global and local economic systems.*

world that states do not still wish from time to time to impose their will on other states who wish to resist this. It seems unlikely that, in the last resort at least, states will not be prepared to go to war to change the situation or the behaviour of others to their own advantage.

What will such wars be like? In the last year or two, a number of senior government officials have observed that since future wars would be mainly cyber-wars, there was no longer any significant need to provide forces with the mass, power, support and reserves necessary for 'kinetic' warfare. This would apparently allow, or justify, very substantial reductions in conventional military forces and free the resources to enable countermeasures to cyber-attacks to be developed. This is an attractive proposition since it suggests that war can be carried out with little loss of life or destruction, although almost certainly it would involve great loss of wealth and prosperity. It also might imply that the need to maintain complex and very expensive traditional military force has lapsed.

Let us for the moment put to one side the fact that traditional forms of war appear to be alive and well in large swathes of the Middle East, and that many states, including Russia, China, India, Iran, Saudi Arabia, North Korea (to name just a few) are building up, strengthening and modernising their conventional forces. Indeed, as I write this, the North Korean situation seems to be reaching new peaks of danger. Let us recognise too that cyber-attacks of various sorts, have become commonplace, both by themselves and as precursors to, or adjuncts of, other forms of attack. And let us admit that our own perceptions of warfare have been affected by the phenomenon of 'asymmetric warfare,' in various different forms, as we have seen most notably in Iraq and Afghanistan. Then let us consider briefly the character of asymmetric warfare to allow us to test the validity of the claim that future wars will be

Credit: KISA

The South Korean Minister of Science, ICT and Future Planning visits the Korean Internet and Security Agency on 19 July 2013.

Credit: Ms Emily Chambers, US Navy

*HMS **Albion**, a Royal Navy amphibious assault ship, operates in the northern Persian Gulf, January 2006. **Albion**, and sister ship **Bulwark**, have been the subject of recent early retirement rumours, causing much concern over the United Kingdom's ability to project power abroad.*

asymmetric/cyber-wars and that this allows us to reduce other military capabilities. Whilst I shall build much of my argument around cyber and information warfare, the main thread of the argument applies to other forms of asymmetric warfare

The term asymmetric warfare does not in its basic sense denote any particular form of warfare, nor its relative sophistication or effectiveness. It simply means combating an enemy with different means from those he has employed against us, or usually employs. Its virtue is that it seeks to engage an enemy in a way for which he has little or no capability, or for which he is not prepared. Given that historically warfare involving conventional weapons and the use of force has been the most common form of warfare, it is the most easily understood. It is in this type of warfare that the great military powers have, over decades, developed vast and increasingly precise and autonomous capability, to the extent that they have virtually driven other, smaller or less developed, states off the conventional battlefield.

For smaller states, or increasingly for groups of non-state actors, this is clearly unsatisfactory. It effectively requires them to submit, in any dispute, to the far greater power of other, mainly Western, states. There are two possible solutions to this situation. One is to develop greater military power – the route North Korea seems to have chosen. The other is as obvious as it is ancient. It is to shift the combat on to other ground, ground where Western superiority is, for the time being, less marked or even non-existent – in effect to move to guerrilla or even terrorist tactics, the so-called 'War of the Flea.' For states or groups such as this, the key is to identify those areas where the West may be vulnerable. But it should be noted that the use of cyber-attacks is equally valuable for large conventional military powers too.

To some extent cyber-warfare is one of these potentially asymmetric weapons, although for small groups or non-state actors, it is almost certainly of greater use for fund-raising for criminal, terrorist and support activities. The probable use of cyber-attacks is either (or both) to disrupt or destroy public utilities, financial or communications systems, or to swamp and render inoperable intelligence, surveillance and targeting systems prior to an attack. This occurred in the Russian attack on Georgia in 2008, and such attacks serve to create a temporary vulnerability. I am therefore going to suggest that such cyber-systems are principally an enabler of successful coercion or occupation rather than by themselves the sole deliverers of any hostile state's war objectives, although they can clearly be a weapon of war.

This is not to say that a significant chunk of both the private and public resources of Western states should not be spent protecting the many systems on which modern life and commerce, and contemporary military combat,

necessarily depend, and launching and countering military cyber-attacks. They most certainly should be. But not at the expense of the means of fighting other forms of warfare for precisely the reasons I have set out above – it eases potential opponents' problem of identifying the weak underbelly.

This naturally produces some unwelcome conclusions. The most obvious one, and one that no Western government will be very happy about, is that technical developments mean that in considering the needs of defence there are more bases to cover than there used to be, and the additional demands of low-level asymmetric warfare mean that the list grows longer. Given the nature of contemporary irregular warfare, it is no longer possible to be confident that military capabilities designed against the most capable potential enemies will necessarily provide for all forms of low-intensity warfare. The UK's experience of operations in Afghanistan and Iraq amply demonstrate this fact. To the extent that any particular base is left uncovered, a vulnerability may be created which the asymmetric warrior might be able to exploit.

The inference to be drawn is that, as different methods of warfare are developed, a greater variety of capability is needed to deter combat or to engage in it successfully. Indeed, the difficult truth to be confronted is that the growth of asymmetric warfare may demand more capability across the board, not less. Or, to put it in starker terms, more expenditure on defence and security, rather than less.[1]

The consequences of this are likely to be unwelcome to democratic governments governing open societies because they require considerable honesty and rigour in addressing an electorate which has been weaned on peace, complacency and good times. This of course also requires some very tough and potentially difficult resource allocation choices. But this discussion and these decisions are unavoidable. There is no natural law which will allow us to assume that our lives and states are secure without considerable effort and expense on our own part.

Indeed, the whole of human history argues against it and human nature appears to have changed very little in this time. Kim Jong-un is merely the latest in an almost unbroken line of megalomaniac leaders, not a new phenomenon. And asymmetric warfare is merely a modern name for a long history of seeking victory in combat by whatever means are necessary. Sadly, each new field of warfare requires a new response, but does not necessarily invalidate all other techniques. We simply have more bases to cover and our security, if we want it, is going to cost more.

Notes

1. Readers who are interested in this subject and argument may find it worthwhile to read my article on conventional deterrence which explains some of the framework for this argument. Jeremy Blackham, "Deterrence is Not Only about Nuclear Weapons," *Canadian Naval Review*, Vol. 13, No. 1 (2017), pp. 10-15.

Guarding Against Engine Fires

Chloe Kay

At sea, fire poses one the of biggest threat to ships. Fires on board ships can be devastating to crew, vessel and cargo. Fire safety standards on board cannot afford to slip. Sailing alone and at sea, without the ability to call upon the emergency services as a land-based asset might, means that ships must ensure that they don't experience fires.

The financial effects from on board fires can run into millions of dollars. Often after an engine room fire, a ship cannot proceed under its own power leading to salvage, repairs, downtime and cancellations, which are all highly costly. The costs are not just financial, engine room fires can be detrimental to the integrity of a navy or a shipping company and the lives of the passengers and crew are threatened by a fire.

In the shipping industry and especially in the cruise industry, engine fires can be extremely problematic. Given that 400 million European passengers every year entrust themselves to the safety of the ship on which they travel, any accidents on board are serious threats to the safety of those passengers. About 6% of fires on Ro-Ro passenger ships have resulted in loss of life or serious injury every year.[1] In December 2014, 11 people were killed and several were injured in a fire aboard the *Norman Atlantic* Ro-Ro passenger ship. In March 2017 a fire on board *Renia Hosanna* injured eight people and forced the evacuation of the ship.[2] Chances must not be taken when lives are at risk, and when a vessel is at sea, this is all the time.

Research coordinated by the International Maritime Organization (IMO) has indicated that between 30% and 50% of all fires on merchant ships originate in the engine room and 70% of those fires are caused by oil leaks from pressurized systems.[3] Engine room fires are among the most common fires on ships due to the running machinery, and sources of fuel and ignition within them. There are generally two types of engine room fires: oil or electric. Oil fires are the most serious. Mechanical issues such as fracture, fatigue failure (machinery wearing out and

then failing), and also under-tightened components or seals may result in catastrophic occurrences.

Complying with fire safety regulations does not guarantee safety. UK P&I Club, a large insurer of ships, has suggested that extended periods of time on board a ship without a fire can lead to complacency and therefore a failure of prioritizing fire prevention methods and practices.[4] It is impossible to prepare for all eventualities on a vessel, and it is often easier to focus on the prompt detection of fires and their effective extinguishment rather than the prevention of fires. Yet, even so, one of the reasons why accidents are still happening and fire safety is still a major issue in the shipping industry is the lack of development in firefighting equipment available on board container ships.

The Vice-Chairman of the International Union of Marine Insurance (IUMI) stated that for global shipping, major fires on container ships are among the worst hazards.[5] Part of the problem is that, as container ship sizes have increased, the firefighting equipment on board has not experienced the same development. In its 2016 annual report, the US Coast Guard identified that the greatest deficiency on board its ships was firefighting appliances.[6]

An example of where the risk has become a danger is the container ship CCNI *Arauco* which caught fire in 2016 at port in Hamburg, Germany. Some 300 firefighters were needed after an unsuccessful seal and flood of the vessel's hold with CO2 did not contain the fire. The hatch had to be flooded and then foam was used to bring the fire under control. The main difficulty came from the inadequate equipment the crew had to tackle the fire. As a result of this experience, there have been calls for the technology to change.

Another example is an incident that occurred on 9 January 2009 when a fire erupted within the engine room of asphalt tanker *An Tai Jiang*, as the ship was en route from Ulsan, South Korea, to Ningbo, China. The probable causes were identified as a failure and explosion of the main engine crankcase. This failure resulted in large quantities of hot oil mist and flammable vapour in the engine room which was then ignited. In the investigation after the fire, overall, it was found that there were many issues regarding the state of the engine, but also with the maintenance and inspection of preventative equipment such as fire safety equipment. The investigation also found a lack of leadership qualities shown by the crew masters and security managers. In terms of the fire safety, the investigation showed that even though the fire detection and alarm systems were installed and inspected three months beforehand, both had failed during this incident, thus not alerting the crew at the appropriate time. This was due to improper maintenance. This result demonstrated that

Credit: Italian Navy

The passenger ship ***Norman Atlantic*** *caught fire in December 2014, while transiting in the Adriatic.*

regular inspection may not prevent failure if maintenance is inadequate.[7]

UK P&I Club recommends that the high-risk threat of engine room fires is recognised and that a ship's crew pay particular attention to training and the care, maintenance and correct operation of all firefighting equipment. The lack of knowledge of how to control a fire effectively has created difficulties in the past. In one case, firefighting attempts were hindered by the ineffectiveness of the fire smothering system because of a lack of understanding of its correct method of deployment and lack of proper maintenance. In another occasion, a Chief Engineer did not operate the CO2 system release mechanism correctly and, as a result, only one cylinder (of 43) was discharged which had a negligible effect on the fire. It is possible that he released a cylinder from the main bank of cylinders instead of a pilot cylinder in the mistaken belief that this would trigger the release of the requisite number of cylinders. In other cases it was found that the filter cover bolts were improperly tightened and there was a lack of proper inspection routines.

Credit: Andreas Hoppe, Shipspotting.com

The container ship CCNI ***Arauco*** *developed a fire below decks while berthed in Hamburg, 1 September 2016.*

The 'ungoverned space' is a term that was coined to explain the area on board a vessel where the regulations or safety infrastructure are not providing reliable safety – for example, the extinguishing systems being in place but not actually working in the event of the fire. This life-threatening issue must be dealt with, with specific regard to loss of contents in fixed fire extinguishing systems. Gaseous extinguishing systems leak, meaning that in a cylinder the contents may have dropped, and in the event of a fire the cylinder would not have enough suppressant in it to extinguish the fire. As well there is a need for improvements to engine room integrity testing.

The neglect of basic routine testing and maintenance of three key areas substantially increases the risk of an engine room fire:

- the cylinder agent content in the fire extinguishing installations;
- the associated pipework; and
- the room integrity of the protected space into which the suppressant agent discharges.

There are some solutions. As a first example, there are ultrasonic liquid level indicators to identify the fire extinguisher agent liquid level in under 30 seconds with one competent user.[8] This compares to 15 minutes in another system which includes weighing with two personnel, who must be qualified in fire safety inspections, which most crew are not. The ultrasonic indicators comply with IMO SOLAS FSS Code 2.1.1.3 which requires crew to have the means on board to test the installation agent content. This means that the crew on board a vessel must have means to be able to check how much content is left in the cylinder so that they can be sure that whilst they are at sea, the extinguishing systems are in full working order. A second example includes ultrasonic thickness gauges, ultrasonic flow metres, acoustic emissions-bearing indicators which all inspect and provide condition monitoring of metal work, pipework and rotating machinery. A third example is ultrasonic watertight and airtight integrity indicators to identify leak sites in compartments. They ensure that the room or vessel which the system is protecting is able to withstand the pressure of the agent when it discharges and that the compartment will hold that agent for the design concentration required to suppress a fire (when an gaseous extinguishing system is installed, it is designed for a

Credit: Hong Kong Marine Accident Investigation Board

*A burnt corridor on the asphalt carrier **An Tai Jiang**, which suffered an engine room fire in January 2009.*

specific space – e.g. the engine room – and the size of the system is in relation to the 'protected space.')

Maintaining high standards of fire safety practice does not have to be expensive or time consuming. This is a call for awareness of the problem and for action to be taken now.

Notes

1. European Maritime Safety Agency (EMSA), "Study Investigating Cost Effective Measures for Reducing the Risk from Fires on Ro-Ro Passenger Ships (FIRESAFE)," SP Technical Research Institute of Sweden, AB Bureau Veritas + Stena Rederi AB, 2016, available at www.emsa.europa.eu/emsa-documents/latest/download/4529/2931/23.html.
2. "Eight Injured in Fire on Philippine Ferry," The Maritime Executive, 17 March 2017, available at http://maritime-executive.com/article/eight-injured-in-fire-on-philippine-ferry.
3. UK P&I Club, Burgoynes. "Risk Focus: Engine Room Fires," 2016, p. 1, available at www.safety4sea.com/wp-content/uploads/2016/12/UK-PI-Club-Risk_Focus-on-Engine-Room-Fires-2016_12.pdf.
4. Ibid., p. 14.
5. Speech by Vice-Chairman of the International Union of Marine Insurance to IHS Safety at Sea conference in 2016, available at https://fairplay.ihs.com/safety-regulation/article/4279126/fire-risk-grows-as-ships-get-bigger.
6. Department of Homeland Security, US Coast Guard, "Port State Control in the United States: Annual Report 2016," p. 13, available at www.dco.uscg.mil/Portals/9/DCO%20Documents/5p/CG-5PC/CG-CVC/CVC2/psc/AnnualReports/annualrpt16.pdf.
7. Marine Accident Investigation Section, Hong Kong, "Report of the Engine Room Fire on Board Hong Kong-Registered MT An Tai Jaing, 9 January 2009," available at https://maddenmaritime.files.wordpress.com/2015/01/an-tai-jiang-fire-2009.pdf.
8. These calculations and descriptions are based on the range provided by Coltraco Ultrasonics only.

Update to the Article "Sea Trials"

Jocelyn Sandhu

In an article published in *Canadian Naval Review*, entitled "Sea Trials: The Benefits of Using UNCLOS to Settle Maritime Disputes," I discussed a maritime boundary dispute between Australia and Timor-Leste.[1] Several months after the publication of the article, a significant breakthrough in this dispute occurred and this warrants a quick update. Australia and Timor-Leste have agreed upon a maritime delimitation after a decade-long dispute was settled on 30 August following negotiations that were facilitated by a conciliation commission overseen by the Hague-based Permanent Court of Arbitration. In a press release, commission officials confirmed that aspects key to establishing the maritime border were agreed upon, including the creation of a special regime to coordinate activity in the countries' shared Greater Sunrise gas field, along with

Credit: Permanent Court of Arbitration

Timor-Leste's Chief Negotiator and former President Xanana Gusmão speaks during conciliation proceedings at the Permanent Court of Arbitration, 29 August 2016.

clarification of the field's legal status and a revenue-sharing agreement for the resource.

The disagreement between the two countries had halted an estimated USD $40 billion offshore gas project in the Greater Sunrise field, as Timor-Leste argued that Australia's continental shelf maritime boundary placed much of the field in Australia's Exclusive Economic Zone (EEZ). This interpretation was viewed as unacceptable for Timor-Leste, as it had long argued that the access to gas reserves is crucial to its economic future. Although details on exactly where the border will be established will be announced once the deal is finalized in October, a statement by Australia's Foreign Minister commended the agreement as beneficial to the national interests of both countries, suggesting that potential revenue from the fields has most likely been much more proportionately divided between the two states than it was previously. Moving forward, Australia and Timor-Leste are expected to engage jointly with other private stakeholders in the Greater Sunrise development project, such as Royal Dutch Shell and Japan's Osaka Gas, which were forced to put the project aside while the two countries negotiated.

This historic agreement between Australia and Timor-Leste is a pivotal example of a maritime dispute that was settled peacefully via a conciliation commission.

Notes

1. Jocelyn Sandhu, "Sea Trials: The Benefits of Using UNCLOS to Settle Maritime Disputes," *Canadian Naval Review*, Vol. 13, No. 2 (2017), pp. 36-38.

A View from the West:

Naval Diplomacy in the Indo-Asia-Pacific Region

Daniel Baart

Looming tectonic shifts in global power and the increased significance of naval power in global politics have fueled a period of renewed interest in naval diplomacy. Large and emerging powers – including the United States, China and India – are augmenting their global positions and network of defence alliances, while traditional 'middle powers' – including states like Australia, Canada and South Korea – are expanding relations with each other to bolster their own capabilities. Enhanced strategic competition in the Indo-Asia-Pacific region is playing out within the maritime realm, and credible naval power is seen as critical to security and prosperity. These trends are manifesting themselves across a variety of activity areas, including between states seeking to strengthen existing relationships, augment the naval capabilities of partners, and leverage cooperation to entice prospective partners into closer defence and political associations.

Naval forces are a critical means of advancing these objectives. While naval fleets are created and maintained to engage in armed conflict, their non-warfighting duties should not be regarded as of secondary importance. Indeed, the practice of naval diplomacy is one of the most important roles assigned to naval forces, and one of their most critical contributions to their national governments, particularly as their primary function – to engage in combat – is a rare occurrence.

Naval diplomacy is about the political application of naval forces in support of broader government objectives. This includes coercive actions meant to threaten violence, a practice known as 'gunboat diplomacy,' as well as cooperative, constructive and multilateral efforts designed to assist current and potential allies and partners. Ken Booth includes naval diplomacy alongside warfighting and constabulary operations in his celebrated trinity of naval operations. According to Booth, the policy objectives of naval diplomacy include:

- reassure and strengthen allies and associates;
- signal 'business as usual' during a crisis;
- threaten force from the sea to support policy;
- improve one's ability to affect the course of specific diplomatic negotiations;
- demonstrate support for different countries, and gain or increase access to new countries;
- build up foreign navies or create proxy threats to adversaries;
- provide standing demonstrations of naval power in distant waters to establish the right to be interested;
- provide psychological reassurances for the home country;
- project a favourable impression of one's country;
- project an image of impressive naval force.[1]

Booth stresses the peaceful nature of naval diplomacy by suggesting that it seeks to "affect the thinking and behavior of other governments with little or no intention or expectation of using brute force."[2] That is not to say that naval diplomacy is a wholly peaceful pursuit – it does involve the deployment of warships, after all – but that naval diplomacy, like all diplomacy, is intended to secure political or strategic gains without the need for conflict.

Credit: Deneth17, Wikimedia Commons

Hambantota port as seen in September 2013. China recently bought an 85% share in the deep-sea port, located at the southern tip of Sri Lanka.

Shifting Power and Regional Relations

The increased currency of naval power means that navies can make a significant contribution to efforts aimed at expanding relations with partners and allies. While there is some question as to whether US global influence is on the decline, there is no doubt that China's political and military power has grown considerably, particularly in terms of its global maritime interests. Dramatically increased Chinese naval activity and Beijing's plans for the massive One Belt, One Road infrastructure project have worried China's potential rivals in the Indo-Pacific region, including India, Japan and the United States. This is especially so because the project is dependent on China leveraging its growing maritime power to increase its diplomatic standing with existing regional partners, such as

Credit: Bangladesh Navy

*The Bangladeshi frigate BNS **Shadhinota** as seen in March 2016. It was built by China using the Type 056 corvette design.*

Pakistan, Bangladesh and Sri Lanka. China's efforts in this regard are heavily dependent on exercising significant naval diplomacy, which will improve Chinese access to these areas and, if all goes well, provide China with regional defence partners in the event of future conflict.

Anxiety about China's growing power has been accompanied by concerns about US willingness to remain engaged in the region. These concerns, brought about in part by changes in US leadership, have led the so-called middle powers of the Indo-Asia-Pacific region to re-evaluate the scope of their defence relations. The possibility of US hegemony coming to an end has prompted US allies – including Canada, Japan, South Korea and Australia – to seek closer relations in order to prepare for contingencies that might not include the United States. Although the United States continues to be a critical part of the Indo-Pacific security architecture, enhanced maritime linkages between US partners are perhaps the most visible manifestation of the effort to use naval cooperation and outreach to reassure allies, strengthen multilateral defence partnerships, and provide a centre of diffused regional security leadership as a bulwark against potential shifts in regional hegemony.

This is not to suggest that diplomatic activity is wholly confined to naval affairs, although the naval components of these foreign relations can provide considerable dividends in the form of enhanced relations. The provision of naval equipment and direct materiel assistance to less-capable partner navies is perhaps the most direct means of cementing relations and contributing to collective responses to maritime concerns. Japan has shown itself to be a leader in this with its provision of patrol craft to both the Philippines and Vietnam which, like Japan, are also embroiled in maritime boundary disputes with China.

China, for its part, is also seeking to improve relations through the provision of maritime hardware, much of which is intended to support its One Belt, One Road project objectives. While this project involves huge financial investment in ports and other infrastructure within partner countries, China has also sought to become a significant arms exporter to countries along the route in the Indian Ocean, such as Bangladesh, Pakistan and Sri Lanka. Despite local opposition to infrastructure projects and accusations that payments to service Chinese loans are likely to cripple national economies, China has found apparent success in its bid to embark upon these projects, and the provision of discounted naval hardware – including submarines to Bangladesh, and patrol craft to Pakistan – has undoubtedly been an attractive option to less-affluent states in Asia and Africa concerned about their own maritime security. China has, in many ways, embraced the Russian model of defence diplomacy in which generously-financed (or provided as a gift) hardware is used to facilitate wider political relations.

The Challenges of Naval Diplomacy

However, as the China-Sri Lanka case suggests, offers of materiel to governments are seldom sufficient to assuage public apprehension or fears of unscrupulous foreign influence. A change in government in Sri Lanka and public outcry nearly upended China's signature port development projects there, and provided an example of the continuing importance of perception and soft power in all forms of diplomacy. The middle powers, by virtue of their more globalist and cooperative aims, have an easier time courting new partners, but they will have to work harder, by virtue of their smaller fleets, to demonstrate that they, too, can contribute to regional security initiatives.

Small fleets can overcome this challenge through persistence, and the Royal Canadian Navy's recent Poseidon Cutlass deployment was a major step in showing Canada's commitment to the region. In Booth's analysis, such an effort is aimed at "establishing the right to be interested" in regional affairs by providing clear evidence of capacity and interest in being engaged.[3] Canada's ability to deploy regularly to these waters is a major part of enhancing its access and opportunities in this critical region.

The changing strategic landscape, shifting global power and the emergence of new centres of leadership demand Canada's attention and involvement. The heavily maritime character of the region means that the RCN will remain a critical and effective component in advancing regional goals, including advancing and protecting Canadian interests, supporting allies and partners, and bolstering regional and global security.

Notes

1. Based on material found in Ken Booth, *Navies and Foreign Policy* (London: Croom Helm, 1977), pp. 18-19.
2. *Ibid*., p. 26.
3. *Ibid*., p. 19.

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Dollars and Sense:

Re-engaging in the Pacific with Helicopter Hangar Diplomacy

Dave Perry

In April 2017 the Royal Canadian Navy (RCN) sent both HMCS *Ottawa* and HMCS *Winnipeg* across the Indo-Asia-Pacific region as part of Exercise Poseidon Cutlass 2017. It was a journey of many thousands of miles promoting regional peace and stability during which the two ships made 14 ports of call. I was fortunate enough to embark on HMCS *Ottawa* for part of that journey, joining it from Kure to Tokyo, Japan, sailing with the Japanese Maritime Self-Defence Force and seeing some of those interactions first hand.[1]

The RCN leadership is taking this regional engagement seriously, putting resources towards this in a major way. For a 12-frigate navy, two ships represents a major share of Canada's deployable fleet, so deploying two at a time is an indicator that this really matters to Canada, and its navy. The fact that the navy has made a commitment to sustain this engagement for at least the next three years, and advertised this regionally, further indicates that the RCN take this seriously. So too did the numerous supporting engagements by the senior-most ranks of the RCN leadership, including the Commander, his Deputy and multiple other Admirals and Commodores. In such endeavours, rank and status matter, and the Canadian admiralty's personal presence further underscored the importance.

Yet another indicator of the commitment to the region is the fact that the notoriously conservative RCN is willing to try new ways of doing business and to maximize the deployments it can get out of the modernized *Halifax*-class. *Ottawa* was not deployed as a high readiness frigate and spent the duration of the sail training up its crew under the new concept of 'generating forward.' Rather than training off the coast of North America, the navy is pushing ships out to do regional engagement and similar missions while training. Poseidon Cutlass demonstrated the benefit of that approach. Under the old paradigm, the RCN would have only built upon Canada's rock-solid North American relationships while training its crew. On Poseidon Cutlass 2017, an intense training schedule was maintained that produced scores of qualified sailors, while also furthering wider Canadian diplomatic objectives.

Credit: Cpl Carbe Orellana, MARPAC Imaging Services

*The Japanese Maritime Self-Defence Force destroyer **Inazuma** and HMCS **Ottawa** manoeuvre ahead of HMCS **Winnipeg** during Exercise Poseidon Cutlass 17, 18 June 2017.*

There will be lessons learned from the experience. One key lesson will undoubtedly be that the treatment of sailors deploying abroad on force generation missions needs to be brought into much closer alignment with the treatment of those deploying on named operations. At the time I was on *Ottawa*, its crew was not receiving the same sets of benefits as ships' companies sailing elsewhere on named operations run by the Canadian Joint Operations Command. That will need to be rectified to make the approach sustainable.

The Pacific engagement is absolutely the right thing for

Credit: Cpl Carbe Orellana, MARPAC Imaging Services

*HMCS **Ottawa** and HMCS **Winnipeg** manoeuvre alongside the Chilean replenishment ship **Almirante Montt** on 25 July 2017, as part of Exercise Poseidon Cutlass 17.*

Credit: Cpl Carbe Orellana, MARPAC Imaging Services

HMCS ***Winnipeg*** *nears Kure, Japan, on 5 July 2017, while deployed on Exercise Poseidon Cutlass 17. In future iterations of the deployment, will the RCN continue to engage as many regional players as possible, or focus on fostering deeper relationships with fewer regional players?*

Canada to do. The region is too important to global geopolitics and to Canada as a major trading state for it to continue with its previous approach of having only an episodic presence. The presence in the region, and opportunities to sail with other navies to develop operational naval experience and build wider relationships by hosting receptions attended by Canadian diplomatic and trade officials and local leaders are needed. If the importance of getting a better understanding of what is happening in the region was not evident before the North Koreans made 2017 the summer of missile and nuclear tests, it surely is now. Getting to know the local players and gaining their insights on what is happening in their backyards is crucial.

A suggestion for how the benefits of this could be maximized is to ensure that language barriers don't limit the usefulness of these engagements. The English (or French) language skills of local navies in the region is variable, and the conversations with Japanese counterparts I witnessed were at times difficult. Ensuring that at least one person on a deploying ship has sufficient local language skills to act as even a rudimentary translator would be a major benefit. Across the breadth of the RCN or wider CAF there is likely enough diversity in language skills to identify someone who could act as an interpreter on future deployments, and flying them over for the few days that those skills would be required would be well worth the expense.

Another takeaway from the experience is how difficult it will be to convince the regional players that Canada is serious about engaging in the Indo-Asia-Pacific region. For Canada, a two-ship deployment to the region is a major indicator that going west is a priority. But in a region undergoing a naval arms race, the appearance of two ships for a few days at a time in each port, even if it becomes an annual occurrence, will take time to register in a region awash in warships. This in no way is a criticism of the effort, just a call to temper expectations for how quickly Canada can reverse the common perception in the region that it has far too often simply been absent (even if for good reasons, like the low fleet availability created by the *Halifax*-class modernization program). In that vein, it is worth giving some additional thought about how future iterations of Poseidon Cutlass are structured, and if they retain a broad-based focus on engaging with as many players as possible or shift to more focused efforts with a smaller group of allies and partners.

Further to that, we also need to temper expectations by recognizing that the government of Canada's policies and official statements about China are actively undermining attempts to engage with many of the other actors in the region. Canada's public reaction to Chinese activity in the South China Sea is viewed by some in the region to be muted at best, despite Canada's declared support for the rules-based international order. Similarly, the active courting of the Chinese leadership in the early days of the Justin Trudeau government and support for better Canada-China trade arrangements have not gone unnoticed. And none of these concerns have been allayed at all by the discussion of the Pacific region in *Strong Secure Engaged*, the Trudeau government's new defence policy. In the policy's text, the word 'Asia' appears only seven times while 'NATO' appears roughly 70 times. So while the RCN is clearly looking for a more balanced program of engagement around the globe, the wider CAF/DND remains disproportionately focused across the Atlantic Ocean to Europe. Furthermore, the only country in the region identified as a target for building stronger relationships is China. This will serve to cement the idea that the Trudeau has a China fixation and make any attempts by the RCN to develop better relations with other allies and partners in the region all the more difficult.

In sum, the RCN's Pacific re-engagement is the right thing to do, and the RCN is doing it the right way. Expectations, however, will need to be tempered for how quickly these efforts can change regional perceptions of Canada, especially when the government of Canada is seen by many to have taken a pro-China stance in the region.

Notes

1. Commander Sylvain Belair and his crew were exceptionally hospitable and willing to answer my many, many questions for which I thank them sincerely. BZ!

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Warship Developments:
RCN Operational Support Ships

Doug Thomas

For the first half century of the Royal Canadian Navy's (RCN's) existence, Canadian warships were limited in endurance by the fuel embarked prior to deployment – i.e., about a week's steaming at an economical speed between 12-14 knots – unless fuel could be replenished from another navy's replenishment ship, a large warship such as a cruiser or aircraft carrier, or by stopping into a port en route to their destination. Crossing oceans such as the Atlantic or Pacific posed significant logistical challenges, especially if higher speeds were required to conduct operations. Higher speeds meant refueling every two or three days, but from whom or where? During World War II, ships were built or converted with larger fuel tanks to extend their endurance and escorts could be fueled from astern by oilers – an onerous and lengthy procedure, especially in high sea-states. When three destroyers were deployed from Esquimalt just 10 days after the outbreak of hostilities in Korea on 25 June 1950, they sailed via a refueling stop in Pearl Harbor and were accompanied by the cruiser HMCS *Ontario* which refueled them en route to Sasebo, Japan, their base of operations. Major warships make convenient oilers in unusual circumstances such as this, but they are not really designed for such tasks.

As Canada's modern post-war navy developed, it was decided to build a specialized ship to support a task group comprising the carrier *Bonaventure* and escorting destroyers. Canada commissioned its first Operational Support Ship, HMCS *Provider*, in September 1963. This greatly increased the endurance of Canadian warships, enabling a task group to transit long distances and remain on station once it arrived in the mission area. *Provider* also embarked additional helicopters and maintenance teams, had enhanced medical facilities compared to destroyers and frigates, and would transfer needed food, spare parts and other stores to warships while conducting underway replenishment of fuel and other supplies. This 'one-stop shopping' from an accompanying support vessel resulted in a quantum leap in operational capability for naval forces – studies have shown a six-fold increase in effectiveness, based on the ability to remain in a mission area for extended periods.[1]

Provider proved herself so useful that it was decided to order two improved versions, *Protecteur* and *Preserver,* so that this capability would be available on both coasts. By that time, this type of vessel was designated by NATO as an Auxiliary Oiler Replenishment (AOR) vessel. When *Preserver*'s completion was delayed, the carrier *Bonaventure* was retained in service for a major Caribbean deployment in early 1970, and provided fuel, potable water, medical services, helicopter maintenance and stores support to the task group.

Modern-day replenishment at sea (RAS) is considered one of the most hazardous seamanship tasks. The ship providing the fuel or solid stores signals her course and speed (usually 12 knots) and ships requiring resupply approach on her beam to within 80-120 feet and are linked together by heavy tensioned steel wires to transfer supplies. RAS can take place in all weather conditions, day or night, but it requires practice. I remember a deployment in HMCS *Fraser* on a major NATO exercise in 1985 where we stayed at sea for 30 days without entering port. Continuous storms crossed the Atlantic and we experienced seas of 60 feet and winds of 60 knots for weeks on end. We fueled every day for a time, as we were concerned that the following day's conditions might be too extreme to do so.

The Joint Support Ship and Project Resolve

Since about 1990, planning for replacements for *Provider*, *Protecteur* and *Preserver* has been underway by naval staff. The concept, under various names but most recently the Joint Support Ship (JSS), involved an enhanced capability within these large hulls to perform roles in addition to replenishing naval forces, such as humanitarian assistance/disaster relief (HA/DR) and deploying and supporting amphibious forces. The costs involved in this extra capability were a tough sell to government and within the Department of National Defence (DND). The name has been retained, but the JSS design has been watered-down considerably to being an AOR replacement – essential to fleet operations – with some improvements, such as the ability to embark containerized medical or command facilities for specific missions.

The new Joint Support Ships (which will be named *Preserver* and *Protecteur*, after their long-lived predecessors) will replace the RCN's AORs, both of which are now in the process of being scrapped. These ships will be Canadianized versions of FGS *Bonn*, a vessel which visited Halifax in 2014 shortly after completion for viewing by

***Protecteur**-class Joint Support Ship.*

Canadian naval staff. She is an upgraded version of the two *Berlin*-class Combat Support Ships which have been in service in the German Navy since 2001. These vessels have proven themselves in their own navy, and should provide the RCN with sound and dependable underway support for many years to come.

Some efforts have been made to close the capability gap caused by delays in replacing the AORs. The RCN has had an arrangement for the past several years with the Spanish Navy in the Atlantic and with the Chilean Navy in the Pacific to provide an AOR to operate with Canadian frigates and destroyers for work-ups and exercises, as well as training platforms for maintaining the skills of Canadian sailors awaiting delivery of the JSS. In addition, a stop-gap ship, the *Resolve*-class Motor Vessel *Asterix* will soon enter service as an Interim AOR.

The Project Resolve concept was proposed by Davie Shipyard of Levis, Quebec, to convert a container ship, the former MV *Asterix*, into an Interim AOR to support RCN operations. Planning for this project was initiated after a competition to replace Canada's aging oilers with a Joint Support Ship failed in 2008 due to government concerns regarding escalating costs. It was made more urgent with the retirement of both *Protecteur* and *Preserver* due to a serious engine room fire and excessive hull corrosion.

The conversion of *Asterix* is now nearing completion – the ship should arrive in Halifax in November 2017 and be deployed to the Pacific for operational commitments in 2018. She will not be a commissioned ship: the ship has been privately financed by Davie and will be leased to the Canadian government. Federal Fleet Services, a Davie sister company, will provide merchant seafarers qualified to operate the ship and her propulsion system. RCN personnel will conduct RAS operations, operate and maintain

Interium AOR – MV ***Asterix****.*

Credit: Canadian War Museum

HMCS ***Protecteur*** *(outboard) and HMCS* ***Provider*** *(inboard) docked at 'C' Jetty, CFB Esquimalt, 17 November 1992.*

embarked CH-148 Cyclone helicopters, and man naval communications.

Asterix benefits from the capacity of her large hull and powerful propulsion system: she is considerably faster than the two new AORs will be: up to 25 knots rather than 19-20 knots. *Asterix* is 599 feet long (30 feet longer than JSS) and capable of transporting up to 7,000 tonnes of fuel. The ship features two cranes for loading and unloading containers, a helicopter deck, two helicopters hangars, a hospital able to accommodate 60 patients and kitchens able to feed 1,000 people. The ship would make a fantastic general purpose vessel for the RCN, including responding to HA/DR missions, even after the two purpose-built JSSs join the fleet. Hopefully these capabilities will be recognized and retained as an important national resource. Canada has a long history of responding to disasters: in 1992, HMC Ships *Preserver* and *Protecteur* were deployed for HA/DR duties to the Bahamas and Florida after devastating Hurricane Andrew ravaged the area. In 2005 two warships and a Coast Guard icebreaker (with large holds capable of holding building materials and relief supplies) deployed to the Gulf of Mexico for relief operations after Hurricane Katrina – HMCS *Preserver* wasn't available due to unserviceability. In September 2017, the frigate HMCS *St. John's* deployed from Halifax for relief operations in the wake of Category 5 Hurricane Irma – no larger ship was available.

Canada is a G7 state with international responsibilities and the world's longest coastline. One of these days it will need HA/DR resources for a domestic disaster, such as a West Coast earthquake. Will it have large ships for this role – or will it rely on the kindness of others?

Notes

1. See, for example, Department of National Defence, Directorate of Operational Research, 1994.

Book Reviews

The U.S. Naval Institute on Naval Strategy, edited by Thomas J. Cutler, Annapolis, Maryland: Naval Institute Press, 2015, 200 pages, US $21.95 (paperback), ISBN 978-1-61251-888-6

Reviewed by Colonel (Ret'd) Brian K. Wentzell

Lieutenant Commander (Ret'd) Thomas J. Cutler is a well-known naval author who has undertaken a thoughtful and useful review of past and current elements of American naval strategy. This book, an anthology, is one of the 'Wheel Books' published from time to time by the US Naval Institute. The series is designed to provide the reader with practical knowledge on a range of topics.

In his Introduction, Cutler acknowledges that strategy is a challenging subject because it is more of an art than a science. While operations and tactics depend heavily on technology and science, "strategy is far too complex to yield to the simplicity and predictability of a checklist." As Cutler intended, this book describes a variety of approaches to the subject which will enable the reader to gain a "broader understanding of why a navy is so vital to a maritime nation…, not only to *utilize* naval power but to *preserve* it as well" (p. 2). The book includes 15 chapters by a variety of authors who all take a different look at the origins, content and future of naval strategy.

The audience for this anthology extends beyond naval and military professionals to academics, opinion leaders and politicians of all maritime states. It is the latter who must convince the taxpayers to support the bill for the creation, maintenance and operation of a competent naval service. Nor is the book aimed solely at an American audience, or focused entirely on the contributions of American academics and naval officers. For example, the relevance of thoughts on strategy as espoused by Sir Julian Corbett is preferred to the description of naval strategy as portrayed by Alfred Thayer Mahan.

This book is informative and thought provoking. Naval strategy is a component of the maritime strategy of a maritime state. A maritime strategy must address all aspects of the dependency of a maritime state upon the seas. In the present century, such states depend on the seas for food, energy, trade and commerce, voice and data communications, transportation, recreation, scientific knowledge through exploration, law enforcement and security. Navies and air forces are important tools for any maritime state to manage effectively its maritime dependencies.

I recommend this edited volume to all persons who are interested in maritime issues. Readers will gain a better understanding of the important role of navies in implementing the maritime strategy of their country.

Airpower Reborn: The Strategic Concepts of John Warden and John Boyd, edited by John Andreas Olsen, Annapolis, Maryland: Naval Institute Press, 2015, 239 pages, US $53.35 (hardcover), ISBN 978-1-61251-804-6

Reviewed by Colonel (Ret'd) P.J. Williams

Military airpower, which is what this book is about, has been around for just over a century. When crises arise it tends to be used, kinetically at least, as the 'initial argument of kings,' the thinking being that it can be highly accurate and, notwithstanding the potential for great collateral damage if delivered improperly, results in few losses for our own side should the aircraft be lost. Despite successes in the major wars of the last century, according to the Editor of this volume, it has only come of age, or been reborn, in the 1990s. It was reborn in 1991 to be exact during the first Gulf War, in which, *inter alia*, it demonstrated a hitherto unknown degree of precision and stealth. This book aims to show that this renaissance has demonstrated the unique ability of airpower to cause strategic level paralysis of an opponent, as opposed to mere tactical level destruction of enemy ground forces.

The Editor is a serving Norwegian Air Force officer and in the book he uses as the basis of his study the theories of John Boyd, who developed the now famous Observe-Orient-Decide-Attack (OODA) decision-making loop, and John Warden, a former US Air Force Colonel who developed the coalition air campaign plan for the 1991 Gulf War. In addition to the Editor's own analysis are essays by contributors from the United States, including Warden himself, Switzerland, the United Kingdom, the Netherlands and Australia.

According to one contributor, notwithstanding the success of airpower for the majority of the 20th century, the concept of the importance of airpower effectively 'died' due to three reasons: theorists were too scientific; they saw technology as a magic bullet (not fully appreciating that war is a human activity at its core); and in the early part of the last century, airpower proponents were arguing for something which went against the contemporary land-centric paradigm of warfare – an independent air force. Eventually, as the book reveals, building on the ideas of Boyd and Warden, which were not always aligned, the concept of strategic paralysis was created, which was

eventually brought to fruition in 1991 and applied to similar effect in the Balkans and elsewhere.

The book includes several charts and tables (and, it must be said many lists) in order to bring home key points. Thus while we have the simple Boyd OODA Loop, one author also depicts what is called the 'Real OODA Loop,' which includes feedback mechanisms implicit in each step of the process, as well as the various facts which influence each of the four steps. The Real Loop also makes the Orientation element the *sine qua non* of the entire process. I had to admit that I had not thought of the process in that way before and as presented, the Real OODA Loop makes much sense. Warden's Five Rings Model for targeting, which he revised over time, is also described, by Warden himself.[1] The book's notes are quite detailed and run to some 31 pages while the bibliography contains many secondary sources and is 13 pages long.[2]

If I have one fault with this book it is that it left me feeling that the definition of modern airpower is rather narrow, being limited to an airplane flying somewhere to drop a bomb on a target. I would have expected broader coverage taking into account other roles of airpower such as: intelligence, surveillance and reconnaissance; transport; electronic warfare; support to special operations; and so forth. Indeed, in this respect, I would agree with the definition of airpower given by the noted British strategic theorist Colin S. Gray in his article in the book: "airpower is the ability to do something strategically useful in the air" (p. 159).

Certainly Canada's current government does not appear to like Canadian aircraft being used for bombing missions and in the Canadian context at least, it seems to be the air transport community that does the literal heavy lifting in the air force. Therefore, would it not be more appropriate to depict airpower as part of the whole-of-government toolbox in the new millennium? In this case, might not a cover photo depicting a C-17 delivering humanitarian relief, along with relief workers, development experts and force protection troops, and an extensive analysis of what this means, be more illustrative of how airpower has been reborn? Nevertheless, for those working in the fields of doctrine development, regardless of the colour of one's uniform, this is a useful study, not only of airpower, but of strategy generally and is recommended.

Notes

1. The five rings represent the key attributes of a system which would be attacked. They are from outer to inner: fielded forces, population, infrastructure, processes and leadership. The inner-most ring is the key centre of gravity to be struck. Attacking all rings simultaneously would induce 'strategic paralysis' in an opponent.
2. That said, the book does note that all of Boyd's briefings (he did not write a treatise as such) are available at http://dnipogo.org/john-r-boyd.

The Naval Contribution to National Security and Prosperity, edited by Andrew Forbes, Canberra, Australia: Sea Power Centre-Australia, 2013, 306 pages, ISBN 978-0-642-29769-3

Reviewed by Colonel (Ret'd) Brian K. Wentzell

This book is composed of the papers presented at the Royal Australian Navy Sea Power Conference 2012 held in Sydney, New South Wales. The Editor, Andrew Forbes, under the direction of Captain Justin Jones, RAN, then Director of the Sea Power Centre-Australia, has compiled the proceedings of the conference in a single volume. The theme for the conference as stated by Jones in his Preface, was "to focus on the wider utility of navies as part of a continuing effort to inform the public of the wider value of navies" (ix).

To facilitate the examination, the Editor divides the book into five parts. Part 1 is comprised of the Keynote Addresses by the Minister of Defence and the three Chiefs of Service of the Australian Defence Forces. These papers deal with the future of the Australian Defence Forces and the convergence of thinking on the importance of an Australian maritime strategy and the roles of the navy, army and air force in executing the strategy.

Part 2 discusses the economics of sea power in terms of the importance of seaborne trade and the need to control the costs of protecting such trade against a multitude of threats (ranging from criminal, state and non-state activities to the need for up-to-date navigational data, charts and aids) as well as increased knowledge of the oceans through scientific and related research. Sea power is not just a naval activity, it is a whole-of-government regulatory responsibility. The private sector, as the primary user of the sea and its natural resources, has the responsibility to use those resources in an equitable and efficient manner in accordance with the law of the sea and national laws.

Part 3, Naval and Interagency Cooperation, considers the use of maritime power amongst like-minded states to achieve common national goals in the vicinity of the Straits of Malacca and Singapore. Here, the efficient flow of seaborne trade through a critical maritime chokepoint is enabled by the common agreements of the littoral states of Malaysia, Indonesia and Singapore. The results continue to be positive with the reduction of criminal activities and effective management of environmental issues. This effective international approach is worthy of repetition in other areas of the world where piracy and criminal activities threaten shippers, ship owners and crews.

In Part 4 the fundamentals of sea power are examined. This is perhaps the most interesting and important part of

the proceedings because it considers sea power in the entire Indian Ocean area, not just the northern sector or the Indo-Asian eastern area, as well as the Asia-Pacific areas comprised of the South China and East China Seas. The presentations that illustrate the naval activities of France and South Africa in the western Indian Ocean reveal the continuity of colonial-style activity and the burden of regional leadership in one of the most challenging regions of the world. In the South and East China Seas, the return of China as a maritime power, after centuries of inward focus, has become a disruptive event for various island and littoral states as well as the United States, the principal maritime power in the Pacific Ocean since 1945. The papers of Liao Shining, Alession Patalano and Norman Friedman are particularly informative in this section.

Part 5 focuses on the Royal Australian Navy and covers a wide range of topics ranging from maritime medical diplomacy (humanitarian assistance and disaster relief operations) to naval engineering and procurement. The final paper, entitled "Australian Naval Shipbuilding" by Henry Ergas, Mark Thomson and Andrew Davies, is a thought-provoking contribution on whether to build naval ships at home or overseas. Australian Prime Minister Malcolm Turnbull has followed a two-track policy with the majority, but not all, of the new ships being built in country. The real message is that Australia has the abilities and capabilities to create and maintain modest, modern and efficient maritime naval and military capabilities in the Indo-Asia-Pacific region.

This volume of proceedings accomplishes its purpose. The individual papers are informative and retain the attention of the reader. I recommend it to students of maritime and naval politics and world affairs.

Lessons from the Hanoi Hilton: Six Characteristics of High-Performance Teams, by Peter Fretwell and Taylor Baldwin Kiland, Annapolis, Maryland: Naval Institute Press, 2013, 152 pages, US $56.92 (hardcover), ISBN 978-1-61251-217-4

Reviewed by Colonel (Ret'd) P.J. Williams

Officially known as Hoa Lo (or 'Fiery Furnace'), it became better known to its inmates and to the outside word since as the Hanoi Hilton. In its time this North Vietnamese prison housed what remains the longest-serving group of American prisoners of war (POWs) in that country's history. How these men successfully endured severe conditions of isolation and torture, over almost a decade in some cases, and how their experiences can provide leadership lessons for today's audiences, is the subject of this book.

Authors Peter Fretwell and Taylor Kiland are respectively the General Manager of the Classical (music) Network, based in New Jersey, and a former naval officer turned management consultant living in Virginia. They studied the experiences of the Hanoi Hilton POWs for some seven years, and in so doing identified what they saw as the six characteristics of the highly cohesive team of Americans who were imprisoned within the Hanoi Hilton's walls, and whose leadership and unity under adversity enabled them to 'return with honour' (their chosen mission) upon their eventual release.

Given that at its core this is a work about leadership, the book very logically focuses on the leadership shown by one of the senior US Officers at Hao Lo, the then Commander (and later Rear-Admiral) James B. Stockdale, a naval pilot shot down over Vietnam on 9 September 1965. He was to spend almost eight years at the Hanoi Hilton, and was subsequently awarded the Medal of Honor. After ejecting from his stricken aircraft and as he floated down to captivity, he recalled the philosophy of Epictetus, central to which was an understanding of what was within the realm of one's control and what was not. This was to serve him well in the future.

The book goes on to describe the challenges Stockdale and his fellow captives faced, and indeed overcame, often in isolation from each other. To communicate they developed a matrix-based 'tap code,' even at the risk of punishment by their captors. Humour played a part as evidenced by the name given by the POWs to their prison surroundings. The authors relate anecdotes from Stockdale and many of the other prisoners in order to identify common themes which enabled them to endure under unimaginable circumstances, and indeed thrive later in their lives after captivity. In the end Fretwell and Kilan identify six characteristics that they assert can be applied to any organization:

- the mission leads;
- the power of 'we';
- you are your brother's keeper;
- don't piss off the turnkey (or more simply stated, choose your battles wisely);
- think big and basically; and
- keep the faith.

Some of this might appear to be motherhood advice but these characteristics, combined with focusing on the mission of returning with honour, clearly sustained these

men in their darkest hours, and indeed in their subsequent lives. The lives of these men have been studied for some four decades since and it has been found that POWs in Vietnam experienced post-traumatic stress disorder (PTSD) rates of only 4%, well below the average rates of Vietnam War veterans generally. What is equally impressive is that Vietnam POWs eventually produced, *inter alia*, 16 generals, six admirals, one presidential candidate, and two US Senators. Many of the POWs mentioned in the book explain how their experiences in the Hanoi Hilton helped them in later leadership positions whether in the public or the private sector.

I mentioned humour as a sustaining element, and one of my favourite anecdotes in the book concerns this very thing. The POWs were able to convince their captors that the United States celebrated National Doughnut Day each 10 November, this in response to Vietnamese criticism of the ostensible lack of US cultural traditions. Some time later the prisoners were allowed to celebrate this holiday, complete with doughnuts supplied by the Vietnamese, who had now unwittingly permitted the Americans to celebrate the US Marine Corps birthday!

The book contains a useful bibliography including several works by Stockdale himself, and a study by Royal Military College of Canada professor Hamish Ion on the behaviour of Allied senior officers under Japanese captivity in the Second World War.

In recent years the Canadian Armed Forces have devoted increasing attention to PTSD among the ranks and training in 'resiliency' has gained impetus. While Canada has not experienced any of its soldiers being held captive since the Balkans conflict, books like this provide a useful guide to complement other work being done to prepare Canadian troops for future challenges. Recommended.

Maritime Operations in the Russo-Japanese War, 1904-1905, Volumes 1, 2, by Julian S. Corbett, Annapolis: Naval Institute Press, 2015, 1,134 pages (2 volumes), ISBN 978-1-59114-197-6

Reviewed by Major Chris Buckham

The Russo-Japanese War, 1904-1905, has continuing historical significance because it represents the coming of age of a Far Eastern power (Japan) which, for the first time, successfully challenged and destroyed a European superpower in both a land and, more significantly, naval conflict. Corbett's work was drafted originally as a classified report for the British Committee on Imperial Defence shortly after the war. It received limited release and was only made available to the general public 75 years after his death.

Traditionally, historians have focused their attention on the Battle of Tsushima Strait, where the Russian Baltic fleet was utterly destroyed by the Japanese High Seas fleet; however, this was a small, albeit significant, aspect of the overall war. Corbett's analysis takes a much more holistic approach, examining the conflict in its entirety and embedding Tsushima into a larger strategic engagement supporting Japanese land operations. Additionally, he traces the operational doctrine of both states, their strengths and weaknesses and how this affected operational decision-making. There were in fact three Russian fleets engaged at various times during the course of this war, and all were destroyed by the Japanese. Corbett, in addition to discussing the battles themselves, puts this fact into context when he identifies that the Japanese only had one fleet available to them – if it had been lost, then the entire underpinning of its Imperial program would be removed. This was key to the Japanese war planning and operational execution.

The author, generally viewed as one of the pre-eminent naval historians of his era, excels at seamlessly weaving among the strategic, operational and tactical levels of the war, clearly explaining the role of the various arms and how they interacted. He also discusses the influence of the international situation on the decision-making processes of the governments and the field commanders. As an example, one of the key factors that drove strategic decision-making was the perspective that both states had on the relative importance of the region. Corbett identifies that Japan saw the challenge of Russia as a direct threat to its strategic interests with direct and far-reaching implications for its future. Conversely, Russia viewed the same situation as, at best, having only regional implications and therefore did not take it as seriously.

The publication would benefit from maps of the region and the naval combat as it unfolded. While Corbett provides detailed descriptions of the combats, it is difficult for the naval layman to follow the manoeuvres. Additionally, providing regional maps would enhance the perspective and appreciation of expanse and distances.

Notwithstanding this point, Corbett has drafted an exceptional analysis of the Russo-Japanese War. His style is engaging and easily maintains the reader's interest throughout. His analysis and ability to capture succinctly the broad canvas of the conflict makes this book mandatory reading for commanders at all levels (regardless of element) who wish to appreciate the complexities of combined operations. Very highly recommended.

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HMCS *Fredericton* transits northbound on the Bosphorus, 4 March 2015, passing under one of the three bridges connecting Istanbul's European and Asian sides, on the way to NATO exercises in the Black Sea.

Credit: Maritime Task Force - OP Reassurance