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SUBJ: RELEASE OF CDF COI REPORT INTO LOSS OF HMAS SYDNEY II

1. This morning the Minister of Defence, Senator Faulkner, released to the Australian people the report of the CDF Commission of inquiry into the loss of *HMAS Sydney* II and her ships company in an engagement with the German Raider *HSK Kormoran* off Western Australia on 19 November 1941.

2. The COI was conducted by the Honourable Terence Cole, AO, RFD, QC.

The release of his report is a significant milestone Iin the debate surrounding the sinking of *Sydney* so many years ago.

3. Most significantly, it is important for all those who are part of our Navy family - those who serve with us now, those who have served with us in the past, and those who have loved them - to know, to the extent possible, what happened to our sailors and officers in *Sydney*.

I hope that this report will provide a measure of closure to all affected by her tragic loss.

4. In my view, the report highlights two essential truths about the nature of war at sea. The first id that procedures and responses in battle change and develop over time, to the extent that Sydney's action as considered in Mr Cole's report differ significantly from the conduct of operations at sea today. secondly, command at sea is extremely complex and challenging, even more so during times of war. It can be an unforgiving environment even at the best of times.

5. While the inquiry process has been able to determine a variety of facts about *Sydney's* engagement with *Kormoran*, we are still unable to know exactly what CAPT Burnett was thinking and why, due to the passage of years and the loss of everyone on-board. As MR Cole concludes quote it is easy for those not faced with command decisions to say they would have acted differently - particularly knowing that CAPT Burnett's course of action resulted in loss end quote.

6. CAPT Burnett was an exceptional officer and, ultimately, *Sydney* was successful in her assigned task - to protect Australian shipping from German Raiders. she did stop *Kormoran* threatening our trading routes.

7. What remains for us is to remember the courage and sacrifice of her 645 crew, who gave their lives, and the families who love and mourn them. *Sydney* will never be forgotten.

8. The COI report is available at www.defence.gov.au/sydneyII/finalreport.

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Front page: 816 Squadron's helo Tiger 80, S-70B-2 Seahawk, conducts a single personnel winching onboard HMAS Darwin

Reader Response

Dear Sir,

As a retired naval officer I was particularly interested in the thought provoking article "How does one man a Navy in the 21st Century" by Lieutenant Michael Newman, which appeared in the June 2009 issue of the ANI Journal.

There is no doubt that the RAN has changed greatly in the past 25 years, as he postulates, and recruiting methods and processes must be now innovative and modern. I agree with the author's conclusion that the core role of the Navy remains as it has always been, to serve and defend the nation, and also that the RAN needs men and women who are capable of supporting the training and deployments that ensure the maintenance of this objective, However, I cannot accept that his primary premise should go unchallenged.

LEUT Newman appears to hold the opinion that officers and sailors of past generations in the RAN joined simply to have a good time, or as he puts it, "to travel the world on a taxpayer funded, life-long drinking adventure." He also questions the conduct, capability and professionalism of past Navy personnel, claiming that "Command teams (indeed whole ships) sailed from ports completely inebriated." His understanding of the RAN 25 years or so ago seems to be that it was populated by men who regarded the service as a joke, or a vehicle for having a party. Such comments malign those who served in the past and, in my opinion, are an insult to dedicated, professional and hardworking people.

In my experience of 35 years naval service in a variety of ships ranging from patrol boats to aircraft carriers I never once encountered a Command team that was not completely on its game, and invariably sober. I cannot comment upon the intensity or quality of ship work-ups and battle problem tasks in today's Navy but I can assure ANI readers that in the 1960s, 1970s, and 1980s they were serious business and strict tests of a ship's war fighting ability. Many a ship had to do a final battle problem more than once in order to join the fleet as a fully trained unit and the concept that personnel involved in these activities were mostly inebriated is simply untrue.

Similarly, the argument that sailors of 25 years ago were little more than a group of party seekers out for an alcohol-based good time does them little justice and demeans their skill, professionalism and hardworking abilities. I expect that few of them are readers of this journal, and so they would be ignorant of the opinion's expressed in LEUT Newman's article, but in their defence I again say that I never once saw ship's companies inebriated when their ship sailed nor did I ever doubt their dedication to the task of serving the RAN to the best of their abilities. It should be remembered that these men took part in fighting wars in Korea, Vietnam and Indonesian/Malaysian Confrontation, none of which were "good time parties" and they acquitted themselves and their ships in exemplary fashion.

While it is undoubtedly true that the challenges and deployments experienced by the Navy today require different policies in order to recruit the personnel needed to carry out the task I do not think the RAN can go far wrong if it is able to encourage and sign up officers and sailors of the calibre who served over the past 25 or 30 years. After all, the quality of today's Navy is built upon the foundation that they provided.

Sincerely,
Alan Brecht
Commodore (RAN) Retired

The Editor advises: some Letters to the Editor for this publication have not been printed because they are written in pen, and often important details are not legible. If the person - we cannot make out your name - commenting on the articles "A Bright Flame", and "Kormoran's construction" would like to write again we would be glad to publish your letter.

Letters submitted by email are preferable to those written in cursive pen. *The Editor can be reached at talewis@bigpond.com.au*

Members from the Pacific Fleet Band - Hawaii, along with members of the RAN Band, get together for a group photo on completion to the 64th Anniversary of The End of the War in the Pacific, in Pearl Harbour, Hawaii, held onboard the USS Missouri Memorial

VERNON PARKER ORATION

MICHAEL PEZZULLO
Chief Operating Officer, Australian Customs and Border Protection Service
6 August 2009

SEAPOWER AND AUSTRALIAN DEFENCE STRATEGY

Tonight, I would like to discuss the influence and role of sea power on Australian defence strategy, as borne out by the recent Defence White Paper, *Defending Australia in the Asia Pacific Century: Force 2030*.

In my remarks today, I would like to build the following case:

- Australia is, and has always been, a maritime nation;
- Sea power – the freedom to use, and to influence others' use of, the sea and the land beyond the sea – has always been at the heart of Australian defence strategy, whether expressly or implicitly so;
- At the heart of the strategy underpinning the 2009 Defence White Paper is a maritime strategy;
- At the heart of maritime strategy, insofar as it concerns the control of the sea, is the surface combatant, whose day is far from over, and the submarine, whose most significant days are yet to come, at least for Australia.

To such an audience as this, I dare say that I do not need to spend much time arguing that Australia is and has always been a maritime nation. Geographically, Australia sits astride two of the world's most strategically important oceans – the Indian and the Pacific Oceans.

We therefore sit in the middle of one of the great strategic theatres of the world. An essentially maritime environment, stretching from the northern Pacific to the Persian or Arabian Gulf, it encompasses approximately half the globe. Today it is the stage for the movement of over half the world's trade as well as the interests of great maritime powers – some established, some rising.

It is also host to many of the world's most strategically important shipping routes and choke points, such as the Malacca, Singapore, Lombok, and Sunda straits. For example, over 60,000 ships transit the Malacca Strait each year, carrying up to one third of world trade, and half of the world's oil (11 million barrels daily).

After the interruption of the global financial and economic crisis, which has had a material impact on global trade flaws, we will see a reassumption of unprecedented growth in the volume and value of globalised maritime trade traversing the strategic choke points and dense sea lanes of our region.

The other key feature of our surrounding maritime region are its fluid sea frontiers and porous borders, which makes for piracy and contra-banding activities, which involves, among other things, the illicit movement of people, weapons, and prohibited goods.

For quintessentially geo-strategic reasons, nations beyond the littoral states of the region will continue to have a major stake as well as a long term naval presence in these waters, which the littoral states will sometimes view with concern, while the major naval powers themselves will view their interests through hard-nosed strategic prisms, to which I now turn.

As the White Paper said, Australia's strategic outlook over the coming decades will continue to be shaped by the changing global distribution of economic, political and military power, and by the future role and weight of the United States within that global system. We are not likely to see the emergence of an alternative political and economic system to rival the network of liberal, market-based democracies that

Above left: The Royal Australian Navy Adelaide-class guided missile frigate HMAS Sydney and the Anzac-class frigate HMAS Ballarat perform formation maneuvering with the guided missile destroyer USS Mahan-USN photo

Vernon Parker Oration

emerged after World War II, as the communist system attempted to do last century during the Cold War. Globalisation will ensure that economic interdependence acts to link states and regions together more closely. This will not, however, prevent major powers from hedging their strategic positions and developing the capability to underpin their interests with hard military power.

Take the Indian Ocean. These waters will have an increasingly strategic role to play within Australia's strategic outlook. This will include transnational security risks, such as piracy, as well as growing strategic competition within the Indian Ocean, along its periphery, and through the straits leading to and from it.   There are a number of significant inter-state and intra-state conflicts along its periphery that have the potential to draw in other powers. Over time, and in response to these factors as well as transnational security issues, the Indian Ocean is likely to host a larger military (particularly naval) presence. A number of major naval powers are likely to increasingly compete for strategic advantage in this crucial maritime region. With these factors in mind, and with the centrality of the Indian Ocean's maritime trade routes to the energy security of many Asian states, Defence planners will need to focus increasingly on the operating conditions and demands of this region. More than ever before, short of war, Australian defence planning will have to contemplate operational concepts for the Indian Ocean region, including with regional partners with whom we share similar strategic interests. It will simply become impossible to coherently develop our defence strategies and naval plans with an exclusively Pacific bias.

How are we positioned to respond to these and other like challenges?

Of course, the sea is our life blood as a nation. The vast majority of our international trade by volume and most of it by value is borne by the sea. We are a significant user of merchant shipping (even if we do not possess a large merchant marine) and we have one of the world's largest exclusive maritime economic zones. The oceans are a major physical resource for Australia. We are a leading player in a multilateral forum concerned with shipping, the protection of the marine environment and other maritime matters. We have a proud naval history, and at the end of the Second World War possessed one of the world's most significant navies. We have one of the most challenging maritime border protection tasks in the world, something to which I can directly attest in my new role as Chief Operating Officer of the Australian Customs and Border Protection Service. We are vitally interested in maritime border security risks who, other than armed attack, relate to the offshore roles and functions of my agency, such as maritime terrorism, illegal activity at sea such as drugs smuggling and illegal fishing, and the movement of potential illegal immigrants. Finally, of course, we have a vital interest in defence from armed attack, to which I will soon turn.

The sea of course has to be central

to our strategic worldview. As an island nation, any physical threat to Australia must come on, over or under the ocean and we must use the sea to deploy and support our armed forces. Geography makes this so.

Command of the sea is bound up inextricably with commercial, geographic, and military considerations. Commerce, and thus national prosperity, hinges on sea power, and Australian strategy has, since Federation, recognised this imperative. Everybody here would be very familiar with the political debates of 100 years ago regarding the establishment of what became the Royal Australian Navy. These debates turned in large part on whether or not Australia saw itself in the business of sea control. The Government of Prime Minister Andrew Fisher decided that question in the affirmative.

After World War II, defence planning consistently recognised the centrality of command of the sea. The 1947 'Appreciation of the Strategical Position of Australia' noted that a policy of isolation could only lead to disaster, and that Australia's security must be based on strategic interests which were considered in maritime terms and which were associated with:

The Indian Ocean: mainly concerned with the integrity of British

Aus Army Blackhawks over HMAS Newcastle

Territories which bordered on the Indian Ocean, oil resources, the sea and air routes that constituted the shortest and best routes for air supply and reinforcement.

THE PACIFIC OCEAN; AND SOUTH EAST ASIA

Moving forward 62 years, the 2009 Defence White Paper noted that:

Our strategic interests and defence posture suggest a primary focus for the ADF on tasks in a predominantly maritime operational environment. In other words, to guide defence planning, the Government decided in the White Paper that the ADF's primary operational environment is an inherently maritime one, which extends from the eastern Indian Ocean to the island states of Polynesia, and from the equator to the Southern Ocean. That area contains all Australian sovereign, offshore and economic territories, such as Cocos (Keeling) Islands, Christmas Island, Heard and McDonald Islands, Macquarie Island, Norfolk Island and also waters adjacent to the Australian Antarctic Territory.

The sea-air gap to our north is at the strategic centre of our primary operational environment. It affords us an opportunity to detect and respond to potentially hostile military incursions at sufficiently long ranges to enable an effective response before an adversary could reach Australian mainland territory and, in particular, key population centres and major infrastructure.

While this affords us an ability to employ defence in depth, our strategic geography nonetheless poses major defence planning challenges. Northern Australia, with its long coastline, remote population centres, substantial economic resources, and relatively underdeveloped infrastructure, will always command a significant place

HMAS Newcastle by Chris Sattler

in our military contingency planning. Most of Australia's reserves of oil and gas are concentrated offshore in the north-west of Australia and the Timor Sea. Many of our key resource extraction facilities are remote and would be vulnerable to interference, disruption or attack. Some of our offshore territories would also be vulnerable to harassment or attack, and their loss or occupation by an adversary would represent a major strategic setback.

As part of its core business, Defence will need to continue to revise and update contingency plans for the defence of Australia and its approaches, notwithstanding the imperative of managing ongoing operations. This planning work should comprehend especially difficult military problems, such as establishing sea control and air superiority in our approaches, the defence of our offshore territories and resources, and operations on and around our territory.

The White Paper goes on to state that our military strategy is crucially dependent on our ability to conduct joint operations in the approaches to Australia - especially those necessary to achieve and maintain air superiority and sea control in places of our choosing, to the extent required

to safeguard our territory, critical sea lanes, pop centres and major infrastructure.

In response to these challenges, the White Paper lays out a maritime strategy, one in which Australia's aim should be to establish and maintain sea and air control to enable the manoeuvre and employment of joint ADF elements in our primary operational environment, and particularly in the maritime and littoral approaches to the continent.

Such a strategy does not necessarily entail a purely defensive or reactive approach. In operational terms, if we have to, we will need to be prepared to undertake proactive combat operations against an adversary's military bases and staging areas, and against its forces in transit, as far from Australia as possible.

This might involve using our strike capabilities, including combat aircraft, long-range missiles (including land attack missiles fired from submerged submarines and/or surface combatants) and special forces (most likely inserted from the sea). We will aim to control the dynamics of the conflict by setting the pace, scale and intensity of operations, by dissuading an adversary from making any attempt to escalate the conflict, and convincing

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them that such escalation would come at significant cost.

The ADF would have to, as necessary, tailor its operations, such that we do not fight in a manner that sees a high rate of attrition and mass casualties among our forces. We will seek to avoid battle on unfavourable terms, apply force in a precise manner, in a way that the adversary is not expecting, and seek to overmatch at decisive points in battle.

In this maritime strategy – taking maritime at its fullest meaning – naval forces are of course not the only tools of military power, but they are the indispensable platform for success.

How then should we view modern navies in the context of our future conception of sea control?

A.T. Mahan in his classic book with which you would all be familiar, *The Influence of Sea Power Upon History 1660-1783*, published in 1890, effectively laid out a key thesis which resonates today – the West came to value navies as the key to global influence and upon this foundation the modern world was built. Now he knew that sea power was more than the navy and more than control of strategic trading routes. It meant using the mobility of the sea to build a system of economic and political links and an ability to project hard power on, and from, the sea if and when required. It also meant using the strategic flexibility of being an offshore power, protected in large measure from land neighbours to pursue national ends. Mahan would not have been surprised that some 30 years later, empires devoid of these attributes – the Ottoman, Habsbury, Romanov and Wilhelmine – ceased to exist.

At the core of Mahanian concepts for a nation as a sea power are:

- A geographic position that lends itself to the exercise of sea power, where a nation does not have to worry overly about defending itself by land, and has relatively uninhabited access to the sea.
- The length of the coast-line and the character of a nation's harbours. Mahan suggested that the longer the coastline and the greater number of natural harbours, the better off the country would be in terms of commerce and the capability to support fleet actions. It would be harder for an enemy to blockade such a country and the internal and external lines of communication would be subject to less friction.
- The size of the nation's population, specifically the number of population involved in the sea for their living. Mahan suggested that a nation cannot quickly build up an effective navy. The development and building of naval capability takes years and having a crew that can maintain and fight the ship requires a great deal of training.
- The national character of a nation, and an understanding of the value of commerce and an open attitude toward prosperity and growth.
- The character of government and the way it pays attention to the sea with respect to commerce (which directly led to national wealth) and to a strong, capable navy (which directly led to the security of that national wealth).

By such measures, and adjusting for the different era in which Mahan was writing, Australia can be considered a sea power – albeit one that is limited to some extent by the size of its population.

Sea control is not these days principally about the engagement of other nation's main fleet, although any maritime power seriously interested in sea control needs the ability to engage in high intensity maritime conflict if called upon to do so in credible contingencies against likely adversaries.

Today sea control is also concerned with the ability to keep open sea lanes; protect commerce, and the movement of crucial energy supplies; deter and defeat illegal activities such as maritime terrorism, drug trafficking, people smuggling, piracy, and illegal fishing, and prevent the proliferation of weapons of mass destruction and prohibited goods, including those the subject of international sanctions.

As such, sea control lends itself to being effected through international maritime partnerships such as we have seen in the last 25 years in terms of the protection by international naval forces of commerce and energy supplies in the Gulf and in a different context through the growth of counter-proliferation exercises under the rubric of the Proliferation Security Initiative (PSI).

Intuitively this would seem to be a sound basis for Australian defence planning, alongside the equally important platform of air power (but that's another lecture).

Alas, it is never so simple. For too long, Australian defence strategy – or should I say debate about Australian defence strategy – has been immobilised in an intellectual straightjacket which essentially boiled down to this binary construction: we should pursue either an expeditionary strategy which is founded on our land forces operating in alliance or coalitions frameworks, most likely in the Middle East, Central Asia or Africa, or a 'continentalist' strategy which is founded on our naval and air forces operating in the defence of Australia from bases in Australia. This tired

construction should be laid to rest, and I believe that the 2009 Defence White Paper does so.

It is possible to envisage if one looks at Force 2030, an expeditionary orientation founded on sea power, with Australian forces operating (either independently or in coalition, depending on the strategic circumstances) in a range of operational scenarios ranging from hunting and destroying submarines, protecting commerce and energy supplies, deterring and defeating pirates, interdicting the movement of WMD or goods prohibited by international sanctions, projecting land forces ashore or delivering humanitarian assistance from a sea base. How does that range of scenarios fit within the tired old intellectual straight jacket of the navy being the defender of the moat?

Of course it does not. As the White Paper made clear, the Government has set very clear force structure determinants. These do not constrain unduly the uses to which the ADF might be put in the pursuit of our strategic interests.

To achieve its strategy, the White Paper of course establishes force structure priorities for Force 2030 based on major surface combatants (destroyers and frigates), submarines and other naval capabilities, supported by air combat (for air superiority and maritime strike) and maritime surveillance and response assets, to establish sea control, and to project force in our maritime environment (including for the purposes of maintaining freedom of navigation, protecting our shipping, and lifting and supporting land forces).

Assuming that future governments commit to this plan and that Defence ensures that it is implemented, by the mid-2030s we will have a heavier and more potent maritime force. The

HMAS Success by Chris Sattler

Government will double the size of the submarine force (12 more capable boats to replace the current fleet of six Collins class submarines), replace the current Anzac class frigate with eight more capable Future Frigate optimised for anti-submarine warfare (ASW); and enhance our capability for offshore maritime warfare, border protection and mine countermeasures.

Let me spell out the logic behind the submarine decision. The Government took the view in the White Paper that our future strategic circumstances necessitate a substantially expanded submarine fleet of 12 boats in order to sustain a force at sea large enough in a crisis or conflict to be able to defend our approaches (including at considerable distance from Australia, if necessary), protect and support other ADF assets, and undertake certain strategic missions where the stealth and other operating characteristics of highly-capable advanced submarines would be crucial. Moreover, a larger submarine force would significantly increase the military planning challenges faced by any adversaries, and increase the size and capabilities of the force they would have to be prepared to commit to attack us

directly, or coerce, intimidate or otherwise employ military power against us.

The Future Submarine will be capable of a range of tasks such as anti-ship and anti-submarine warfare; strategic strike; mine detection and mine-laying operations; intelligence collection; supporting special forces (including infiltration and exfiltration missions); and gathering battlespace data in support of operation.

Long transits and potentially short-notice contingencies in our primary operational environment demand high levels of mobility and endurance in the Future Submarine. The boats need to be able to undertake prolonged covert patrols over the full distance of our strategic approaches and in operational areas. They require low signatures across all spectrums, including at higher speeds. The Government has ruled out nuclear propulsion for these submarines.

Driving this project will be of singular importance and I am delighted that RADM Rowan Moffit has been given the task.

Turning to the surface fleet, the Government decided to proceed with

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the acquisition of three Air Warfare Destroyers (AWD). The AWDs will be equipped with:

- the Standard Missile 6 (SM-6) long-range anti-aircraft missile, with a range of more than 200 nautical miles (370 kilometres).
- A sophisticated Cooperative Engagement Capability (CEC), which enable each vessel to act as part of a wider 'grid' of sensor and weapon platforms that can share surveillance and targeting information.
- The Government will continue to assess the capability need for a fourth AWD in the future against further changes in the strategic assessment and, consistent with that assessment the most rational public investment in further defence platforms.

The Government has also decided to acquire a fleet of eight new Future Frigates, which will be larger than the Anzac class vessels. The Future Frigate will be designed and equipped with a strong emphasis on submarine detection and response operations. They will be equipped with an integrated sonar suite that includes long-range active towed-array sonar, and be able to embark a combination of naval combat helicopters and maritime Unmanned Aerial Vehicles (UAV).

In terms of naval aviation, the Government decided to acquire a fleet of at least 24 new naval combat helicopters to provide eight or more aircraft concurrently embarked on ships at sea.

These new aircraft will possess advanced ASW capabilities, including sonar systems able to be lowered into the sea and air-launched torpedoes, as well as an ability to fire air-to-surface missiles.

In terms of the undersea domain, it will not have escaped this audience that the White Paper placed greater emphasis on our capacity to detect and respond to submarines in the ADF's primary operational environment through the acquisition of the Future Submarine, and enhanced ASW capabilities in the surface combatant fleet, the naval combat helicopter and the maritime patrol aircraft which will replace the P3COrion fleet.

As we develop our information superiority capability, situational awareness in the undersea domain will become relatively more important. The Defence Science and Technology Organisation (DSTO) will enhance its research into underwater sensors and networking to give greater emphasis to underwater situational awareness.

I should say something about the Offshore Combatant Vessel. The Government decided to rationalise the Navy's patrol boat, mine counter measures, hydrographic and oceanographic forces into a single modular multirole class of around 20 Offshore Combatant Vessels combining four existing classes of vessels.

This has the potential to provide significant operational efficiencies and potential savings. The new vessels will be larger than the current Armidale class patrol boats, with an anticipated displacement of up to 2,000 tonnes.

This concept relies on the use of modular unmanned underwater systems for both mine countermeasures and other tasks. These systems are envisaged to be containerised and portable modules capable of being used in any port or loaded onto any of the Offshore Combatant Vessels or other suitable vessels.

The future Offshore Combatant Vessel will be able to undertake offshore and littoral warfighting roles, border protection tasks, long-range counter-terrorism and counter-piracy operations, support to special forces, and missions in support of security and stability in the immediate neighbourhood. Defence will examine the potential for these new ships to embark a helicopter or UAV, to allow a surge in surveillance and response capabilities without the need to deploy additional ships. This increased capability will also ensure that major surface combatants are free for more demanding operations. As the Chief Operating Officer of the Australian Customs and Border Protection

HMAS Kanimbla by Chris Sattler

Service, I will be taking a very close interest in the evolution of this project. It has the potential to revolutionise the way in which we undertake offshore maritime patrol and response and I have directed our staff to engage very closely with Defence.

I should round out this survey by touching on our future amphibious capability. The Government decided to enhance our amphibious capability by acquiring a large strategic sealift ship to move stores, equipment and personnel.

Based on a proven design, the new ship will have a displacement of 10,000 - 15,000 tonnes, with landing spots for a number of helicopters and an ability to land vehicles and other cargo without requiring port infrastructure. The new ship will provide ongoing sustainment support for deployed forces, allowing the LHD ships to remain in areas of operations in direct support of the land force ashore.

Further, the plan will introduce six new heavy landing craft with improved ocean-going capabilities, able to transport armoured vehicles, trucks, stores and people in intra-theatre lift tasks to augment the larger amphibious vessels.

WHAT ARE THE KEY STRATEGIC FEATURES OF THIS FUTURE FLEET?

In this force structure, surface combatants will continue to be the platform most applicable to the widest range of maritime tasks, including sea control, power projection, visible deterrence, border protection and territorial security, although they will be challenged by increasingly sophisticated anti-ship weapons and systems. (Nothing however that is new in the eternal cycle of measure and counter-measures, with surface ships able to increasingly rely on being part of networked systems to

defend themselves and accomplish their missions.) Submarines will be increasingly used across a wider range of roles and missions and will significantly complicate an adversary's planning calculations.

Let me conclude by tackling head on one of the fundamental misconceptions about the White Paper's approach to sea power. The fundamental role of sea power in Australian defence strategy is to shape the strategic environment in which we will operate. In order to deny at sea, we must control at sea. That is why the White Paper avoided a one dimensional approach to sea power, as was recommended by those proponents of a narrow sea denial strategy which, being based on a large force of submarines (18 in the case of one commentator), would shape too narrowly an adversary's strategic perceptions through the uncertainty created in that adversary's mind by that force's location and disposition. Sea denial is of course a critical component of the exercise of sea power, and the Force 2030 plan to acquire 12 large conventional submarines should be seen in that light. But there are other missions and roles to be performed, such as protection of shipping lanes and amphibious manoeuvre, which rely on sea control in its broadest sense, and in relation to which a narrowly focussed sea denial force would be an over indulgent waste of money, and unfit for purpose.

As most of you would be aware, the 2007 US maritime strategy document, A *Cooperative Strategy for 21st Century Seapower*, emphasises humanitarian assistance and disaster relief as among the core missions for US maritime forces, alongside sea control, power projection and strategic deterrence. The US strategy also elevates other forms of naval 'soft power' including exercises, training and partnering with foreign navies to combat piracy,

terrorism, weapons proliferation and other illicit or illegal activities. Naval forces are particularly suited for undertaking such a wide range of mission - which have less to do with imposing one's will (although they can do that) and more with shaping behaviour. We need increasingly to think in such terms and to   post one example have probably only just begun to think about the shaping effects of an Australian expeditionary amphibious group based around a LHD standing ready to provide humanitarian assistance and/or intervene to protect our nationals from a sea base.   In our part of the world that would be environment shaping sea power.

My concluding point then is this: let us place sea power to its rightful place at the centre of Australian defence strategy, and as we build the most powerful navy in the Southern Hemisphere let us develop the skills and intellectual frameworks with which, and through which, to think about sea power as a tool of national policy.

I have every confidence that the Australian Naval Institute will argue this cause very passionately and I will watch the process with very great interest. I thank you most sincerely for giving me the opportunity to address you tonight. ⚓

Mr Michael Pezzullo Deputy Secretary Strategy

Michael Pezzullo took up the position of Deputy Secretary Strategy in the Department of Defence in January 2006. In this role, he is responsible for defence strategy and planning, force structure development, the strategic policy aspects of Australian Defence Force operations, Defence's international security relationships, and delivering national security programmes in areas such as export controls, counter-proliferation and Defence cooperation with other countries. He also oversees the Department's ministerial support and public affairs programmes. Mr Pezzullo joined the Department of Defence as a graduate in 1987.

How naval intelligence might better serve the ADF

BY LIEUTENANT COMMANDER TOM LEWIS

Navy Intelligence is "a prime essential for modern warfare."

Fleet Admiral Ernest Joseph King, Commander in Chief, United States Fleet and Chief of Naval Operations during World War II.

Is naval intelligence important for the Australian Defence Force? For an army, naval intelligence has often been essential. In the earlier years of WWII it was understood that sooner or later there would have to be an invasion of Europe. But getting combat-equipped soldiers ashore on the beaches might not be that easy. What if the beaches were too soft, or too steep? What if the landing craft got stuck too far out, exposing wading soldiers to any defenders not dead? What was needed was information on those beaches. So the British Broadcasting Service was asked to put out a request over its airwaves for holidays photographs of beaches all over Europe. Thousands poured in, and careful analysis of gradients, seawalls and more was begun.[1]

As the Allies prepared to storm the Normandy landings for D-Day, the intelligence work done beforehand became of essential importance. The strategic plan in essence was elegant in its simplicity: pulverize the defences, land on the beaches, and consolidate for a push into Europe. Intelligence enabled the planners to ensure success at the strategic, operational and tactical levels by pre-planning for success.

Of course, letting your adversary know exactly which areas you were interested in would let the cat out of the bag, so to speak, and undo the efforts of the planners. So a disinformation campaign of carefully placed "leaks" was established, which suggested the landings would come at Calais, a considerable distance away from the intended Normandy sites on the French coast.[2] This worked well – in fact so successfully that when the 6 June landings began the main defender, General Rommel, was convinced that it was a feint. What today is called "Information Operations" was a small subset of the whole intelligence planning process.

This type of intelligence analysis demands people who have expertise in the maritime environment, although it also necessitates careful coordination with those who are planning the land component of the attack. Knowledge of tidal systems, wave patterns, how certain types of weather affect the sea, and how ships will behave in it – all of this and more needs naval people. But what must be emphasized is that the cooperation with land intelligence staff is of primary importance, and so must the acknowledgement that navies are not an isolated force – they support armies, for it is from armies that victory comes.

This point must be expanded further, for the name of the game today,

US troops near a target beach on D-Day (US Army)

and how it has been in the past, is that air and sea operations support land campaigns. But was not the battle of Trafalgar fought at sea, with no flow-on effect to the land? Not so – once Trafalgar in 1805 was won, as Nelson lay dying on *Victory*, with the shattered

Engraving of the Battle of Salamis showing Greek warships destroying Persian warships at close range

A FAILURE OF MARITIME INTELLIGENCE AT SALAMIS 480BC

In this fight between the Persians (today's Iranians) and the Greeks, the latter were outnumbered by a battle proven fleet. Persia's ships – triremes carrying fighting marines armed with spears, bows, and swords – numbered around 800, while the Greeks had around 300, with the fighting troops being hoplites armed with sword and spear. Both sides used a tactic of ramming and boarding. The Greek leader, Themistocles, took new measures to give himself an edge. He had his men trained to swim – an unusual ability in those days – and he sowed false intelligence amongst the Persians by stories that morale in the Greek camp was terrible and they would probably flee. Finally, he chose on the day of the battle a narrow channel of water which would not allow the superior numbers of the Persian ships to outflank him. When battle was joined, Greeks thrown into the water by impact or combat simply swam to the nearest friendly vessel. The Greek's high morale was boosted even further by this and they fought superbly in their chosen battlespace. Greece was saved.
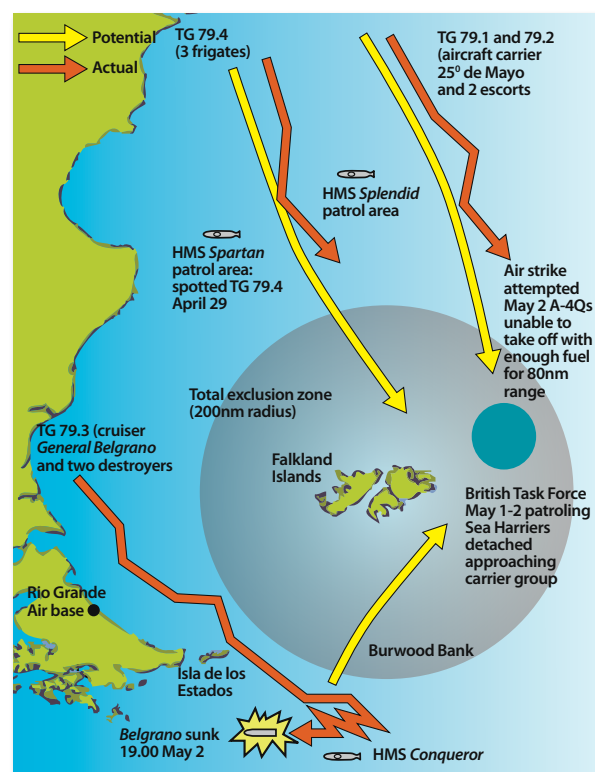
The Persians failed to assess they could be manipulated by their enemy; failed to choose their battlespace wisely, and lacked critical information about their foes

at the hands of Wellington. It has always been this way, and always will be so, no matter what air power theorists argue in battlefields such as Kosovo. They argued airpower was all that was needed beforehand, but after the Kosovo air campaigns it was necessary to send in a land force to stabilize the situation. So too it was in 1945 – only infantry can break through into the bunker and find the war is over for they have found Hitler's body and confirmed he is dead.

So how best should naval intelligence serve a total force? We have already established that by being the source of best information on the intelligence needs of an amphibious operation, intelligence is vital. But sometimes sea operations, isolated into the maritime battlespace, are a vital precursor to joint operations. To illustrate this we turn to the Falklands War.

In 1982 Argentina invaded the British-governed Falkland Islands off its coast. A spirited defence by a small force of Royal Marines failed to deter them, and once *in situ*, Argentina made it clear that it was not going to leave through diplomacy. Britain sent a task force of two aircraft carriers and an amphibious assault force south.

The war was indeed a failure of intelligence, at the grand strategic level. Despite various indicators, Britain had not pieced together the picture enough to understand that Argentina would indeed do what it had politically signaled it wanted for many years.[1] The invasion could have been deterred simply by sending an exercise force south well beforehand: the sight of an aircraft carrier; a few nuclear powered and armed submarines, and a host of surface craft showing their muscle off the coast would probably have convinced the Argentines[2] of the folly of their course of action. But it was not to be, and in the ensuing war hundreds

remains of the French and Spanish fleets around him, then he spoke his last words "Thank God I have done my duty". His duty had been to annihilate the enemy at sea, so Napoleon could be contained, and a land campaign could then be fought. Now Napoleon was prevented from using the sea again, and so ten years later he met his Waterloo

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1   Max Hastings and Simon Jenkins note that the Foreign Office in Britain had a dominance over the Joint Intelligence Committee that resulted in information being blocked, and also that "...the JIC told Mrs Thatcher little to suggest an imminent crisis in the South Atlantic." *Battle for the Falklands* (330, 336)

2   According to a "senior Argentine official"..."we simply never dreamed for one minute you would send a task force. Had we known...the sceptics would have had powerful evidence to counter Anay's proposals for invasion". *Ibid* 337.

# How naval intelligence might better serve the ADF

of people died to as an indicator that countries often do not look into the right areas for their information needs.

But the intelligence failure was not all British. The strategic plan gradually took shape: the two carrier British force would travel down the eastern side of South America, and remain to the east of the Falkland islands, thus putting the task group at the extreme end of Argentine aircraft range. It would then close the islands with its aircraft protecting an amphibious landing force. A useful indication of how a need for operational naval intelligence reaches down from the political to the battlespace is given by the one-sided fight later in the Falklands war between the Argentine cruiser *General Belgrano* and the British.

The sole Argentine aircraft carrier *Vincennes de Mayo* emerged from port behind the British, and with her protection force took up station to their north. To the south, the *Belgrano* and her two destroyer consorts began to move north towards the British. The task force, caught in the middle, was looking at fighting in two directions at once. However, a solution was at hand. The submarine *HMAS Conqueror* had been shadowing the *Belgrano* force, and would be in a position to provide a firing solution.

Picture the type of military intelligence Prime Minister Margaret Thatcher and her advisors would need, and how much of this is specialized maritime information.

The range of *Conqueror*'s weapons was easily enough known, but then comes the demand for much more precise data. How long, and below what sort of sea state could the submarine keep track of the three ships? What was the threat to *Conqueror* – what sort of weapons did the *Belgrano* group possess; how usable were they, and how proficient were the crews? What sort of damage could

D-day allied assault routes
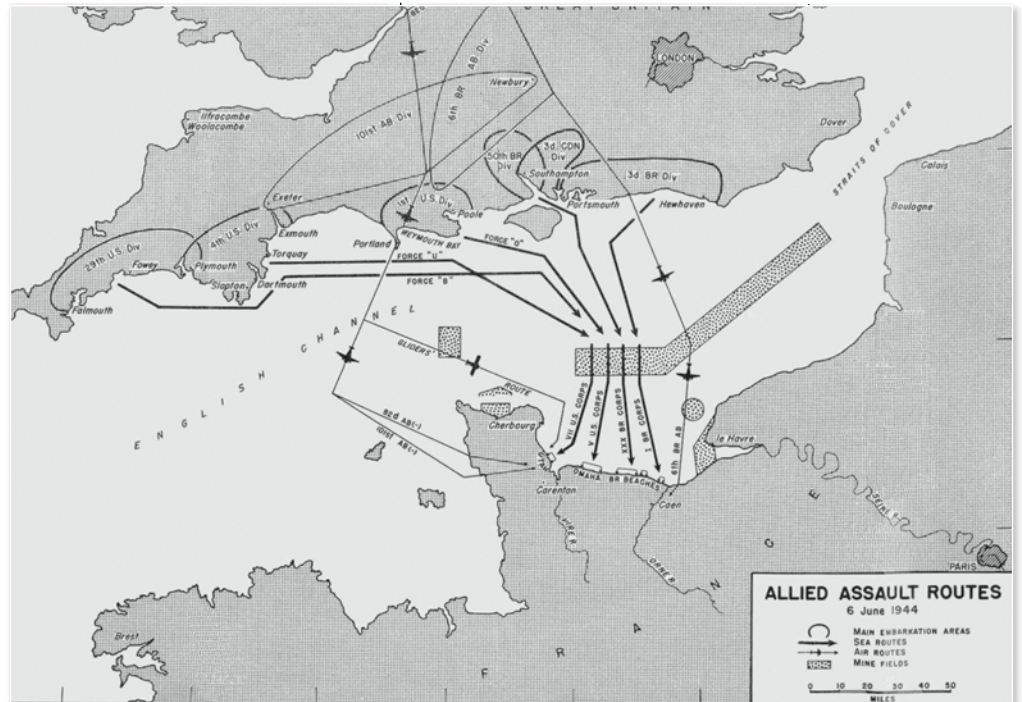
the *Conqueror* inflict – there would be a lot of difference in the political ramifications if 10 lives were lost than 1000. What danger was there to the boat once she had fired – one cruiser damaged for the possible loss of one nuclear-powered submarine was an unequal equation. Should all three ships be sunk or just one? Was it possible to sink all three? And so on.

This sort of intelligence is something only a specialized naval officer could provide. In the event, the data came flowing through, and Cabinet took the decision, and a few hours later *Belgrano* was hit, sinking quickly for the loss of 368[3] lives. The escorting destroyers, in a humane gesture, were left alone by Commander Chris Wreford-Jones, the *Conqueror's* commanding officer, for he assessed the two remaining ships would be in no condition to fight once they had carried out multiple rescues.

So far we have two major roles for the intelligence officer. They are: a) provide specialized naval intelligence to an amphibious force, and b) act as the strategic and operational intelligence

officer to a maritime force. Note that there is a need for both embarked personnel and also shore-based

Classic Intelligence failure-HMS Glamorgan was hit by an Argentine Exocet fired from land, Only first-class damage control saved the ship

members in these capacities: the shore-based organization acting as a conduit for information and requests to flow backwards and forwards between the strategic home and theatre command based on ships.

Is there a third role? Around the world are scores of countries with navies of hundreds of vessels. Are these navies a threat to our country? How do you measure that? What do we mean by a force's capability? What would a "red force' have to contribute to the final picture? Understanding such equations needs research, analysis,

and the ability to present the findings in a coherent, usable form. This third role, therefore, is one of shore-based research and analysis into foreign forces.

We can go further still. There are other possible roles for naval intelligence. The American agency, the Office of Naval Intelligence, has overhauled itself since 9/11. They now have as a primary mission, to:

…provide intelligence support for joint expeditionary warfare as envisioned in the Navy strategy "Forward...From the Sea." Naval Intelligence--with Marine Corps Intelligence, Coast Guard, the Drug Enforcement Agency, and U.S. Customs-- has also devoted an increased effort to nontraditional maritime intelligence missions.

These have included expanded reporting and analysis of merchant ship activity linked to maritime aspects of weaponry and technology proliferation, and counternarcotics activity as well as support to efforts to enforce environmental treaties protecting vital ocean resources.[4]

In simplified terms, we need naval intelligence officers to study maritime-related terrorism and crime. This too is a shore-based situation, and one that demands careful management of relationships between other authorities such as Customs and policing forces.

We have arrived at four roles for naval intelligence:

- provide support for amphibious operations;
- provide support for naval operations;
- provide analysis of naval threats, and
- provide analysis of maritime terrorism and crime.

In fact, many of these tasks are already performed, as those readers who have worked in naval intelligence already know – but this paper articulates the roles. As the Royal Australian Navy turns more towards the littoral, with the establishment of a more amphibious-related force, naval intelligence will indeed grow in value for the ADF as a whole. ✈

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(Footnotes)
1   The assault was helped a few hours later when eight US and three British destroyers closed the beach and provided more NGS. See Belchem, *Victory in Normandy*, pp. 84, 90.

(Endnotes)
1   Parry, Dan. *D-Day – Reflections of Courage.* London: BBC Books, 2004. (17)
2   Belchem, Major-General David. *Victory in Normandy*. London: Book Club Associates, 1981. (pp. 33-37).
3   *Battle for the Falklands* (p. 150)
4   Office of Naval Intelligence. "Our Mission". http://www.nmic.navy.mil/mission.htm 16 June 2007.

HMAS Sheean conducting their Air Sea Safety Assesment off Garden Island in Western Australia with HMAS Adelaide's SeaHawk Helicopter

Duty, Mateship and a Sense of Adventure – Comparison of Motivation for Enlistment: First World War and Today

BY LIEUTENANT JULIAN O'SHEA

"The first fine rush to enlistment brought to the 1st Australian Division a class of men not quite the same as that which answered any later call... all the romantic, quixotic, adventurous flotsam that eddied on the surface of the Australian people concentrated itself within those first weeks upon the recruiting offices of the A.I.F."

– C.E.W. Bean, Official History of Australia in the War of 1914-1918

The Royal Australian Navy is currently facing the most significant recruitment and manpower challenge in decades. With this in mind and with 2008 having been the 90th anniversary of the end of the First World War, it is fitting to consider the motivations of those who served Australia in her first major conflict – a period which saw 416,809 men enlist to serve in the Australian Defence Forces.

Throughout the years of war they saw service from the shores of Gallipoli to the Western Front and on the decks of *HMAS Sydney* and beyond. Their courage and actions shaped the Anzac legend and their willing response forms a significant chapter in Australia's history. This article explores the motivation of these young Australians, examines why they chose to enlist and fight for their country and compares their motivations with those who enlist to serve in the Royal Australian Navy of today.

The Call to Service

As tensions increased in Europe during 1914 the Australian public began to realise that Great Britain faced the real prospect of war and that Australia's armed forces might be called upon. The mood throughout the country was one of almost total support, from both sides of government and the wider community.

When the war was announced Australia responded by offering the vessels of the Royal Australian Navy and pledged a force of 20,000 for service wherever they were required. For the first time as a nation, Australia was at war.

Brigadier-General William Bridges was responsible for raising this force that he named the Australian Imperial Force; a title which reflected both the national connection and strong link to the British Empire. The initial response by Australians was truly remarkable. Thousands of young men applied in recruiting centres around the nation to be part of the first division of deployed troops. Recruiters were spoilt for choice as men rushed enrolment officers around the nation, resulting in high physical and personal standards.

The documents used by recruiters to encourage people to enlist shed some light on the motivations of these potential recruits. One such leaflet displays a Federation Star boldly proclaiming: 'Enlist'. On each of the seven points are reasons to sign up, 'For Australia', 'For the Empire', 'For Home', 'For the Right', 'For Justice', 'For Honour' and 'For all we Love'. The theme of this particular piece was values: patriotism, loyalty and honour. These were important motives for enlisting members and will be explored further, but were not the only reasons for signing up.

This national attitude of 1914 differs greatly to the public attitude today towards the war in Iraq, which saw hundreds of thousands of Australians involved in protests prior to Australia committing troops. In 2007 the Australian Labor Party was elected nationally and with a strong majority on the platform of withdrawing all combat troops from Iraq.

RAN Bridging Team Officers and Petty Officers at Gallipoli

Patriotism: 'For Australia'

Australia was a young nation when it was drawn into the First World War. Indeed the federated Commonwealth of Australia was younger than the people signing up to fight for her. It has been said that whilst 1901 saw Australia created by law it was not until 1915 that Australia truly become a nation – born on the shores of Gallipoli.

There was intense national pride at this time, as one returned digger explained, "It is impossible to put into writing the intense feeling of patriotism felt by the majority of my age at the time, and the greatest punishment that could be given to any of us was to be sent back to join a later regiment."

Australia has changed over the past 90 years and the events of the First World War gave the nation a stronger identity but we remain proud of our shared history and achievements. Much of the exposure the public has to the work of the Australian Defence Forces reinforces this; events such as Anzac Day and Remembrance Day where the emotional link between patriotism and the services still remain strong.

Loyalty: 'For the Empire'

The mood at the time was that Australia was very much part of the British Empire and national actions would directly reflect this. This was clearly enunciated by Andrew Fisher, Australia's Prime Minister for the first two years of the war who after hearing that war was imminent announced, "Australians will stand beside our own to help and defend her to our last man and our last shilling."

This attitude towards England shifted over the course of the twentieth century and although the ties remain, Australia has become a more independent nation and has carved out her own identity. One returned serviceman reflecting on his motivation to enlist wrote, "To a greater extent… was the desire to help the Motherland in her hour of need. Unfortunately, to me, this attitude does not apply today to any extent. Our affinity with the Homeland from which the Kith and Kin of most of us originally came does not appear to hold any or very little interest."

This is an accurate reflection in the shift of attitudes of Australians, particularly younger people who no longer have a personal sense of loyalty to England. Service to 'the Empire' no longer remains a motivating factor for sailors within modern Australia.

Mateship: 'For Honour'

Whilst many great bonds were forged abroad, it was even before many young men had signed up that stories and the concept of mateship was firmly in their mind. One of the recurring images used by recruiters during the war was the importance of a national identity and mateship. This was strongest portrayed by the image of the 'diggers' and focussed on the landing of the Anzacs at Gallipoli.

This was an era where the concept of duty was strong and very real. Many letters from servicemen spoke of the sense of duty not only to the nation and Empire but also on a personal level to their families and community.

When men enlisted to serve during this period they did so locally, and went on to fight with men from the same state or area. This strengthened these bonds of mateship and provided a degree of competition between various regions. Serving soldiers increased this feeling through letters from abroad which spoke of their experiences as well as expressing the desire that other men from their own area enlist.

The theme of mateship in the services is as important today as it was in 1914 and continues to be a significant part of the culture of the Australian Defence Forces. Modern recruiting techniques use this as a selling point and the teamwork aspect of Naval (and other military) service continues to draw individuals to enlist.

Sense of Adventure: 'For all we Love'

Whilst many of the attitudes have changed among young Australians over the past 90 years there is one which remains as strong now as it did then: a sense of adventure and desire to see the world.

Recruiters capitalised on this spirit

Bosuns Mates onboard HMAS Brunei-mateship is more than a title

Duty, Mateship and a Sense of Adventure – Comparison of Motivation for Enlistment: First World War and Today

of adventure promoting travel as one of the benefits for enlistment. One such pamphlet was in stark contrast to the one previously mentioned and looked like a travel brochure. It offered: 'Free Tour to Great Britain and Europe – The Chance of a Lifetime'. This approach focussed on the sense of adventure and for many this would be their first opportunity to see Great Britain and a real chance to see the world.

Whilst reading the letters and reports from the enlisted men the excitement that existed was truly inspiring. Robert Antill, a young English migrant who would go on to enlist described it in a letter to his parents, "We have all got the war fever… I would love to get back and have a bit of a go in." There were thousands of young Australians who got caught up in this emotion, the 'war fever'.

Australia is a nation of travellers, particularly among young people. The ease of access to travel, however, has changed a great deal and many people take 'gap' years or undertake long periods abroad, particularly to England and Europe. An interest in travel is a part of the appeal of the Royal Australian Navy today, but a diminished one compared to years gone by. By conducting overseas trips and promoting these to potential recruits there is scope to improve enlistment numbers.

Complex Motivations

The individuals who enlisted in the Australian Defence Forces during the First World War, as do those who sign up today, did so for a range of reasons. Every person took with them a mix of personal and national motives. Some identified with the duty to serve their country and the Empire. Others were drawn to the call of supporting those already overseas, spurred on by the sense of adventure. For each of these

young Australians, however, making the decision to leave their families and loved ones behind must not have been an easy task.

For whichever reasons compelled these young Australians to enlist it is their service and sacrifice which we remain thankful. The human cost of the war was incredible. By the war's end over 220,000 Australian service personnel were killed or injured. This was a terrible toll on a small nation. The ceremonies and the various memorials around Australia, notably Anzac Day, provide an important reminder to all of us of the sacrifices made and the brave actions of the men and women who have served their nation with honour.

Many of the motivations which drew thousands of young people to enlist during the First World War exist today, while some no longer hold relevance in modern Australia. Today there are other reasons why people choose to join, including quality training, exposure to advanced technical systems and for lifestyle changes. While Australian society has changed greatly over the past 90 years, the challenge of recruiting sufficient quality people into the Australian Defence Force remains and as an organisation we must strive to be an employer of choice and to communicate the many benefits that Naval service to potential recruits. ⚓

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Mahan & Corbett: Lessons for the RAN's Junior Officers

BY LIEUTENANT SAM FAIRALL-LEE

The recent release of the Defence White Paper, with its apparent connotations of maritime expansion, has seen some defence academics and elements of the wider media attempt to relate Australia's maritime and naval policies, and the related force structure, to classical maritime-strategic thought. One oft quoted line is that "Mahan is dead!" Or even that "this is the time of Corbettian power projection!" These commentators, however, are somewhat missing the point, and their sometimes simplistic editorialising is diminishing the apparent value that can be gained by studying and understanding these two fathers of maritime strategy. This paper seeks to redress some of this balance by explaining just what it is that Mahan and Corbett believed, what we should try to learn from them, and why they remain relevant.

The writings of Mahan and Corbett are often compared and contrasted to the point where one feels compelled to choose between the one or the other. Rather than argue for one point of view, however, it is far more beneficial to attempt to understand what each has given the field of study and what one can take from each of them and apply to the modern world. It is also evident that in these comparisons critics sometimes fail to fully comprehend the relative aims of the writers in their different periods and political climates. Mahan, for instance, writing in the United States in the late nineteenth century, was effectively seeking to 'sell' the benefits of naval power with a simple and easy to understand mantra which would encourage political leaders to invest in particular types of capabilities (something that would not go astray in 2009 perhaps?). Corbett, conversely, was writing in a country whose navy was the most powerful in the world; he sought to provide a more specific framework for the application of that power, and guidance for future development at a time where reform was necessary but difficult to achieve in a climate still dominated by aspirations for Trafalgar-like major fleet actions.

These differing environments therefore shaped the views and wants of these two strategists in different ways, leading to differing objectives and differing outcomes. Mahan's writings seem sometimes to have come right from the heart of a passionate naval officer, whereas Corbett's more systems-like approach reflects ideas shaped in the mind of a Cambridge-educated barrister. How do these two strategic approaches shape up one hundred years on? And what does this tell us about the essential characteristics of maritime strategy.

History as Strategy

Both Mahan and Corbett viewed history as a way of identifying strategic trends and principles. Mahan especially set the foundations of the historical maritime-strategic field of study: whereas before him there existed analyses of campaigns and battles, after Mahan the foundation was laid for understanding naval and maritime strategy in its wider context, a point too often neglected by his critics.

Mahan and Corbett did however have differing perspectives on how to apply the lessons of history. As a student of the Swiss military strategist Antoine-Henri Jomini, Mahan believed in certain 'invariable scientific principles'[1] in war, for example his mantra regarding decisive battle and the need to avoid division of forces to achieve it was almost an unbreakable rule to Mahan.[2] Corbett, conversely, went to great length to explain that there were "no laws or rules" in strategic study. "Such laws…" he wrote, "can only mislead in practice, for the friction to which they are subject from the incalculable human factors alone is such that the friction is stronger than the law."[3]

Corbett instead viewed strategic study as a method of determining the cause and effect of certain factors; to, as he said, "determine the normal" and assess the opportunities which may present to depart from that normal.[4] Where Mahan was following the tenets of Jomini, Corbett was placing maritime strategy within the sphere of Clausewitz, and in doing so he placed both naval and maritime strategy within the context of the 'nature of war'. From this Corbett was then able to develop theories regarding 'limited war (by object)' and 'limited war (by contingent)', which presented options for the use of combined naval and military power in intricate contingencies with specific aims. It may even be said that with these theories, especially with regard to the identification of limited aims, critical requirements and critical vulnerabilities, Corbett had come upon a planning process something akin

Mahan & Corbett

Mahan & Corbett: Lessons for the RAN's Junior Officers

to what is known today as the Joint Military Appreciation Process. This is something that Mahan did not attempt with any real vigour, instead placing naval strategy within the context of economics and geography. Both, however, used England as the major focus of their historical investigations, and both agreed that the relationship between maritime power and strategic communication was central.

The Sea as a Strategic Highway

Mahan and Corbett viewed the world as a single entity, connected through the highway of the oceans.[5] In Mahan's time especially, this was a powerful notion. Previously there had been a tendency to view the sea as a barrier, a frontier to be 'conquered' rather than as a means for expansion. Mahan's writings were therefore essentially maritime-strategic visions extending from the Renaissance. More than this, Mahan was able to demonstrate how the strategic communication enabled by sea power and its economic

potential had encouraged a spirit of mercantilism in England and how this in-turn affected the nature of society, diplomacy and international relations. Mahan effectively raised thinking on sea power to the macro-scale where its ability to influence the strategic environment and to prosecute national aims became clear to national leaders the world over.

Mahan outlined six 'general conditions affecting Sea Power'[6] which illustrated the factors which encouraged states towards maritime preponderance. Without restating them here, Mahan argued that a state with natural advantages in geography, population, people and government could pursue international expansion through colonies and build its trading potential and mercantile culture. This would lead to greater wealth, expanded naval forces to protect the communication system and further expansion and building of wealth. Such a state would then become economically dominant and could shape the strategic environment to its

advantage. These claims, so eloquently and simply put, transformed thinking regarding maritime power.

Thanks to Mahan, the fundamental principles and capabilities of maritime power in relation to the strategic environment were well understood when Corbett came to set out his framework, and as such Corbett owes him a great debt. Corbett did outline the importance of maritime strategic communications[7], but this point did not need to be laboured. Instead, Corbett's profound contribution here was to elucidate a far more thoughtful theory on a concept which, in fairness, Mahan at times struggled with[8]: how this strategic communication was secured.

Command of the Sea

The sea, as Corbett pointed out, is not owned and is not susceptible to ownership outside territorial waters; one cannot exclude neutrals from it, nor subsist one's own forces upon it.[9] The goal of navies in war was, therefore, to secure the *use* not the

HMAS Sydney arrives in New York, steaming up the Hudson river, Sunday July 19, 2009, accompanied by United States Navy warship USS Mahan

possession of the sea, and to deny such *use* to an adversary – and on this both Mahan and Corbett agreed. In the methods to be employed, however, they varied greatly.

While Mahan spoke always of the need for a decisive fleet battle to secure command[10], Corbett devoted entire chapters to the varied types of command and the differing methods which might be employed in differing situations. Like Mahan, Corbett agreed that because sea lines of communication may generally be common to both belligerents, an offensive strategy will also assist in the defence of one's own communications. Corbett, however, believed that command of the sea was far from absolute and was more complex than simply pitching one's entire concentrated fleet against the enemy in an attempt to secure it. To Corbett, Mahan's use of Nelson as an example of the effects of decisive battle and its outcomes after Trafalgar were re-enforcing a dangerous precedent within the Royal Navy. While acknowledging that "it is impossible for a [maritime] Power either to establish its defence or develop fully its offence without securing a working command of the sea by aggressive action against the enemy's fleets,"[11] he was very careful to point out that such command "may exist in various states or degrees, each of which has its special possibilities and limitations. It may be general or local, and it may be permanent or temporary."[12]

Considering then that command of the sea was unlikely to be absolute, and also considering that the goal of navies in war was to secure the *use* of the sea for one's own purposes and to *deny* it to the enemy through commerce raiding, why then, Corbett asked, did one not wish to concentrate on actually *using* and *denying* such use when battle was not immediately forthcoming? This was especially true if the enemy adopted a defensive attitude and did not wish to give battle.

In describing this scenario, Corbett even makes a half-hearted criticism of Mahan, writing that "The misconception [that a weaker force will have to give battle] appears to have arisen from insistence on the drawbacks of defence by writers seeking to persuade their country to prepare in time of peace sufficient naval strength to justify offence from the start."[13]

In essence, Corbett was making the simple point that defeating an enemy fleet does not in itself win the war – battles are merely the means of "enabling you to do that which really brings wars to an end – that is, to exert pressure on the citizens and their collective life."[14] "It is commerce and finance," he wrote "which now more than ever control or check the foreign policy of nations." Without targeting this, he said "Defeat the enemy's fleets as we may, he will be but little the worse." Considering the preponderance of the British Fleet, Corbett urged that this be done at once following the outbreak of war.

This strategy, however, would require a change in the makeup and disposition of the British Fleet, one that First Sea Lord Admiral Jacky Fisher was fighting to bring to fruition. In the three-tiered makeup of fleets at the time (which may still be relevant today), the Mahanian doctrine called for the battle-fleet as the focus. Cruisers were to act as the 'eyes of the fleet' with the flotilla in support roles. The battle-fleet was in essence providing *security* for the command of the sea (against the enemy battle-fleet), however without detached cruisers and flotilla there was nothing available to actually *exercise* such command (against enemy commerce and their detached commerce raiders).

With a concentrated, battleship-heavy fleet, Britain was sacrificing much of her potential for command of the sea and attacks on the enemy in order to pursue the Mahanian decisive battle. Acknowledging that the security function carried out by the battle-fleet was important, and also citing the new dangers posed to the battle-fleet through the torpedo boats of the flotilla, Corbett, like Mahan, drew on the experiences of the French Revolutionary and Napoleonic Wars to devise a theoretical solution: a deliberate balance between concentration of the Fleet to provide security for the command of the sea and to defeat the enemy when required; and dispersal of cruisers and the flotilla to actually *exercise* command of the sea and attack the enemy's vital economic interests. The important aspect was communication between the elements of the fleet to enable the right balance of concentration and division. Dividing the fleet was of course anathema to Mahan[15], yet Corbett knew that victories were achieved by taking measured risks, and that dividing the

Ready to attack the land from the sea…

Mahan & Corbett: Lessons for the RAN's Junior Officers

Fleet was the most effective risk.[16]

That is not to say, however, that Mahan and Corbett did not agree on all methods of maintaining command of the sea. They both believed (to differing extents) on the efficacy of the blockade, and likewise they generally looked positively at the concept of a Fleet-in-Being, especially for those states which were unable to match the capabilities of the major seagoing nations.

Navies in the Joint Force

As mentioned, one of Mahan's aims in most of his writings was to argue the case for naval power in order to encourage his political leaders to invest in maritime capability. As such, his arguments can in some cases appear one-dimensional, sometimes even evangelistic. Corbett, on the other hand, was writing in a different environment and, as a civilian, was able to argue certain points which many naval officers found unappealing. One of his major contentions, and one that is plainly evident today, is that navies cannot hope to win wars as independent forces. To put it simply "Since men live upon the land and not upon the sea, great issues between nations at war have always been decided – except in the rarest cases – either by what your army can do against your enemy's territory and national life, or else by the fear of what the fleet makes it possible for your army to do."[17] This view is entirely consistent with Corbett's association with the philosophies of Clausewitz, who made it clear that war is not only about destroying the enemy's fielded military forces, war is an instrument of policy, a social activity.[18]

War is about changing the status quo, and whilst isolating an enemy will make it very difficult for him to achieve his aims and enable you to project power against him, to ensure the defeat occurs within a reasonable period and

to ensure that the resulting condition is satisfactory, one generally requires physical presence and influence. Corbett's theories regarding limited war and local sea control therefore enabled him also to develop and refine a holistic theory of joint amphibious operations[19]. It is this holistic approach to strategy, without codifying tactics, that makes Corbett so relevant today.

The Lasting Legacy

Both Mahan and Corbett left us valuable lessons and, despite some of Mahan's concepts appearing dated, both remain relevant to modern maritime strategy. Above all, both taught us that history is a tool of strategic thought and that without considering the strategic lessons of history we are simply bound to repeat the errors of the past. As Corbett to some extent predicted, the British concentration on decisive battle during the Great War and the failure to understand the varying conditions of sea control led to operational and strategic losses that were unnecessary; a more accurate and measured understanding of Nelson's true objectives prior to and at Trafalgar would have opened the eyes of those who were hoping to relive the defeat of Napoleon. That the Royal Navy should have again failed to heed the lessons of the Great War and neglect its convoy role during the early years of World War II must surely prove a point.

Mahan and Corbett also gave us an understanding that maritime power is something more than naval power, and that maritime strategy is a far more comprehensive concept than just how to employ navies. The subtle links between the sea, communication, economies and societies is something we in Australia especially find difficult to fully comprehend. Perhaps we need a modern Corbett or Mahan to find a way to demonstrate the long-term

nature of maritime power? It is certainly well overdue. Corbett's lucid and comprehensive theories of sea control, so well understood now in the United States and even the United Kingdom, are also poorly appreciated in Australia. The most recent Defence White Paper for instance, while claiming a sea control focus, in fact outlines a sea denial force based on submarines and cruise missiles, along with a significant attempt at exploiting the control we cannot provide: through power projection in the form of aircraft carriers without aircraft[20] – Corbett would surely disapprove.

In conclusion, Mahan and Corbett encouraged people the world over to think about the sea and its importance to civilisation. The analysis, debate and development of thought that their writings inspired is perhaps their greatest legacy of all. That we might passionately disagree with an element of policy is sometimes only made possible because we have benefitted from the passion, vision and insight of Alfred Thayer Mahan and Julian Corbett. It is this passion, vision and ability to see the 'bigger picture' that the modern RAN should seek to foster. ⚓

Lieutenant Fairall-Lee joined the RAN College in January 2000, graduating from ADFA in 2003 with a BA majoring in history and politics. In 2005 he received his Bridge Warfare Certificate in HMAS Newcastle and, following a posting to the Defence Signals Directorate, completed Principle Warfare Officer course in 2008. Lieutenant Fairall-Lee is currently the Gunnery Officer in HMAS Stuart.

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4   *Ibid*.

5   Alfred Thayer Mahan, *The Influence of Sea Power Upon History 1660-1783*, Dover Publications (New York: 1987), p.25 & Corbett, *Some Principles…*, p.89.

6   Mahan, *The Influence…*, pp.29-82.

7   Corbett, *Some Principles…*, pp.94-100.

8   Mahan used 'command of the sea' and 'sea power' with overlapping meanings. His best definition of command of the sea is: "the possession of that overbearing power on the sea which drives the enemy's flag from it, or allows it to appear only as a fugitive…" See: Mahan, *The Influence…*, p.138.

9   Corbett, *Some Principles…*, pp.87-90.

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11   Corbett, *Some Principles…*, pp.28-29.

12   *Ibid*, p.102.

13   *Ibid*, p.105.

14   *Ibid*, p.94.

15   According to Mahan 'If the Naval War College, "had produced no other result than the profound realization by naval officers of the folly of dividing the battle-fleet, in peace or in war, it would by that alone have justified its existence and paid its expenses." See: Alfred Thayer Mahan, *Naval Strategy: Compared and Contrasted with the Principles and Practice of Military Operations on Land*, Sampson Low (Boston: 1911) p.6, cited in Crowl, 'Alfred Thayer Mahan…', p.458.

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Columbia's Training Ship ARC GLORIA -photo by Chris Sattler

Winning the battle - but how do we win the human resources war?

Positioning the ADF as an employer of choice in the face of a new Australian workplace

BY LIEUTENANT PAUL HARDMAN

The modern Australian workplace has been transformed by a tide of societal and cultural change. Swept by demographic shifts and catalysed by high standards of living and low unemployment, employers have had to find new and innovative ways to compete for their most important asset, their people.

Human resources in Australia are competitive markets where employees with modern expectations demand more from their employer even in times of economic uncertainty. More than ever before, job seekers weigh up their potential employer based upon a package of benefits including work life balance, corporate culture, personal satisfaction and the ability of the workplace to fulfil their potential. Remuneration and promotion although still important, are no longer the decision makers they once were particularly for the younger generations.

A new breed of employer, the Employer of Choice, has recognised the need to be competitive in this new age. Through a range of measures Employers of Choice are attracting and retaining more quality employees whilst other employers are finding it increasingly difficult to recruit and retain their core asset.

Defence, one of the nation's largest employers, has risen to the challenge with new and innovative ways of engaging and recruiting an expanded target demographic. But the challenge is now to retain these new people by delivering on recruitment promises and meeting the expectations of the new generations.

EVOLUTION OF A NEW AUSTRALIAN WORKPLACE

The modern Australian workplace is a reflection of the changes that have occurred in Australian society over the last 30 years. In particular, it is the embodiment of an expectation of a fair and equitable workplace, with fewer but more highly skilled staff who have an increased reliance on technology and global markets.

Today's workplace is also a manifestation of labour and skills shortages where employers are aggressively competing to attract and retain employees especially those that possess technical or trade skills. Importantly this same environment is being shaped by an uneven demographic transition as the baby boomers exit and generation Y enters the work force.

EVOLUTION OF EMPLOYERS OF CHOICE

Employers of Choice have evolved through competition in today's tight HR marketplace. These employers have typically identified and made changes in their workplaces that provide them with a high affinity for their target demographic. They generally offer a tailored package of benefits, but as a minimum provide a work environment where people are treated well according to clear and current values in society. They have a reputation for providing challenging, satisfying work but are also able to offer a flexible work life balance and a program for realising employee potential.

Employers of Choice have embraced the culture of the new Australian workplace. Without exception they offer a fair and equitable work environment where gender, race, sexual harassment and bullying do not exist. They mentor their junior staff and identify and nurture talent with the aim of growing an organisation of successful managers and role models who have good people skills regardless of their primary expertise.

These employers genuinely try to appreciate and respect their employees and understand that people work best when they are confident in what is

People join for exciting times - a Peruvian Sailor assigned to a maritime interdiction operation group fast-ropes from a Peruvian AB-212 Pantera helicopter onto the flight deck of the guided-missile frigate USS Doyle (FFG 39)

expected of them, are rewarded for meeting or exceeding goals, and are not worried about an unsafe workplace or being placed under undue stress.

Employers of Choice need to know what their workforce is thinking so that internal problems can be addressed before they turn into crises where productivity or personnel are lost. Because of this, they have a highly developed two way communication system utilising both formal and informal tools to communicate intent and receive feedback from their people.

In summary, Employers of Choice offer a flexible work life balance tempered with good corporate culture. They place emphasis on personal satisfaction and the ability to bring out full potential. Good remuneration and career path development are expected along with environments where people are treated well and challenging, satisfying work that is valued by the community is offered.

Recruiting

This financial year Defence is the employer looking for the largest number of people in Australia with a target of enlisting 10,700 recruits.[1] To compound the problem a modern Defence force needs to be specific in who it recruits particularly from the 17-28 year age group. Former Director General of Defence Force Recruiting BRIG Gould indicated: "We are after both quality and quantity."[2]

To meet the challenge, Defence has had to increase funding, widen its target demographic and alter entry standards. The then-Minister for Defence Science and Personnel announced: "The Australian Defence force will look to generation Y, women, Indigenous Australians and our diverse ethnic communities as a source of new recruits under a $148.7 million funding package. This is in addition to work that is well underway to promote

Defence as an employer of choice, offering challenging and rewarding careers." [3]

Figure 1-ADF Full Time Recruiting Performance 1997-2007[4]

Historically Defence has not needed to be as responsive as other employers to changes in the Australian HR marketplace. However as Figure 1 illustrates, Defence has not been able to reach its recruiting target for more than a decade. The then-Minister for Defence Mr Joel Fitzgibbon, understood the plight and indicated "We must become more creative on the recruitment front, talking to generation Y in their language through the mediums they rely upon for their information will be crucial to making gains" [5]

Recruiting Generation Y has proven to be a challenge for Defence. The group is characterised by a "live now work later" mentality and expects more from their employers. For Defence, Generation Y is a vastly different cohort to the generations before with some motivators that at a first glance do not easily align with Defence ideals. Kristin Gissaro from Generational Recruiting, highlights the following attributes that are important to and motivate Generation Y[6]

a. Must have access to technology;

b. Teamwork environment;

c. Jobs that allow them to multitask;

d. Want to be respected for their level of education;

e. Need freedom and

flexible work schedules;

f. Tasks must be challenging and rewarding;

g. Need structure, supervision but immediate gratification and feedback;

h. Feel that they are getting along with their manager and that person is enabling them to grow;

i. Need to know they have the opportunity to learn more, and

j. Be consulted with, when making decisions.

Defence Force Recruiting, to its credit, has risen to the challenge in adapting and appealing to its target demographic, for example hiring people like marketer Mr Richard Howarth, formally from FOXTEL and Coca-Cola Amatil as their national marketing manager in December 2005.[7]

It is important to note that it is not all doom and gloom for attracting Generation Y to a Defence job. Richard Howarth is convinced that, "We offer a career choice to a Gen Y that is a great fit; we're offering something in their life and something in their job that is beyond just financial reward."[8]

Recruiting has now completely

Figure 1

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revamped its approach to reaching its target market and the changes are starting to pay off. The ADF online recruiting campaign, created by Melbourne agency Visual Jazz, was awarded the honour as "the country's best digital marketer.[9]" The new Defence job's website, full of virtual tours, streamed interviews of serving members, and interactive games designed to communicate with the new generations. The then-Minister for Defence Science and Personnel said: "While more has to happen to attract and retain young people in the forces, it is critical to the future of the ADF that Generation Y and beyond can access and interact with recruiting information via the technology they are comfortable with.[10]"

Defence has also changed the products it offers to potential recruits. A new Defence Technical Scholarship Program, designed to bridge the technical trade gap in the military, has been established and the ADF Gap year program, which commenced in January 2008, has been a great success. All 700 places for the gap year intake were filled from a total of 1500 applicants, with women making up half of the applicants for Navy, a quarter for army and a third for Air Force.[11] Additionally, central to the 2008-2009 budget is continuing with the advertising and marketing campaigns to enhance the image of Army, Navy and Air force.[12]

Retaining our Existing Workforce

Retaining Defence personnel is absolutely essential to meeting the capability objectives set by the government. The 2000 Defence White Paper said, "To be a knowledgeable organisation, Defence must retain skilled and experienced people. Ensuring that people do not leave the ADF when they are of most value is a priority concern for the Government."[13]

Separation rates for the ADF have remained relatively constant since 2004 holding between 10 and 12%. The combined rate for 2007-8 of 9.8% showed some improvement however, this figure was largely due the good result in Air Force at 7.2% while Army and Navy reported 10.6 and 11% respectively.[14] Importantly Navy continues to bear the brunt of personnel shortfalls continually owning the highest separation rate while at the same time proving the hardest service to recruit. The ideal separation rate for Defence is 7% that allows for personnel renewal, keeps the workforce from stagnating and prevents a loss of skills and corporate knowledge.[15]

Figure 2 - ADF Permanent Force Enlistment and Separation Rates[16]

The peak periods for exit in Defence are in the first 12 months primarily for medical and administrative reasons, after four and 10 years as the initial period of minimum service expires and finally after 20 years which has been the traditional exit point of ADF personnel.[17]

Reasons for separation are well understood. The Defence attitude and exit surveys have identified both chronic and acute reasons for separation of Defence personnel at different stages in their careers. Chronic reasons include the ability to make a career change while still young enough, the desire to stay in one place, and the desire for less separation from family. Acute reasons include lack of control over life, better career prospects in civilian life, and lack of job satisfaction.[18] Significantly, money is no longer a key retention factor with a prime example being the lower than expected uptake of the Navy capability allowance since its introduction.[19]

To reach the retention goal, retention initiatives must be tailored to each of the generations within the workplace and appeal to their own diverse motivators. On top of this people in different life stages have different priorities and therefore again require different retention initiatives. For example, personnel with families

Joining up for exciting times - Chilean Navy Special Forces
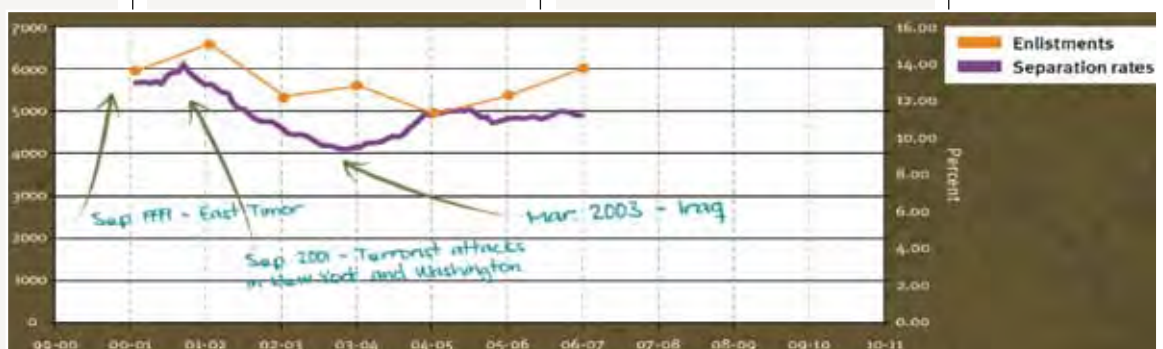
Figure 2

will be retained with stability, whilst younger single members value travel. It is much smarter, easier and more cost effective for Defence to improve its overall retention than to spend the hundreds of millions of dollars in attracting, recruiting and training their replacements.

Positioning the ADF as an employer of choice

In terms of the characteristics identified earlier as what defines an Employer of Choice, Defence not only meets but sets a market leading standard in nearly all of them. Benefits that set Defence apart as an employer of choice include:

a. DASS and Civil Schooling;

b. Free medical and dental;

c. Free gym, sports and recreation facilities;

d. Provision of civilian accredited training;

e. Will hire young, inexperienced and untrained personnel;

f. GAP Year and Trade options;

g. Resettlement initiatives;

h. Defence home loan scheme;

i. Rent Assistance;

j. Military Super Scheme, and

k. Support organisations such as DCO, DFA and DHA.

Perhaps the biggest criticism that can be levelled at Defence is that it does little to market itself and its comparative workplace riches to its own people as a tool for retention.

Just like the revolution undertaken in recruiting, Defence needs to do the same in promoting itself to its own employees. A good example of this is the number of people who following attending transition seminars express the wish to have known about defence benefit schemes earlier.

Factors that Affect Retention

Work life Balance

Flexible work life balance in the modern Australian Workplace is the ability to work hard when you have to, but also the ability to take time off when you need it. It does not mean fewer work hours but more control over when and where those work hours are performed. For example, for parents work life balance offers the ability to work from home or around a family life. In the case of the baby boomer generation the ability to utilise part time or casual work is a competitive edge. Importantly, for the current X and Y generations the ability to "have a life" outside a career, not a career as a life is a huge decision parameter.

Defence jobs in general feature two extremes of work life balance. Taking Navy as an example, personnel ashore enjoy a work life balance that can be quite good, and may feature the ability to conduct activities such as sport during traditional working hours and the ability to work flexible hours.

For members who are posted to ships or assigned to operations, the work life balance can become non existent and is possibly a large contributor to the higher separation rate and the lower recruitment rate for Navy. The challenge for Navy is to be able to change traditional attitudes, and offer innovative ways of sharing the sea burden. Multi-crewing on ACPB's and the introduction of a fly in/fly out

routine, and reduced duty watches are examples of how thinking outside traditional lines can improve the work life balance and retention of its members without affecting capability at sea.

Realising potential and expectations

In general, Defence jobs are appealing and offer a huge opportunity for personal satisfaction. They provide challenging, satisfying work, involve the use of teams to achieve goals and have mentoring schemes to facilitate career path development. Career progression generally offers international job opportunities, while operations can offer the ability to contribute in an altruistic way with humanitarian assistance.

Having a Defence job means you are well paid, operate in a non-profit driven work environment where people are treated well but also where there are support and safety mechanisms. Defence is a leader in offering its workforce with a fair, equitable and safe workplace. They have established programs for Equity and Diversity, Occupational Health and Safety, Alcohol and Drug awareness, a system for effecting fair workplace justice and a long and respected military culture, history and values.

Once again, these are ideals that Defence needs to not only promote to the community but to itself. Not doing so only serves to encourage the grass is greener on the other side attitude particularly for its younger members. Generation Y – Defence's key demographic – is the chop and change generation continually shopping for the employer that continues to meet their needs. By promoting Defence's virtues and having the will to identify and address the issues that are important to generation Y, Defence will continue to be an HR Market leader.

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IMPROVED COMMUNICATION

The Defence Attitude and Exit Surveys serve as a useful tool for higher Command, but at the coal face feedback is generally discouraged. Building a culture around workplace improvement at the lowest level will be crucial in improving communication and involving Generation Y in the decision process.

Communication from top to bottom in Defence is excellent but can be improved, particularly through the use of technology. Important information already available on the DEFWEB is lost as its content is spread out and its search engine is poor. A wealth of information can be found in print media and signals, but little arrives by modern means such as blogs, web casts, or video streaming.

Taking Navy as an example, the divisional system has served the organisation well since inception but is now in desperate need to be brought into the 21st Century. A one stop website augmenting the divisional system would provide an ideal portal as both an information resource and communication forum. The site would bring together existing services such as PMKEYS self service, publication and Web form links, branch databases and online training but more importantly take advantage of new mediums for communication such as online chat forums and U-Tube style messages from senior staff.

Access to technology for the younger generations is essential. Every recruit now expects to have access to a computer with email, internet and intranet capability. This is particularly important for personnel who are separated from home on deployment or at sea. Generation Y is more educated and technologically minded than those before. Providing computer resources will increase productivity however, having limited computer resources will only serve to frustrate and alienate the younger generations.

MANAGING OUR PEOPLE

It is important to note that Defence managers receive little to no formal HR training yet manage one of Australia's largest workforces in one of the most challenging workplaces. Anecdotal evidence suggests that often people with poor people skills are working in positions where they may manage large groups. For the younger generation this will be the last straw and they will quickly exit a workplace where they feel in constant conflict with their manager. There needs to be an active program to improve the people skills of our grassroots managers. Having a graduated HR program commencing at officer entry level training, culminating in the award of a Degree or Masters is now essential particularly for those that go on to work at our peak HR organisations.

MANAGING GENERATION Y

Managers need to learn different strategies when dealing with generation Y. Providing the big picture or "the why" including the important part they contribute is essential to motivating this generation, as is regular and constructive feedback. Coaching and mentoring appeals to this generation as well as the feeling that they are being listened to and respected. We need to ensure our managers of generation Y know these things.

It important to mention that any future cases involving the worst aspects of military culture such as bullying, abuse or intimidation have a huge impact on recruiting. Programs for promoting Defence as a new workplace is important to dispel old stigmas.

A FORUM FOR IMPROVEMENT

Defence is continually at the forefront of generational and societal changes principally because of the age and number of its recruits. Defence needs to ensure that its workforce is treated well according to clear and current values of society. It can do this by continually assessing changes in societal expectations and rapidly implementing those that are relevant directly into the workplace.

A 20/20 style work place summit held on an annual basis and inclusive of community and Defence members could provide this input. This summit would provide a gauge on community and military workplace ideals and be able to provide a forum to workshop contemporary issues.

Defence is now operating in a completely new HR marketplace where employers aggressively compete with each other to recruit, poach and retain skilled workers. Defence recruiting has now adapted to this new environment and is expected to meet its recruitment targets in the years to come. ⚓

Times have changed - a female sailor aboard HMCS Winnipeg stands watch. Credit-Capt. Adam Thomson

Lieutenant Paul Hardman RAN joined the Navy in Jan 2003 from a Medical Science background, completing a BSc Degree at James Cook University in 1999 and subsequently working in Pathology Laboratories in Townsville and Brisbane. Initial sea postings were to HMAS Tobruk and HMAS Labuan before being ticketed on Hmas Parramatta in Dec 2005 on Gulf deployment. Paul posted to HMAS Stuart as APWO after 23 months in Darwin as XO for the ACPB rotational crew Attack II.

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1 Retention remains a big area where Defence can improve. Money and career progression are no longer driving factors in employee retention across all generations in the work place. Factors such as work life balance, corporate culture, personal satisfaction and the ability to bring out full potential are now of prime importance to today's employees. Retention initiatives must also be diverse, appealing to the motivators of the different generations within the workplace as well as to people in different life stages.

Generation Y also comes with a mixed bag of requirements. Recruiting this generation is proving to be less of a problem than what it is going to be in actually retaining them. In order to keep the new generations, Defence has to change some long held attitudes about how it treats its younger members and look at what it offers them in terms of respect, access to technology, self development, freedom and flexible work schedules.

This attitudinal change will be the hardest element for Defence to adapt to especially at the mid management level.   However, in relation to other government departments one thing Defence is not lacking is the funds or the government intent to have a Defence Force capable of meeting its needs.

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Joining for unique experiences - flight deck personnel ready a San Diego Coast Guard HH-60 for launch on the flight deck of the aircraft carrier USS Abraham Lincoln - photo US Navy

The Offshore Combat Vessel:
Future Flexibility

BY SUB-LIEUTENANT DANIEL BOETTGER

The 2009 Defence White Paper announced the Australian Government's intent to 'rationalise the Navy's patrol boat, mine counter measures, hydrographic and oceanographic forces into a single modular multirole class of around 20 Offshore Combatant Vessels[1] (OCV). With an expected displacement of 2000 tonnes, these vessels will replace 26 currently serving vessels over four classes, with major systems to be built into 'containerised and portable modules[2] that will be interchangeable between ships.

Although the Royal Australian Navy has already experienced some of the benefits of modular design with the Anzac Class frigate, this next generation design incorporating modular containerised systems that can be swapped between vessels will be a revolutionary concept, and will bring with it a unique set of challenges that must be met in order for the new class to succeed. Australia is not the first country to invest in this technology however; the majority of the Royal Danish Navy (RDN) has some form of modular system fit out and the US Navy's Littoral Combat Ship program also incorporates similar ideas.

These existing examples allow a prediction to be made on what level of capability may be expected from the new class and highlight where problems may arise that will require a dramatic change in how the RAN operates and mans its ships in the future.

Current examples

Modularity first began to appear in ship design in the mid-1970's when German ship designers Blohm and Voss developed their MEKO (Mehrzweck Kombination, or multipurpose combination) concept.[3] The three underlying principles behind the concept are signature reduction, survivability and modularity, the latter being of primary interest here. Major systems, such as weapons, sensors, ventilation and electronics, are manufactured in fully self contained modules that interconnect via standard interfaces. After being fully tested by the manufacturer the modules are installed into the ship using pre-defined routes.[4]

The main advantage offered by this concept is the ability to build the ship and its major systems simultaneously and independently. As well as reducing build time, this also allows for a clear separation of responsibility between the prime contractor and system sub contractors, cutting down on unforseen problems and ultimately cost. Survivability is also enhanced with all modules fitting onto standardised shock mounts. When it becomes necessary to upgrade or replace systems, modules can be removed and replaced as a whole without substantial platform modifications,[5] as is currently occurring to the Anzac Class under Project SEA1448 Phase Two, which

Military Sealift Command fleet replenishment oiler USNS Kanawha (left) feeds a refueling rig over to littoral combat ship USS Freedom during the ship's first underway replenishment. US Navy photo by Petty Officer 2nd Class Fofoga Sagale

includes the replacement of the entire mast module to incorporate an upgraded phased array radar system.[6] The MEKO concept does offer considerable time and cost savings for both the build and refit phases, however with all modules permanently fitted to the ship a lengthy refit period is still necessary and can include cutting open the ship to remove and replace modules.

The shortcomings of the MEKO concept are addressed and corrected by using a fully modular design such as that developed by the RDN. In the early 1980's the RDN found itself with the need to replace an assortment of 22 patrol boats, torpedo boats and minesweepers with a budget that would not allow one for one replacement. The idea of building one multirole class capable of fulfilling the requirements of the previous three gained favour when it was determined that only 16 vessels would be required to achieve the same capability.[7]

The embodiment of what became known as the Standard Flex concept first appeared in the Flyvefisken class. Displacing 480 tonnes, the ships can be configured to fulfil an attack, surveillance or mine countermeasure role. Systems common to the three roles are permanently fitted to the platform, while all others are fully self contained inside standardised containers that may be fitted into any of four wells on the upper deck. Containerised weapons systems include 76mm guns, six cell vertical launch systems and quad Harpoon canisters. For mine warfare variable depth sonar, unmanned underwater vehicles and torpedo tubes are available. For peacetime operations the Flyvefisken can embark oceanography, survey or anti-pollution modules. Containers are easily craned on and off the platform and the complete change out process can be completed in a few hours.[8]

Since commissioning the first Flyvefisken class in 1990 Standard Flex containers have been retrofitted to a number of other classes. It has also been fully integrated into the design of the 5,800 tonne Ivar Huitfeldt class frigate and the newly commissioned 6,300 tonne combat support ship *HMDS Absalon*, which recently proved the operational effectiveness of the Standard Flex concept on this scale as the flagship of Commander Task Force 150. *Absalon* is also scheduled to take over as flagship of Standing NATO Maritime Group One in 2010.

A similar concept to the Standard Flex system will feature in the USN Littoral Combat Ship (LCS) program. The program aims to deliver a high speed mission focussed surface combatant tailored for the littoral environment and is producing two prototypes; the Freedom-class semi-planing monohull commissioned in 2008 and the Independence class trimaran to be commissioned in 2009. Both classes can be configured for specific roles using a tailored 'mission package'[9], with mine countermeasure, anti submarine and anti surface packages developed to date. Each package is made up of a number of systems that are contained within Standard Flex style modules, the majority of which are installed along the ships cargo deck. Storage space for extra modules may make it possible

Flyvefisken class with tender (Public domain)

to change mission packages at sea; however this is yet to be confirmed.[10] The LCS will also make extensive use of unmanned air, surface and underwater vehicles which will be standardised as much as possible across all mission packages to reduce cost and increase commonality.

The future Offshore Combat Vessel

With the lack of detail contained in the White Paper it is impossible to know at this stage what the OCV will look like. However by using the existing examples outlined previously an educated prediction may be made. As with both the Standard Flex and LCS projects, systems common to all three packages, such as command and control, surveillance and self defence, should be permanently fitted. The remaining role specific systems may be integrated through the creation of at least three 'mission packages' to perform patrol, mine countermeasure and hydrographic missions. Additionally the Australian Government's intent for these vessels

Flyvefisken class MRV

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to be capable of littoral warfare and reducing the workload of major surface combatants[11] will necessitate the inclusion of a more robust armament that is not required for a standard patrol role, such as a vertical launch system equipped with surface to air missiles and a medium calibre gun. These could be permanently fitted as for the LCS, however containerisation in the fashion of the Flyvefisken and the establishment of additional warfare 'mission packages' would allow greater flexibility and an increased payload for non-combat and constabulary roles.

Weapon modules such as vertical launch systems by their nature must be fitted into upper deck wells in the same fashion as Standard Flex, however others, such as command and control modules, could be fitted on the upper decks or in a mission cargo bay similar to the LCS. With no mention at this stage of a requirement for a cargo carrying capability the first option would allow maximal below deck space, as well as simplifying the installation process so that the only external infrastructure needed is a crane. This will be particularly beneficial when changing out packages in the typically remote towns that are found in northern Australia adjacent to the majority of current patrol and hydrographic operations.

As stated in the White Paper unmanned systems will be used substantially,[12] particularly for mine warfare and hydrography, with remotely towed arrays – such as those planned for the LCS project – an option. This will facilitate a reduction in crew numbers; both LCS variants are designed for a crew of less than 50 depending on the mission.[13,14] Additionally the containerisation and subsequent ease of replacement of major systems will provide substantial savings in both time and money for construction and refit as has been demonstrated already by the RDN.

Predicted issues

The modular design of the OCV will necessitate large and diverse changes in the way the RAN operates its ships. The road ahead has already been forged by the introduction of multi-crewing for both the Armidale Class patrol boats and Leeuwin Class survey ships, however with the advent of modular systems greater change will be needed. Every system requires the personnel that operate and maintain it to have unique skills and training which is not necessarily transferable – although a hydrographic sailor may understand the basics of mine warfare, they will not have the deep seated knowledge that is required to perform the role satisfactorily. As such a change out of crew will be necessary to accommodate any system changes.

To solve this issue there are two likely solutions. Firstly each mission package can come with a complete crew that specialise in that mission, in essence retaining the same crew structure for the four current classes of ship but operating them as required from the same platform. However when a mission package is not in use a large number of personnel will be ashore for what could be, depending on the mission package, lengthy periods. This has the potential to degrade skills through lack of use as well as increasing the number of personnel required to operate the class. The second option is to have a core crew operating the platform and its fitted systems, supplemented by those needed to operate the mission package. The USN plans to operate the LCS is a similar fashion, with a core crew of 'hybrid sailors'[15] skilled across a number of areas supported by specialist system operators.

The implications of the second option are significant. Considering a likely scenario, where a ship may change roles from border protection to mine warfare, it will experience a very substantial crew change out and a change in mission and direction overnight. In times of high operational tempo for one mission package, which could commonly occur with an influx of suspected illegal entry vessels for example, this may be further compounded by a lack of recent sea time if the oncoming mission package has not been recently used. These factors will mean that the newly formed ships company may require formal working up before being available for tasking. Thus even if the physical mission package can be swapped out in a number of hours, the time required for the ship's company to settle in and begin performing will always be the factor deciding when the ship is operationally ready.

Perhaps most important crewing issue is deciding where the command team fits in. If there is to be a core crew responsible for the vessel then it would make sense that the Captain be a part of this, however this would necessitate having in depth knowledge encompassing three separate warfare officer specialisations, resulting in at best a loss of expertise and the creation of a 'jack of all trades' warfare officer. A smarter alternative would be to divide responsibility between the Captain and another officer, the former responsible for the platform and the latter for the mission package, thus operating in a similar way to an aircraft carrier with its aircraft.

The aim of delivering greater operational efficiency by replacing 26 vessels of different class with 20 vessels of one class needs careful consideration to ensure it is indeed possible. The multi-crewing concept has already proven successful and it is likely that days at sea for the OCV will easily match those of the existing four

Meko 200 frigate of the New Zealand Navy HMNZS TE KAHA-photo by Chris Sattler

classes. However operational efficiency is measured in terms of capability as well as days at sea and the ability of the platform to do the assigned task may decline. A quick study of the characteristics of the four classes of ship to be replaced will reveal vast dissimilarities that render it impossible for one ship to be equally capable of performing any two of the three primary roles conducted. Extensive changes in how these operations are conducted need to occur to allow this rationalisation.

The patrol role will pose the least problems in increasing operational efficiency. Converting to a modular design will be simple as the majority of the systems required for this role will be common to all roles and permanently fitted, leaving mainly weapons systems to be containerised – this has already been proven possible by the RDN. As the modular concept will not be an issue, the patrol role will benefit from the theoretical increase in platform numbers as well as the capability increase that a larger platform will offer.

In contrast the mine warfare role will need refining. The capability of the current Huon Class coastal mine hunters is embedded in a number of specialist systems such as hull

mounted sonar and retractable auxiliary propulsion units. These are not suited to containerisation and are too expensive to permanently fit to all OCV. Additionally platform features such as a shock resistant non-magnetic fibreglass hull would impose design restrictions if integrated into the OCV. However further advancements in unmanned systems will allow mine detection and disposal to be conducted wholly at a safe distance from the ship, with the command and control elements needed to operate the unmanned systems easily containerised. These advancements will result in the characteristics of the platform becoming insignificant. Released from these restrictions the OCV can then be designed with added benefits such as high speed to allow for a fast transit to the area of operations. These changes have the potential to produce substantial improvements in operational capability as well as efficiency in mine warfare.

Hydrographic survey may be the most difficult role to fulfil without losing capability for a number of reasons. Firstly the hull mounted sonar of the Leeuwin Class and the Paluma Class survey craft are, as for mine warfare, not suitable for containerisation. They could be

replaced with containerised towed arrays however minimum operating depths are consequently increased and this would only cater for deep water survey. Unmanned solutions have been produced[16] and could supplement or replace survey motor boats for shallow water and tactical survey work, operating as much as possible in the same manner as the mine warfare mission package to increase commonality and reduce cost.

Secondly, Australia's surveying requirements exceed the capacity of the current hydrographic force and any reduction in survey days will compound this issue. The current rate of effort could be maintained by the OCV if a sufficient number of hulls are regularly fitted with the hydrographic survey mission package, however if other mission packages are surged to meet current needs at the expense of the hydrographic mission the level of output will be constantly at risk. Looking at the other side of the equation this could also hinder the flexibility of the OCV as the RAN, through the Australian Hydrographic Office (AHO), is charged with fulfilling Australia's surveying obligations under the United Nations Safety Of Life At Sea (SOLAS) Convention[17] and would require a certain number of platforms

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to fulfil this work. It would be a strategic decision as to what level of operational requirement warrants the deferral of these responsibilities.

The ideal decision is to discard these responsibilities permanently, thus eliminating both problems. Walter advocates the establishment of a civilian survey authority under the AHO who carries out all survey work required for compliance with SOLAS to allow RAN survey units to concentrate on military requirements.[18] This would mean that the OCV mission package would not require a deep water survey capability but could instead concentrate on tactical survey and support to amphibious operations. In this way the OCV would be able contribute immensely to the hydrographic operational efficiency and capability of the RAN without threatening the AHO's ability to fulfil international survey requirements.

With continual pressure on defence budgets and personnel numbers the change to a modular ship design that can be customised to fulfil different missions and provide relief to the above issues is inevitable. The small steps towards this future that the RAN has made through the MEKO designed Anzac Class and the successfully multi-crewed Armidale and Leeuwin Classes will need to be built upon substantially, with the examples provided by the RDN and their successful Standard Flex concept an ideal starting point. As the USN interpretation through the LCS becomes fully operational it will provide further guidance on how best to implement this new technology into the RAN. Even so these examples will only be a guide and there will still be a number of issues that may require a unique solution to ensure the success of the OCV.

An evolution of the multi-crewing method currently in place will be needed in order to accommodate the new ability to quickly change out entire systems and change a vessels primary role. Unmanned systems are in some cases the only solution to transferring the same operational capability that the RAN has developed today into a modular form and will result in a significant change to the way in which the RAN conducts its operations. If these issues are addressed correctly the OCV will deliver an increased capability while also providing a more cost efficient and personnel efficient platform, which will allow the RAN to respond faster and more effectively to the tasks with which it is faced. ✍

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Maritime Counter-Terrorism and the Evolution of the Sri Lanka Navy

BY SERGEI DESILVA-RANASINGHE

The recent success of the Sri Lanka Navy (SLN) in countering the maritime wing of the Liberation Tigers of Tamil Eelam (LTTE), the Sea Tigers, serves as an interesting example of maritime counter-insurgency. Since the recommencement of full scale hostilities in 2006, the SLN steadily dismantled the once formidable power of the Sea Tigers and played a significant role in the defeat of the LTTE.

Sri Lanka's separatist Tamil insurgency, known as the 'Eelam War', began in 1983. Formed in 1975, the LTTE ascended to become the dominant militant group among Tamil separatists, notably after the strategic withdrawal of the Indian military (Indian Peace Keeping Force) in 1990 in the face of joint Government-LTTE opposition. This pre-eminence came about largely through the military proficiency, discipline and ingenuity of the LTTE, as well as its fanatical belief in an ethnically pure Tamil state, Tamil Eelam.

Sri Lanka's porous north-western maritime borders, which run parallel with the southern Indian state of Tamil Nadu, have always presented a major security challenge. Tamil Nadu has a 1,076 km coastline, and a fishing industry that sustains an estimated 800,000 people, which offers hundreds of possible embarkation points and tens of thousands of vessels to cover

infiltration. LTTE maritime operations were initially limited to smuggling and shuttling missions between Sri Lanka and Tamil Nadu, but in 1984 the LTTE formed a dedicated maritime wing, the Sea Tigers, and sought to rapidly build and enhance its maritime capabilities. The importance of establishing a maritime wing was affirmed by the LTTE leader, Velupillai Prabhakaran: "Geographically, the security of Tamil Eelam is interlinked with that of its seas. It is only when we are strong in the seas and break the dominance of our enemy [that] we will be able to retain the land areas we liberated and drive our enemies from our homeland."

During the 1990s the Sea Tigers stepped up their activities in the seas surrounding the northern and eastern provinces of Sri Lanka, most notably off the Mullaitivu District coastline. At its peak, the Sea Tigers could call on an estimated 6,000 guerrillas. The formation of the 'Black Sea Tigers' sub-unit in 1990 for suicide operations against SLN vessels and the introduction of swarming tactics gave the Sea Tigers a deadly advantage in combat. The indigenous boatbuilding and seafaring expertise of northern Sri Lankan Tamils also enabled the LTTE to manufacture a variety of its own sea

craft. These included:

The 10m *Muraj* - the principal attack boat, and also used for amphibious operations. Capable of 40 knots, it carried a crew of ten, and had three machine gun mountings.

The 8m *Sudai* - capable of 10 knots, it carried a crew of six and one machine gun.

The 6m *Thrikka* - capable of 45 knots, with a crew of four and one machine gun. It was often used for frogmen operations.

The 6m *Idayan* - fitted with explosives specifically for suicide operations. It was capable of 45 knots, and carried a crew of two.

Also, the Sea Tigers played a role in amphibious operations by deploying guerrillas in LTTE offensives against the military bases of Pooneryn (1995), Mullaitivu (1996), Elephant Pass (2000) and the Jaffna Peninsula (2001). By the mid-to-late 1990s the Sea Tigers emerged as a significant threat to maritime traffic in the north-western

Sri Lanka EEZ

Counter terrorism Sri Lanka/SLN Rapid Action Boat Squadron

Maritime Counter-Terrorism and the Evolution of the Sri Lanka Navy

and north-eastern waters off Sri Lanka. The area ranked fifth in the world for incidents of maritime crime, and in September 1997 the Maritime Intelligence and Counter-Piracy Centre affirmed that "Sri Lankan waters continue to remain an extremely dangerous area for maritime traffic … They [the LTTE] do not hesitate to approach, board, pilfer and possibly destroy targets of opportunity."

During the period of the Norwegian moderated ceasefire (c.2002-06), the Sea Tigers embarked on an unprecedented process of expansion, modernisation and experimentation which included indigenously produced stealth boats and semi-submersibles.

However, the LTTE activities at sea did not go unchallenged, and the SLN has since played a major role in the overall success of the Sri Lankan military's counter-insurgency campaign. Formed in 1950, the SLN underwent a re-invention after 1983, its mission evolving from anti-smuggling and anti-illicit immigration operations to combating maritime terrorism, and its manpower undergoing a parallel increase over the years from 2960 officers and sailors in 1983 to 52,000 in 2009. According to its former commander, Admiral Wasantha Karannagoda, the SLN has "… transformed from a small ceremonial unit to a fully fledged compact fighting force."

The SLN made important changes in its approach when hostilities recommenced in 2006. To effectively counter the Sea Tigers' dominance of inshore operations, the SLN employed over 250 locally-built, high-speed and heavily armed inshore patrol craft. Sri Lanka's Defence Secretary, Gotabaya Rajapaksa explained their use: "Earlier, they [the SLN] used fast attack crafts, *Dvoras*. This time, they introduced the small boat concept. The result is

evident when the LTTE put out five boats, we put 20 boats out to take them on." Sea Tiger combat losses were heavy in consequence. In 2006 there were 21 registered encounters with the SLN; in 2007 there were 11; and in 2008, only two. The SLN significantly curtailed the Sea Tigers' operational flexibility to launch attacks and amphibious operations, while simultaneously minimising LTTE smuggling operations between Sri Lanka and Tamil Nadu.

Equally important has been the destruction of the LTTE logistical system. Between September 2006 and October 2007, the SLN succeeded in destroying eight large LTTE warehouse ships containing over 10,000 tons of war-related material. "These vessels", explained Admiral Karannagoda: "were carrying over 80,000 artillery rounds, over 100,000 mortar rounds, a bullet-proof jeep, three aircraft in dismantled form, torpedoes and surface-to-air missiles. There were also a large number of underwater swimmer delivery vehicles and a large quantity of diving equipment. There were radar equipment as well as Outboard Motors with higher horse power." The SLN deployed its largest ships, three offshore patrol vessels, *Sayura*, *Samudura* and *Jayasagara*, supported by oil tankers, merchant vessels and trawlers to sink the warehouse ships as far as 3400 km from the south eastern shore of Sri Lanka, near the Indonesian and Australian Exclusive Economic Zones (EEZ). The impact on the LTTE was severe, drastically reducing the ammunition and warlike material available to sustain high intensity conflict and led to a major reduction in its fighting efficacy.

The joint effects on the subsequent counter-insurgency campaign are worth highlighting. Facing fewer artillery and mortar attacks, the Sri Lanka Army (SLA) achieved rapid

operational success with far less casualties. Moreover, as the SLA recaptured LTTE controlled areas they effectively dismantled the land-based Sea Tiger infrastructure, including boat construction yards and Sea Tiger bases on the north-western and north-eastern seaboard. Meanwhile, in tandem with the SLA encirclement of the LTTE in north-eastern Sri Lanka, the SLN enforced a tight four-tier naval blockade that consisted of inshore patrol craft, fast attack craft, offshore patrol vessels and gun boats which trapped and destroyed any remaining Sea Tiger boats.

Clearly, Sri Lankan sea power has played a decisive role in defeating

Admiral Karannagoda

SLN Naval Blockade Source - Sunday Observer Sri Lanka 10 May 2009
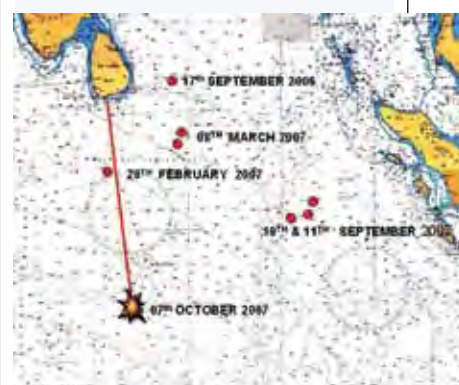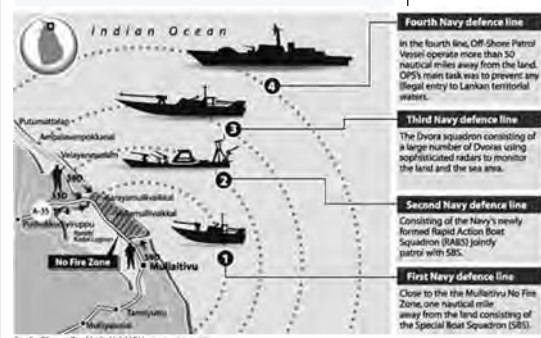
Location Map of LTTE Warehouse ships sunk - Source SLN

the insurgency and bringing the end to the separatist conflict. Although the Sea Tigers are unlikely to pose a major threat to the Palk Straits, Gulf of Mannar or Bay of Bengal, LTTE attempts to infiltrate from Tamil Nadu using Indian fishing trawlers may pose a threat in future. To meet this threat the SLN has resorted to laying minefields to deter LTTE cross-border operations but, more vital to long-term security, Sri Lanka has also indicated an interest in formulating an effective long-term post-conflict maritime policy.

Recently, the Sri Lanka and India agreed to greater maritime security co-operation and intelligence sharing, which has led to bi-annual meetings between the SLN, the Indian Navy and Indian Coast Guard. Such cooperation is already bringing results, but with 1,340 km of coastline, 21,700 km^2 of territorial waters and 465,800 km^2 of EEZ to protect, there is no doubt that the responsibilities of the SLN will continue to expand. Proud to be known as the 'Golden Fence', the SLN has become a credible and effective force. Additional orders for new patrol vessels will do much to enhance its role and capabilities. ⚓

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THE AUSTRALIANS AT JUTLAND

BY COMMANDER GREG SWINDEN

The Battle of Jutland on 31 May 1916 was the major naval battle of World War I. For a few short hours on that day the British Grand Fleet and the German High Seas Fleet came into contact with each other for the only time during the war. Over 200 ships, ranging from destroyers to battleships, and 60,000 men took part in the battle off the Danish coast. By the end of the day over 9,500 British and German sailors were dead and 25 ships (14 British and 11 German) were sunk with many others badly damaged.

Whilst this was the largest engagement at sea during the war it has been considered by many historians and naval officers to have been inconclusive. Germany claimed a tactical victory due to the simple arithmetic of ships sunk and lives lost while Britain claimed a strategic victory as the German High Seas Fleet never sought to challenge them again and stayed in port for the remainder of the war.

Due to a twist of fate some five weeks before no Australian ships were present at this great sea battle. The only RAN ship operating in the North Sea in early 1916 was the battle cruiser *HMAS Australia* which was part of the 2nd Battle Cruiser Squadron, comprising *Australia* and HM Ships *New Zealand* and *Indefatigable*, under the overall command of Rear Admiral William Pakenham, RN. On 22 April the Squadron was on patrol off the Danish coast when they encountered a thick fog bank. The ships had been zig-zagging regularly due to the perceived submarine threat and at the required time *Australia* altered course to conform with previous orders. *New Zealand* maintained her course due to the poor weather conditions and as a result both ships collided.

Australia was badly damaged above the waterline as a result and was sent to the Naval Dockyard at Devonport for repairs, which were not completed until early June; and thus she missed the Battle of Jutland. *New Zealand* received less damage and so took part in the battle along with *Indefatigable* some five weeks later.

THE BATTLE OF JUTLAND

This article is not intended to explain the full history of the Battle of Jutland and its aftermath and those interested are encouraged to read one of the numerous books on the subject. Noting the heavy British losses during the battle (14 ships and over 6,000 men killed) it is perhaps a good thing that *Australia* was not involved. While *HMS New Zealand* emerged from the battle unscathed the *Indefatigible* was hit by several German shells. One shell penetrated the forward turret and the flash ignited cordite in the magazine which caused a massive explosion which blew up the ship with the loss of over 1,000 lives (only two survivors were recovered from the water).

While no RAN ship took part in the action this does not mean that the RAN, and Australia, was not represented. At least four members of the RAN were at the battle and another Australian serving in the Royal Navy were also present (and there may have been more). In the grim irony of war of the five Australians known to have served at the Battle of Jutland; three were to lose their lives and all from the same ship.

Chaplain Patrick Gibbons was a Roman Catholic Chaplain serving in *HMAS Australia* and following the collision he was loaned to old battle cruiser *HMS Indomitable* which was part of the 3rd Battle Cruiser Squadron attached to the main Battleship Squadrons. *Indomitable* survived the battle with no damage or casualties but Gibbons later ministered to the dying and wounded Catholic sailors from the fleet. Gibbons had joined *Australia* in 1913 and, apart from his brief sojourn in *Indomitable*, served in the Australian

HMS Defence

HMS Defence at Jutland (below)

HMS Indefatigable seen in 1912

HMS Indefatigable sinking at the Battle of Jutland May 31 1916

battle cruiser until 1920 when he resigned from the RAN.

Another Australian officer on loan to the Royal Navy was Gunner (Warrant Officer) John Henry Gill who served in the Battleship *HMS Benbow* which was the flagship of the 4th Battleship Squadron under the command of Vice Admiral Sir Doveton Sturdee (who had destroyed the German East Asia Squadron at the Battle of the Falklands in 1914). *Benbow* fired about 100 rounds during the battle with little or no effect and escaped without damage or casualties.

Gill was a veteran of the 1900-01 Boxer Rebellion in China where he had served in the South Australian warship *HMCS Protector* (SA Navy) which was on loan to the RN. He later joined the Royal Navy but in 1914 transferred to the RAN. John Gill retired from the RAN in 1921 with the rank of Lieutenant and then served as a civilian Assistant Inspector of Naval Ordinance from 1922 until 1946.

The Loss of *HMS Defence*

The three Australians who lost their lives at the Battle of Jutland were all serving in the armoured cruiser *HMS Defence* which was part of the 1st Cruiser Squadron. At 1800 the Squadron, under the command of Rear Admiral Sir Robert Arbuthnot, spotted a group of German cruisers and turned to engage them, but a few minutes later German battle cruisers appeared through the haze and opened fire on the leading British ships (*Defence* and *Warrior*). *Warrior* was badly damaged, set on fire and had over 100 men killed or wounded but managed to limp away.

Defence was less fortunate. One eyewitness later wrote: "The *Defence* was heavily engaged, salvoes dropping all around her. At 1815 a salvo hit her abaft the after turret and a big red flame flashed up. The ship heeled, then quickly righted herself and steamed on. But almost immediately another salvo struck between the forecastle turret and the foremost funnel, and she was lost to sight in an enormous black cloud which, when it cleared showed no signs of a ship at all."

Defence was sunk with the loss of her entire crew of 903 men. Among those killed were Sub-Lieutenant George Paterson, RAN (a 20 year old who had been born in England but had joined the RAN in March 1914) and 19 year old Midshipman Joseph Mack, RAN who hailed from Berry Bank, (near Lismore), Victoria. Both men had joined the RAN but were loaned to the RN for further training. Also killed in the sinking of *HMS Defence* was Stoker 2nd Class Mortimer Hugh Froude.

Froude, from Balmain, had joined the RAN on 1 June 1912 as a 14 year old Boy 2nd Class and received his initial training in *HMAS Tingira* before being posted to *HMAS Australia*. He was an Ordinary Seaman when he deserted from the RAN in June 1915, when *Australia* was in British waters. He tried to join the British Army but was rejected due to his height. Froude then joined the Royal Navy as a Stoker and was posted to the cruiser *Defence*. On 31 May 1916, when the smoke cleared Paterson, Mack and Froude had simply ceased to exist. ⛵

Greg Swinden joined the RAN in 1985 as a Supply Officer and has served at sea in HMA Ships Swan, Melbourne and Kanimbla. Shore service has been in Navy Office, HMAS Creswell, Naval Support Command, ADFA and DNSDC– Moorebank. Recent service includes two years as RANLO Singapore during 2003-04 and as a student on the 2005 Staff Course. Greg was the FHQ Deputy Fleet Supply Officer during 2006-07 and following 2008 promotion to CMDR he became a Directing Staff member at the Australian Command and Staff College. He returns to sea, in Kanimbla, in December 2009.

Notes:

1. Some authors have claimed that Flight Commander Frederick Rutland (later known as *Rutland of Jutland*) who flew a sea plane from *HMS Engadine* during the battle was born in Australia but no proof of this has been found.

2. The author of this article would be interested to hear from readers who might know of other Australians who served at the Battle of Jutland. He can be contacted on greg.swinden@defence.gov.au.
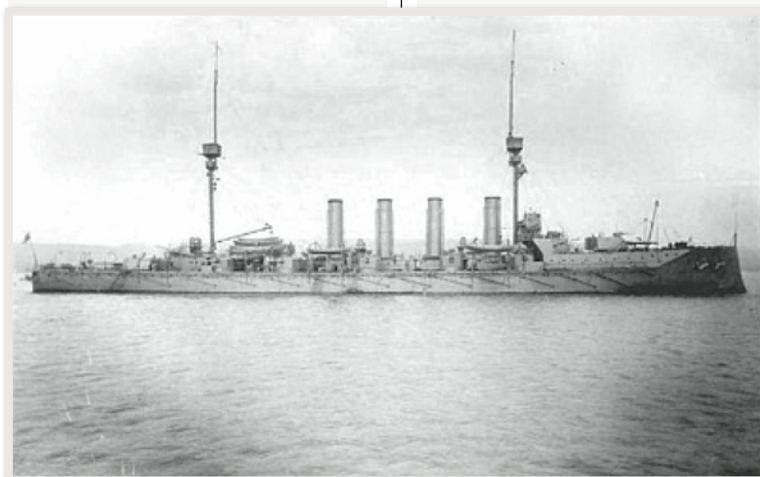
HMS Defence in port some years before the Battle of Jutland (Courtesy of Steve Johnson)

Australian Merchant Navy Day of Remembrance

BY LIEUTENANT COMMANDER DESMOND WOODS, RAN

The maritime history of Australia in peace and war has been until recently a largely neglected subject. Most Australians are just not 'sea-minded'. Though our National Anthem mentions that we are "girt by sea" most Australians think of the country as being "girt by beach!" This national sea blindness has meant that after both World Wars ended there was little collective memory of the scale of effort necessary to win the War at Sea. Remembrance of the sacrifices made by sailors in war faded quickly.

This was true for the story of the RAN at war and was even more pronounced for the less visible but equally vital Australian Merchant Navy. The Merchant Navy of the whole British Empire, which included the Australian Merchant Fleet, suffered proportionately the highest casualties of any of the Allied services in World War II. No fewer than 30,248 of the 185,000 British Empire merchant seamen who served at sea under the red ensign lost their lives doing so. The Australian Department of Veterans Affairs nominal roll records 3,500 Australian merchant seamen serving in World War II in Australian registered ships. The Australian War Memorial has placed the names of 845 of them, who are known to have died on war service during World War II, on the commemorative roll. The true number of Australian-born merchant seamen lost on the world's oceans is much higher and will never be known. These 845 do not include the hundreds of unrecorded Australian seamen killed while serving in British merchant ships and in the ships of the International Seamen's Pool. Shipmates remembered them on ANZAC Day and bereaved families remembered their missing fathers, brothers and sons every day, but very little has been done

to teach succeeding generations of Australians about them. School books and history lessons do not mention that the merchant navy's ships were the means by which Australian diggers and allied infantry were landed, sustained, armed, fed, reinforced and enabled to fight and win their land battles.

This omission is most profoundly true of the period of the 'Battle for Australia' and the campaign in New Guinea in 1942. Those brutal battles on the Kokoda Track were finally won because the Japanese army was cut off from re-supply and was starved into retreating. First Australian and later American troops in the jungle and on the northern beaches were supplied with bread and bombs, bacon and bullets and fuel in vast quantities from the sea and were therefore able to take the fight back to the Japanese. New Guinea was won back from the enemy by the combination of the matchless courage and endurance of young soldiers and airman ashore and by the merchant seamen afloat who supplied them. Mariners achieved this logistical miracle despite their ships being strafed, bombed, mined and torpedoed under them. That indisputable fact of our modern maritime history has been often overlooked by a forgetful nation.

What has also been largely forgotten is that though our island continent was not invaded in 1942 its coastal waters most certainly were. In fact they were penetrated from 1939 onwards by an Axis maritime denial campaign. Australian waters became a killing zone. This carnage was initiated by

Australian hspital ship Centaur (below)

Merchant Navy convoy in Atlantic

Survivors in a float

Survivors of the Mentor being picked up

four German armed merchant raiders shelling lone merchantmen and laying minefields. *Kormoran* was only one of them. Her job was to sink merchant ships, not to fight it out with the cruiser *HMAS Sydney.* From December 1941 onwards, these surface predators were followed by dozens of long-range Japanese submarines trained to attack merchant ships with their very reliable and deadly accurate Long Lance torpedoes. They also laid mines through Australia's busiest sea lanes. Germany and Japan worked closely together planning this campaign from 1939 onwards. In 1940 German technicians were sent to Japan to service their armed merchant raiders, and often to disguise them as Japanese merchant ships. In 1941 successful U-Boat commanders were sent to prepare Japanese submarine crews for the coming war at sea and in 1942 U Boats began operating from Penang.

The mission of the Axis powers was to slice open Australia's seaborne arteries, bleed her economy, and cut her off from the free world. The primary target was the flow of men, munitions, food and raw materials being sent by sea to and from Australia to sustain the allied war effort. Japanese submarines exacted a terrible toll on allied merchant ships across the Pacific and Indian Ocean. Between December 1941 and August 1943 fifty-eight Japanese submarines sank 180 ships and damaged 15 more. During this period up to 40 long range attack submarines sank 38 merchant ships in Australian waters. During this same period in the Indian Ocean and South West Pacific Japanese aircraft sank 50 more merchant ships and damaged another 53. By the war's end 76 merchant ships were lost in Australian waters to mines, torpedoes, shelling and bombing. Twenty nine of these were Australian registered and 349 Australian seamen were killed on these

Merchant losses off the east coast of Australia

ships or perished later.

Taking merchant ships into harm's way under these circumstances required a quiet heroism and an uncomplaining dedication to duty that was unsurpassed by any of the armed services. Merchant seaman at war had the unreserved admiration of the sailors of the world's navies, who recognised cold courage when they saw it.

This willingness of merchant seamen to be of service to Australia and the Empire was not matched by any sense of obligation to them by their employers or the Australian maritime authorities. At the beginning of the war most Australian merchant seamen were not permanent employees of shipping companies. They signed 'Articles of Agreement' with the master of the ship on a voyage-by-voyage basis. This meant that when their ship was sunk the lucky survivors' pay

was stopped that day, as they were no longer employed! They were not uniformed members of their nation's armed services either and so survivors were declared to be 'DBS', Destitute British Subjects, and handed over to shore-side charitable institutions until they were next employed. In 1942 after 33 sinkings due to mines, torpedoes and shelling, from Cairns to Bass Strait, Australian maritime regulations were changed to allow for a survivor's pay to continue after his ship was on the bottom, but only until he was returned to the nearest port where he was given a fresh set of clothes and paid off. Because they were not members of the uniformed services they only way that they could identify themselves to the public as being seamen not shirkers was by the small metal lapel badge they wore with the letters MN.

Given the mortal danger at sea and these lamentable conditions of service

Australian Merchant Navy Day of Remembrance

it would have been unsurprising if there had been desertions or refusal of duty by Australian seamen. This never happened. The master mariners

and men of the merchant fleets of not only the British Empire, but also of the United States, Norway and the Netherlands, with stoic courage and hardihood, accepted that the odds were stacked against their survival. Nevertheless, time and time again they shouldered their kit bags, slung their hammocks, loaded cargo and steamed back into danger anyway. Why did they do this? The seamen of the Empire, America and occupied Europe signed on because they knew that without their ships at sea the war could never be won and the world restored to peace and sanity. They wanted to "do their bit." Churchill put the same idea at greater length in 1943. He wrote: "Sea Transport is the stem from which victory blooms. Since without supplies no army is good for anything."

As many Australian merchant seamen served in British as in Australian vessels. They sailed in freighters and troop ships, hospital ships, landing ships, tramp steamers and most dangerously in tankers and ammunition ships. Many stayed in their civilian ships when they were taken up from trade into the navy and converted into auxiliary warships, armed merchant cruisers, and even escort aircraft carriers. They were at

the evacuation of troops from Narvik and Dunkirk. They were present in their thousands in the lethal six year long Battle of the Atlantic. The Commander in Chief Western Approaches in 1941 Admiral Sir Percy Noble, who was fighting the Battle of the Atlantic, knew what the free world owed to the Merchant Navy. He wrote even while the battle raged:

"Day in, day out, night in, night out, they face unflinchingly the dangers of the deep - the prowling U-boats. They know, these men, that the Battle of the Atlantic means wind and weather, cold and strain and fatigue, all in the face of a host of enemy craft above and below, awaiting the specific moment to send them to death. When the Battle of the Atlantic is won, as won it will be, it will be these men and those who have escorted them whom we shall have to thank."

The hardest convoys of the war were the icy Arctic ones from Iceland to Archangel and Murmansk in Russia. Ships were within range of the Lufwaffe and U-Boats based in Norway. Survival time for men adrift in those cruel seas could be measured in minutes. There was no warm welcome or gratitude for these brave seamen from Stalin's apparatchiks either.

Australian seamen were on the nightly "spud run" from Alexandria into Tobruk where the 9th Australian Division stood at bay and fought Rommel's Afrika Korps panzers to a standstill. Those heroic diggers only became the "Rats of Tobruk" because they were supplied and reinforced every night from the sea. The price for this campaign was a heavy toll of sunken merchant ships littering the harbour and approaches to Tobruk, and sailors' burnt bodies washing ashore on the sands of Libya.

It was the merchant navy that moved women and children, non-combatants and nurses, out of

Singapore before it fell. Carried out largely by passenger ships of the shipping companies in Australian waters at this time, they saved thousands of lives from capture and probable death at the hands of the Japanese. The last ships to get away were bombed relentlessly at they steamed south with their precious human cargo.

Australian sailors were on the British ships that ran the deadly gauntlet from Gibraltar into Valetta in Malta. The guts and determination of the seamen who ran those fuel tankers, ammunition ships and freighters through endless air raids to keep the RAF flying from that beleaguered island fortress was all that stood between it and starvation and ultimate surrender. The British crewed tanker *SS Ohio* was brought into Valetta semi-submerged having been repeated hit by bombs. All that stopped her from sinking was that she was strapped between two RN destroyers. This floating bomb was pumped dry of her precious fuel and then scuttled at sea. The blue Mediterranean is the graveyard of countless merchant ships that like *Ohio*

Posters for the Merchant Navy

were lost to the violence of the enemy while holding open its critical sea lanes, until Italy surrendered.

The merchant navy was there when the tide of war turned in 1943. They were at the North African landings and again at Sicily. They endured the deadly glider bombs that blew their ships apart during the landings at Salerno and Anzio. They supplied the British and Indian troops of the 14th "forgotten" army in Burma locked in murderous jungle battles with the Japanese at Kohima and Imphal. An estimated 2000 Australian sailors were among the 80,000 merchant seamen who put the allies ashore in Normandy on D Day. Australian ships carried the diggers who landed to liberate Borneo in 1945.

General Douglas MacArthur wrote of the merchant navy in the Pacific war: They have brought us our lifeblood and they have paid for it with their own. I saw them bombed in New Guinea and the Phillipines ports. When their ships were not blown out from under them by bombs or torpedoes, they delivered their cargoes to us who needed them so badly. In war it is performance that counts."

The merchant navy fuelled and supplied the British Pacific Fleet and the RAN which depended on its tankers to be their fleet supply train in the vast wastes of the Pacific as the allies advanced on the home islands of Japan in 1945. Finally they brought home the thousands of sick, emaciated allied prisoners of war who had survived four years of brutal captivity. Thirty seven Australian merchant seamen died while POWs.

It is true to say that wherever there was a hard, unglamorous, dangerous but vital task to be done the red ensign was there. The 'red duster' supported the white ensign and the troops and the airmen of the United Nations in arms in the world's cause. The Merchant Navy provided the muscle power and

heavy lift necessary to get the job done and the war won.

Thirty thousand seamen of the Empire's merchant navies paid for this logistics chain with their lives. The ocean floors of the world are strewn with the wrecks of their broken, burnt ships and the remains of the men who went down with them. Not for them the exhilaration of being able to fight back, or to steam at speed into action. When war broke out their ships carried worn out World War I guns without range finding. Later the RAN supplied naval gunners to Defensively-Equipped Merchant Ships (DEMS) and thirty-eight of these gunners lost their lives alongside their merchant navy comrades. These lumbering merchant ships were not "greyhounds of the deep", they were more like fat St Bernards bringing sustenance where it was needed through storm and tempest. Mostly they proceeded at the speed of the slowest ship in the convoy, often less than ten knots. By day men strained their eyes ahead looking for the semi-submerged magnetic mines which could tear out their ships' bottom plates. By night in darkened, fetid, vessels they waited to be attacked by torpedoes which could turn their mess deck from a floating home into a fiery death trap in seconds.

After the war Lord Mountbatten wrote: "Those of us who have escorted convoys in either of the great wars can never forget the days and especially the nights spent in company with those slow-moving squadron of iron tramps - the wisps of smoke from their funnels, the phosphorescent wakes, the metallic clang of iron doors at the end of the night watches which told us that the Merchant Service firemen were coming up after four hours in the heated engine rooms, or boiler rooms, where they had run the gauntlet of torpedo or mine for perhaps half the years of the war. I remember so often thinking that

those in the engine rooms, if they were torpedoed, would probably be drowned before they reached the engine room steps..."

Even in peace time it was a hard, physical life at sea and consequently merchant seamen were mostly young. Many were just teenaged boys, with all their lives ahead of them. War aged them quickly. They all wanted to live long lives in the peaceful Australia that we have enjoyed. They hoped to grow old with us and to be our fathers and grandfathers. They knew fear and they wanted desperately to live. They hoped that theirs was a lucky ship and that death at sea was what happened to other sailors. They lost their lives because they chose not to shirk their duties. Faced with mortal danger at sea, and safety ashore, they boarded their ships and went resolutely to war.

The following posthumous George Cross citation is for an 18 year old apprentice who managed to get clear of his burning ship, though mortally injured. Let his harrowing story stand for countless other examples of youthful heroism.

When the painter was cast off the boat drifted back towards the burning ship and it was clear to all on board that it would require a tremendous effort to pull it out of danger. Most of the occupants, however, were so badly burned that they were unable to help, but Apprentice Clarke took an oar and

The George Cross

Allied tanker torpedoed

Massive damage to merchant ship

Australian Merchant Navy Day of Remembrance

pulled heartily for two hours without a word of complaint. It was not until after the boat was clear that it was realized how badly he had been injured. His hands had to be cut away from the oar as the burnt flesh had stuck to it. He had pulled as well as anyone, although he was rowing with the bones of his hands. Later when lying at the bottom of the boat his thoughts were still with his shipmates and he sang to keep up their spirits. Next day he died, having shown the greatest fortitude. By his supreme effort, undertaken without thought of self and in spite of terrible agony, Apprentice Clarke ensured the safety of his comrades in the boat. His great heroism and selfless devotion were in keeping with the highest traditions of the Merchant Navy.

Those who were lost, and those who finally came home, scarred physically and mentally by battle, but alive, have left an enduring legacy of service above self for us to learn from. Many gallant actions and incredible feats of endurance after sinkings are recorded, but the deeds of those who perished in boats that were never found cannot be known. Both the heroism and the tragedy should now take a more prominent place in the annals of Australians at war. This story should be taught to our young people to ensure that their ancestors' gallant, stoic story is not forgotten. These men held Australia's and the world's future freedom in their gnarled hands for nearly six years and they never let go their grip. That capacity for endurance of the common man facing uncommon danger is a lesson that every generation needs to learn afresh.

What is the purpose of any national[1] ceremony? What do we owe to these men who served at sea in a war that started seventy years ago? Quite simply we owe them more than sixty years of peace and liberty and our material prosperity. We owe them more than we

can ever repay. But all that their elderly shipmates, still among us, ask from us, is our recognition of their friends and comrades who never made port and who now have no grave but the sea. All that their families ask is to share their loving recollection of their menfolk who did their duty, never grew old, and never will.

In October of 1945 the British House of Commons passed a resolution that read:

"That the thanks of this House be accorded to the Officers and Men of the Merchant Navy for the steadfastness with which they maintained our stocks of food and materials; for their services in transporting men, munitions and fuel to all the battles, over all the seas; and for the gallantry with which, though a civilian service, they met and fought the constant attacks of the enemy. *That this House doth acknowledge the Merchant Navy with humble gratitude and the sacrifice of all those who have given their lives, that others today may live as free men, and its heartfelt sympathy with their relatives in their proud sorrow. We shall never forget them."*

Our presence today at this cenotaph on Merchant Navy Day is our tribute to those lost seafarers of the heroic generation, now passing. But we are also mindful of all those who have served, and are still serving, in the Australian Merchant Navy in the six decades since 1945, in peace and war. We particularly remember those who have lost their lives not to the violence of the enemy but to the ever variable and dangerous sea itself.

May all our fellow countrymen here commemorated, those who were killed in action and those who survived the wars of last century but who have since died, wheresoever they may lie, rest in peace. We remember their steadfastness, their bravery and their

sacrifice with humility and gratitude. They are not forgotten in Australia, the land they loved, and they never will be.

They need no dirge, for time and tide fills all things, with tribute unto them. The warmth of a summer sun, the calm of a quiet sea, the comforting arm of night, the generous soul of nature and the power of a seabird's flight.

Blow golden trumpets blow, mournfully for all the golden youth and shattered dreams that lie where God has lain his quiet dead for all the world to see, upon some alien ocean bed.

Ron Wylie – Merchant Seaman

Lieutenant Commander Desmond Woods has served in the New Zealand Navy, the Royal Navy, and the British Army. He is currently a Training Officer with the RAN, posted to the Staff College in Canberra.

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1 *Originally drafted by Des Woods for an Australian Merchant Navy Day Of Remembrance, at Mosman Cenotaph, 3rd September 2009, and presented by Commander Michael Hickey, Commanding Officer of HMAS Penguin*

Naval Cooperation for the Future Force

BY MR. GEORGE GALDORISI; DR. STEPHANIE HSZIEH (UNITED STATES NAVY SPACE AND NAVAL WARFARE SYSTEMS CENTER PACIFIC) AND DR. DARREN SUTTON (MARITIME OPERATIONS DIVISION DEFENCE SCIENCE AND TECHNOLOGY ORGANIZATION)

Perspective

"Australia's defence policy. . . entails the maintenance of alliances and international defence relationships that enhance our own security and allows us to work with others when we need to pool our resources. . .this defence policy means that we must have the capacity to lead military coalitions where we have shared strategic interests at stake with others. . .and make tailored contributions to military coalitions where we share wider strategic interests with others."[1]

Defending Australia in the Asia Pacific Century: Force 2030

The statement by Joel Fitzgibbon, the former Australian Minister of Defence, captures the importance of coalition interoperability to the nation's navy. Concurrently, Minister Fitzgibbon's statement also validates the importance of coalition operations in a globalized world.

Commonwealth naval cooperation over the past century is universally-recognized as the most successful international grouping of its type and is a model for what has evolved over the past several years into what we now call the Global Maritime Partnership (GMP). In 2006, Vice Admiral Russ Shalders, the-then Royal Australian Navy Chief of Navy, announced the adoption of the GMP concept as one that would best represent the way the Royal Australian Navy will likely operate in the future.[2]

Globalization and the presence of a new generation of threats on the high seas, the littorals, and the near-shore land areas, demands even closer cooperation between and among Commonwealth navies and other navies they seek to partner with. But like globalization, rapid advances in technology – especially the command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) technologies – that link these navies together, present a challenge that must be reckoned with if these navies seek to achieve the interoperability necessary to operate together seamlessly at sea in peace and war. As pointed out by Dr. Chris Rahman in *The Global Maritime Partnership Initiative: Implications for the Royal Australian Navy*, "To function effectively, the 1000-ship Navy (the precursor name for the Global Maritime Partnership)[3] will not only require high levels of international political support to foster the necessary levels of cooperation, but also will be heavily technologically dependent."[4]

The need for effective C4ISR systems as critical enablers for the Royal Australian Navy (RAN) – a navy that will participate in coalition naval operations as the norm, not the exception – was highlighted in The Australian Defence Force (ADF) *Future Maritime Operating Concept – 2025: Maritime Force Projection and Control*, which noted:

The effectiveness of the maritime force can be improved through information and decision superiority [quantity and speed]…C2 systems must be able to deliver superior battlespace awareness and management through decision speed and quality thus controlling operational tempo…The maritime force must also develop a high level of interoperability with likely coalition maritime forces and future architectures must provide a cohesive and comprehensive system through

The Australian destroyer HMAS Brisbane (DDG 41) and the US Navy destroyer USS John S. McCain (DDG 56) cruise side by side in Australian waters during Operation Exercise Tandem Thrust 2001. Tandem Thrust is a combined U.S. and Australian military training exercise held in the Shoalwater Bay Training area off the coast of Australia. More than 27,000 Soldiers, Sailors, Airman and Marines participated with Canadian units taking part as opposing forces. (US Navy Photo by Photographer's Mate 2nd Class Andrew Meyers.)

NCW [network centric warfare] to achieve complete battlespace awareness and control.[5]

The rich maritime traditions shared by Commonwealth navies and the navies they will most likely partner with suggest that policy or doctrinal differences that might impede seamless interoperability between and among these navies can be overcome. What is *less* certain is whether the technological challenges of linking navies that pursue different paths of technology development, insertion, and refresh can be successfully dealt with. The continuing challenges these navies have in working together at sea – especially over the last decade – suggest that solutions to these technical issues remain elusive.

But today, with the Australian Defence Force on the brink of the most substantial naval investment and upgrades in over a generation, RAN naval forces have an opportunity to achieve seamless interoperability with coalition partners as part of the GMP. *Plan Blue*, the RAN's strategic assessment shaping the future of the Navy puts the requirement in stark terms:

The Future Navy must be able to exchange C2 and targeting information within a joint and coalition environment. The Future Navy must possess the Command, Control, Communications, Computers (C4) capabilities required to maintain interoperability with coalition forces in the future. This is particularly the case when operating with US forces.[6]

At issue is the question: can Australia, the Australian Defence Force, and, specifically, the Royal Australian Navy use current information and communication technologies to meet the challenge of providing effective naval cooperation and interoperability? Some think it cannot. We believe it can.

Past is Prologue

"When John Fisher became First Sea Lord in 1904, his main pledge was to solve this intractable problem… Fisher in effect invented picture-based warfare. He created a pair of war rooms in the Admiralty, one built around a world (trade) map, the other around a North Sea map."[7]

Dr. Norman Friedman
"Netting and Navies: Achieving a Balance"
Sea Power: Challenges Old and New

The rich history of naval cooperation over the past century has an equally rich history of networking at sea, enabled by such innovative practices as First Sea Lord John Fisher's use of "picture-based" warfare at the beginning of the last century. And further spurred by the exigencies of the two global wars of the past century, wars in which naval forces played a dominant role. Commonwealth navies and their close allies such as the United States Navy readily – and even eagerly – adopted new technologies that helped these navies coordinate their efforts at sea.

But it is *how* this technology is applied that determines not only how effective it is, but often, whether coalition forces face victory or defeat. For example, as nations – and especially navies – adopted new technologies, they found that often the technological promise of a new system was accompanied by unintended consequences that sometimes made the net result a negative rather than a positive.

As one especially significant example, the introduction of the telegraph, promised instantaneous communications across vast distances. No longer would messages take months to traverse continents as telegraph cables and networks made it possible for messages to be relayed in days. The Royal Navy found the telegraph to be an important tool in communicating with its global fleet, but that ease and speed of communications came with a price. During times of tension, fleet commanders were often found on their command ship docked at port in order to have access to telegraph messages rather than out at sea with their ships.[8]

The telegraph also had an unintended impact on the message itself.[9] Victorian Britons living overseas eagerly embraced the telegraph as something that was "faster and better" than waiting for newspapers via ship that often took more than a month to arrive. However, this new technology had a downside: telegraph transmissions were expensive and

Brazilian Navy aircraft carrier BNS Sao Paulo comes alongside USS Ronald Reagan as the ship transits around South America to its new homeport of San Diego. (US Navy photo by Photographer's Mate 1st Class John Lill.)

messages were often truncated to the bare essentials. Additionally, transmissions were fraught with error due to the relay system that depended on operators at each relay station retyping the information — the error rate increased when it was handled by operators with little understanding of English. The net result was that when the news finally arrived it was truncated, error-prone and often bore little resemblance to the initial information that was transmitted.[10]

The advent of wireless technology also brought the promise of better and speedier communications between command and fleets at sea. Navies were no longer bound by land-locked telegraph cables and signals could reach out into the vast expanse of the sea allowing for central command to better track their forces. This centralized control at the Admiralty level allowed for better vectoring of fleets based on a central information system, but also made it harder for fleet commanders to manage their ships. Professor Rodger of the University of Exeter tells of an incident in 1942 when the commander of the Royal Navy's Home Fleet, Admiral John Tovey, asked the Admiralty to take command of his ships as he had lost track of them while at sea.[11]

And like the telegraph, wireless had its downside. While wireless technology helped commanders reach far-flung units and communicate in real time, *enemy* units could also receive these same transmissions and gain the tactical advantage over the forces communicating via this wireless technology. History is replete with examples of navies and other forces suffering defeat because the enemy intercepted wireless communications. None of this "downside" was anticipated when the new technology was initially developed and placed on naval units.

Naval forces today have embraced information communication technologies like the Internet and satellite communications to maintain situational awareness and track their fleets. However, much like the Royal Navy in the days of the telegraph and wireless communications, navies must deal with the challenges posed by these new technologies. The challenge now is how can these navies ensure that their substantial investment in C4ISR technologies result in more, not less, interoperability? To understand the challenges, as well as the opportunities, facing the Royal Australian Navy (RAN) we must first understand how well the RAN and other navies are able to interoperate *today*.

How Big a Challenge is Naval Coalition Networking?

*"Is there a place for small navies in network-centric warfare? Will they be able to make any sort of contribution in multinational naval operations of the future? Or will they be relegated to the sidelines, undertaking the most menial of tasks, encouraged to stay out of the way – or stay at home…
The 'need for speed' in network-centric operations places the whole notion of multinational operations at risk"[12]*
*Professor Paul Mitchell – Canadian Forces College
"Small Navies and Network-centric Warfare: Is There a Role?"
Naval War College Review Spring 2003*

Clearly, the available evidence suggests that like-minded peace-loving nations – especially the RAN and its likely coalition partners – recognize the importance of coalition networking and that naval operators of all nations recognize it perhaps more so than others. Looking to examples in the navies we represent – and extrapolating these examples to Commonwealth navies and their likely coalition partners – is an important first step in understanding the challenges to effective coalition networking at sea.

From the perspective of the Royal Australian Navy, *Australian Maritime Doctrine* is clear in describing the challenges of greater interoperability among naval force, noting:

Interoperability can never be

Royal Australian Navy Lieutenant Commander Bryan Edwards, Australian Fleet Battle Staff liaison officer, looks on as Lieutenant Commander Gary Larson, of Expeditionary Strike Group 7, pulls up information on a computer screen depicting information about integration events between US and Australian forces as part of Talisman Saber 2007. (Navy NewsStand)

Naval Cooperation for the Future Force

assumed and requires substantial and sustained effort to achieve common doctrine, common procedures and common ommunications. The greater the commonality in equipment and methods achieved the less duplication of resources and the fewer delays in achieving operational results when nations come together in contingencies.[13]

How important is coalition networking and what is the "state of play" of this networking today, especially when US Navy combat formations attempt to communicate and share data with Commonwealth navies and other coalition partners and achieve "shared situational awareness?" Some would say that it is not yet where it should be. As Professor Mitchell noted in his article in the authoritative *Naval War College Review*, absent more effective means to network

and exchange data, navies may even stop attempting to operate together. He raises what is perhaps the most important question regarding coalition naval communications – what level of communications and networking is required to make coalition operations at sea effective.

As Professor Mitchell noted in his article, the experience of Canadian ship commanding officers, as well as the experience of others working with US naval forces in NATO exercises or operations, was that the "need for speed" in network-centric operations may result in the exclusion of even close allies. Thus, he notes, while the guiding principle of network-centric warfare (NCW) is to increase the speed and efficiency of operations, coalitions are rarely concerned about combat efficiency. Rather, they are always about scarcity in terms of operational

resources, political legitimacy, or both. This led him to conclude that in a dynamic coalition environment, because of the impact of slower networks or non-networked ships, the prospects of the United States Navy keeping "in step" with Commonwealth navies as well as with other likely coalition partners, is not high – absent enlightened efforts by all governments concerned.[14]

While some might say this is merely anecdotal information, for these

Left to right: JDS Samidare (DD 106), USS Chung-Hoon (DDG 93), and USS Denver (LPD 9). All three ships participated in RIMPAC 2006. (www.navy.mil)

authors and our colleagues from other navies — especially Commonwealth navies — the situation Professor Mitchell describes represents the reality of current coalition operations at sea and indicates that there is important work yet to be done.

If this is such an important issue then why have naval professionals not worked harder and more vigorously to solve it and why have we not found a solution yet? Part of the problem lies in the relative success that navies have had networking at sea. Even in the days of signal flags, ships at sea found a way to communicate to some degree. As technology advanced from flashing lights, to radio Morse code, to tactical radio voice circuits, to the initial tactical data links, ships at sea often had it better than forces ashore on expanded battlefields. The fact that "we've communicated at sea in the past and we're doing so today," often obscures how well we could communicate and exchange data if the right technology, doctrine, tactics, techniques, and procedures were in place.

There is another, perhaps more important, reason that an effective solution still eludes the operators who want to solve this issue. For a host of reasons, coalition interoperability does not fit neatly into any requirements "bin" for Commonwealth navies, for the US Navy, or for other likely coalition partner navies. It does not fly, float, or operate beneath the seas. It does not strike the enemy from afar like cruise missiles. It does not enhance readiness like spare parts or training. It just does not always have the requisite degree of high-level advocacy.

Part of the reason for this lack of advocacy and difficulty in reorienting requirements and acquisition practice is the inability to quantify the "goodness" derived from coalition networking. With naval establishments

and acquisition bureaucracies increasingly driven by the rules of the marketplace – measures of effectiveness, return on investment and best business practices – the lack of measures to quantify the benefits derived from effective coalition networking auger against spending scarce research and development, and especially acquisition, dollars to enhance something that has not yet been effectively quantified.

However, it is a process that must take place if Commonwealth navies and their likely coalition partners are to operate at sea effectively for next century. Serendipitously, the Commonwealth military establishments – as well as that of the United States – have well-developed military laboratory organizations able to work on coalition networking challenges and also have well-developed processes for dealing with sister laboratories among the five AUSCANNZUKUS nations. And given the technological challenges of effectively networking these diverse navies, the military laboratories of these five nations must pursue this as a matter of priority.

Defence Laboratories: An Important Part of the Solution

"The DSTO mission covers the full spectrum of science and technology support for Defence. . .The DSTO will continue a significant portion of research into forward-looking enabling technologies such as hypersonics, computer security, electro-optics and smart materials which impact future Defence capability."[15]

Defending Australia in the Asia Pacific Century: Force 2030

For navies working with the US Navy, the technical challenges to effectively network are not trivial especially when the US Navy that has invested heavily in current information communication technologies to fully-network its force. The challenge for the Royal Australian Navy and other medium sized navies is how to best co-evolve maritime networking systems in a way that enables maximum networking among partner ships and other platforms. The issue of co-evolution is an important one because for navies determined to work together with other – often smaller – navies as global maritime *partners*, a cooperative arrangement regarding technology development is crucial.[16] This implies early and frequent cooperation and collaboration at the grass-roots level by scientists and engineers.

Government defence laboratories in the Commonwealth nations and in the United States are ideally positioned to lead the effort to co-evolve C4ISR capabilities that will enable their navies to effectively network at sea. Government defence professionals have been at the forefront of developing *today's* C4ISR systems and thus have the talent and the pedigree to lead this effort in the future.

Australian and US labs have been working together with other Commonwealth nations to ensure that their navies can network seamlessly together. Several notable technical exchange programs have been established to begin the task of engineering interoperability among the five AUSCANNZUKUS nations— Australia, Canada, New Zealand, United Kingdom, and the United States. Examples that the authors are familiar with are discussed below as the work provides insights into the efforts at the grassroots, laboratory level to begin the discussions on achieving the required technological interoperability

Naval Cooperation for the Future Force

for navies to operate together on in the global maritime commons.

Achieving Coalition Networking

"The ADF [Australian Defence Force] must continue the transition to a force with fully integrated services that is interoperable with other agencies of government and its coalition partners and allies…The future force will need assured access to other agency, coalition, and open source information capabilities…We have a strong record of meeting the challenges of interagency and coalition operations, both as a leader and a participant. The future will present more challenges in this regard."[17]

Joint Operations for the 21st Century

Few would argue that the challenges to achieving effective networking at sea and to devising and co-evolving C4ISR systems for navies – even navies with such similar traditions, platforms and technologies as the five AUSCANNZUKUS nations – are simple to solve or demand anything less than a concerted effort on the part of government defence laboratories working together.

However, the scientists and engineers working in these government defence laboratories also recognize that the ways and means for them to work with their colleagues in other nations must be well-developed and robust enough to ensure a coordinated effort. A primary means for accomplishing this work is through bilateral agreements between two nations in the form of Defence Exchange Agreements (DEA) or Information Exchange Agreements (IEA).

At the principal researcher level

up through the leadership levels of these laboratories, scientists and engineers are keen to use these bilateral DEAs or IEAs to facilitate their work with their fellow scientists and engineers in laboratories in the other AUSCANNZUKUS nations. But the task of devising a DEA or IEA and then getting it approved through a substantial review chain in the respective nations involved is not a trivial task. Fortunately AUSCANNZUKUS nations have put in place a network of agreements that enable exchanges of scientific and engineering information at the laboratory level. Our personal and professional experience is primarily focused on our years-long work on Technical Cooperation Program teams.

The Technical Cooperation Program

"Our prime multilateral science and technology relationship is through The Technical Cooperation Program with the United States, United Kingdom, Canada and New Zealand."[18]

Defending Australia in the Asia Pacific Century: Force 2030

The Technical Cooperation Program (TTCP) is a forum for defence science and technology collaboration between the five AUSCANNZUKUS nations. It is one of the largest collaborative defence science and technology activities in the world. The aim of TTCP is to foster cooperation within the science and technology areas needed for national defence. The purpose is to enhance national defence and reduce costs. To do this, TTCP provides a formal framework that scientists and technologists can use to share information amongst one another in a streamlined manner.

As noted in *Defending Australia in the Asia-Pacific Century: Force 2030,* TTCP is the *prime* multilateral science and technology relationship used by the Australian Defence Force.[19] TTCP operates by sharing the output from existing national science and technology programs for the greater benefit of the participating nations. It is therefore fundamentally a bottom-up organization, with collaborations occurring only where national programs and a willingness to cooperate already exist.

Quartermaster 1st Class Jory Mason of Chicago, and Royal Australian Navy Seaman Andrew Smith of guided-missile frigate HMAS Newcastle review a chart aboard guided-missile destroyer USS McCampbell as part of a personnel cross-deck exercise series. McCampbell was underway with the Essex Strike Group in support of the bilateral training exercise Talisman Saber 2009. (US Navy photo by Mass Communication Specialist 2nd Class Byron C. Linder)

One-Example of Commonwealth Labs – Plus the United States – Finding Networking Solutions

"The Technical Cooperation Program (TTCP), a longstanding forum for defence science and technology cooperation between Australia, Canada, New Zealand, the United Kingdom and the United States, has, for example, established an initiative to consider the 'FORCEnet Implications for Coalition Partners'"[20]

Dr. Chris Rahman

Royal Australian Air Force Flight Lieutenant Catherine Rubin works with Operations Specialist 1st Class Ennis Hooker in the combat direction center aboard the aircraft carrier USS George Washington during a Talisman Saber 09 exercise. (US Navy photo by Mass Communication Specialist 2nd Class John J. Mike)

The Global Maritime Partnership Initiative: Implications for the Royal Australian Navy

Action Group 1 (AG-1) Net-Centric Maritime Warfare Study

In response to a mutually perceived need, the five allied countries of TTCP Maritime Systems Group established Action Group One (AG-1) in 2001 to conduct a three-year (October 2001 to September 2004) "Network-Centric Maritime Warfare (NCMW)" collaborative study.

The objectives of this study were to provide guidance and analysis on the implications of NCMW for coalition maritime force capabilities, C4I interoperability, and to help shape national acquisition strategies.

As a result of AG-1's study and coupled with the US Navy's planned investment in its fleet wide network known as FORCEnet, the TTCP leadership directed the standup of a new action group to focus specifically on the impact of the US Navy's FORCEnet environment will have on coalition partners.

Action Group 6 (AG-6) FORCEnet Implications for Coalitions

AG-6 was the follow on to the work of AG-1 and drew upon the Navy's FORCEnet Capstone document, *FORCEnet: A Functional Concept for the 21th Century*, to build the study approach. Concurrent to the study, the AG-6 members shared the "technology on-ramps" of their capability development and acquisition communities to find those windows where similar technological capabilities could be inserted into their naval C4ISR systems. By modeling the planned capabilities of these "on ramps" against their study, the impacts and value of alternative coalition network structures was assessed. The study's results are currently being used by AG-6 members to support C4ISR technology procurement recommendations in their respective countries.

The advantages that can accrue to the world's peace-loving nations by leveraging the tremendous investment the US Navy is making in FORCEnet cannot be overstated. Far from a US Navy-only standard, FORCEnet – and especially a currently-fielded prototype called "Composeable FORCEnet – is a publish-and-subscribe system based on open architecture and open standards that other nations can leverage with minimal investment. An analogy familiar to most nations in the Pacific Rim involves Singapore.

In 1998, Singapore made an enormous investment in the Singapore ONE project, which provided broadband infrastructure of high capacity networks and switches, with the goal of providing broadband access to the entire nation. Singapore then went out to the international business community and said, in essence, "Come join us. We have made the investment in building a world-class infrastructure. This is a great home for your business." Attracted by that world-class infrastructure, those businesses did come, and Singapore's standing as a hub for international business and as a strong node in the Asian economy is a matter of record.[21] The question AG-6 raised – and a question that the MAR leadership still wants to address by a potential successor group – is whether FORCEnet can play a similar role in the development of maritime coalition capabilities.

Beyond the strong endorsement by the TTCP principals to continue

Naval Cooperation for the Future Force

the AG-1/AG-6 efforts for another three years, the initial reviews of TTCP MAR AG-1/AG-6's work within the naval and defence establishments of the five nations has been very positive. As AG-6 transitions to the future, the TTCP model continues to provide a means for the laboratory communities in the nations that will likely work together at sea to analyze technical communication and networking needs in an operational framework. The application of the TTCP model to current and future efforts to build effective coalition communication networks can be an important step in enabling Commonwealth nations to operate and cooperate at sea in this century.

A Way Forward?

"A new idea is first condemned as ridiculous and then dismissed as trivial, until finally, it becomes what everyone knows."

William James – 1879

As the AUSCANNZUKUS nations take a leadership role in securing the global commons as part of the nascent Global Maritime Partnership, effective networking among these allied and coalition nations will be an absolute requirement if the navies of these nations are to achieve anything worthwhile beyond just showing up in the same oceanic area at the same time.

We firmly believe that if the five AUSCANNZUKUS nations turn to their defence science and technology organizations as primary stewards of conceiving compatible C4ISR systems for their respective nations, this will result in the best possible results as these government defence laboratories have a shared responsibility to deliver naval operators of the partner nations

the best possible C4ISR systems – and most importantly – systems that are compatible with other AUSCANNZUKUS navies as well as with other likely coalition partners.

There are many extant "five-eyes" organizations and taxonomies that greatly facilitate cooperation among the partner nations. But at the science and engineering level, TTCP offers arguably the best forum for this ongoing cooperation. The experience of the TTCP group MAR AG-1/AG-6/AG-11 offers a bedrock and a best-practices example as a way ahead to ensure that Commonwealth/AUSCANNZUKUS naval operations in *this* century are the most effective they can possibly be. ⚓

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the Navy Scientific Adviser. Dr Sutton has a doctor of philosophy in science (laser diagnostics for hypersonic flows) from the Australian National University.

(Endnotes)

1 *Defending Australia in the Asia Pacific Century: Force 2030* (Canberra, Australia, Australian Government, Department of Defense, 2009), Executive Summary, Pages 12-13, accessed at: www.defence.gov.au.

2 Chris Rahman, Papers in Australian Maritime Affairs, No. 24, *The Global Maritime Partnership Initiative: Implications for the Royal Australian Navy* (Canberra, Australia, Sea Power Centre, 2008).

3 "A Global Network of Nations for a Free and Secure Maritime Commons," *Report of the Proceedings of the 17th International Seapower Symposium*, 19-23 September 2005, accessed at: www.nwc.navy.mil/cnws/marstrat/docs/library/ISS17web.pdf >.

4 Rahman, *The Global Maritime Partnership Initiative: Implications for the Royal Australian Navy*, p. 6.

5 The Australian Defence Force (ADF) *Future Maritime Operating Concept – 2025: Maritime Force Projection and Control*, pp. 15-16 (Canberra, Australia, Australian Government, Department of Defense, 2009).

6 *Plan Blue 2006* (Canberra, Australia, Australian Government, Department of Defense, 2006), pp. 16-17. Not coincidentally with respect to the themes of the 2009 'King-Hall' Naval History Conference, in the Foreword to *Plan Blue 2006* Vice Admiral R. E. Shalders, RAN Chief of Navy, notes; "In considering our future, we must not forget the lessons of our past. The Royal Australian Navy has played a crucial role in securing Australia's national interests at home and aboard for over 100 years."

7 Norman Friedman, "Netting and Navies, Achieving a Balance," in *Sea Power: Challenges Old and New* (Sydney, Australia, Halstead Press, 2007), pp. 185-186. This publication provides the proceedings of the 2006 Royal Australian Navy Sea Power Conference. Dr. Friedman is an internationally-recognized expert on naval matters who speaks frequently at international symposia on network-centric operations. As Dr. Friedman points out, Admiral Fisher used the information gleaned from shipping reports and reports from his own fleets to build a tactical picture of where pirates were attacking British merchant ships. Information from these sources was fed into two different war rooms—the first war room tracked ship movements around the world while the second war room tracked ship movements in the North Sea. Armed with this "picture-based" view of the world, Admiral Fisher was able to direct warships to the spots where British ships were being attacked by pirates. See also, Norman Friedman, *Network-Centric Warfare: How Navies Learned to Fight Smarter through Three World Wars* (Annapolis, Maryland, Naval Institute Press, 2009).

8 N.A.M. Rodger, presentation at the Royal Australian Navy King-Hall Naval History Conference, Sydney /Canberra, Australia, 24 and 26-27 July 2007, p. 6.

9 .N.A.M. Rodger, presentation at the Royal Australian Navy King-Hall Naval History Conference, p. 6. It is difficult to overstate the importance of the invention of the telegraph. For the first time ever, it was possible to move information faster than people or goods. Therefore it is not difficult to understand how proponents – as well as users – of the telegraph did not thoughtfully consider the unintended consequences of its use.

10 Rodger, presentation to King-Hall Conference, Canberra, January 24, 2007 (from Galdorisi notes transcription).

11 N.A.M. Rodger, presentation at the Royal Australian Navy King-Hall Naval History Conference, Sydney /Canberra, Australia, 24 and 26-27 July 2007, p. 10.

12 Paul Mitchell, "Small Navies and Network-centric Warfare: Is There a Role?" *Naval War College Review*, Spring 2003, pp. 83-99.

13 *Australian Maritime Doctrine* (Canberra, Australia, Australian Government, Department of Defense, 2000), p. 106..

14 Paul Mitchell, "Small Navies and Network-centric Warfare: Is There a Role?" *Naval War College Review*, Spring 2003, pp. 83-99pp. 88-89.

15 *Defending Australia in the Asia Pacific Century: Force 2030*, pp. 131-136.

16 Van Hook, "How to Kill a Good Idea," p. 33. Captain Van Hook, drawing on his experience as a destroyer squadron commander where he worked with coalition partners, emphasized the importance of a cooperative approach to instantiating the global maritime partnership, noting that the US should; "Encourage regional maritime security arrangements to form at the grassroots level, without overt US leadership."

17 *Joint Operations for the 21st Century* (Canberra, Australia, Department of Defence, 2007), pp. 3 and 30-31. This publication provides a window on how the Australian Defence Force intends to fight in 2030.

18 *Defending Australia in the Asia Pacific Century: Force 2030*, p. 136.

19 *Defending Australia in the Asia Pacific Century: Force 2030*, p. 136.

20 Rahman, *The Global Maritime Partnership Initiative: Implications for the Royal Australian Navy*, p. 36.

21 Intelligent Nation 2015 Steering Committee, "Innovation. Integration. Internationalisation," June 2006, http://www.in2015.sg/pdf/01_iN2015_Main_Report.pdf (Accessed 10 July 2007).

816SQN Seahawks flying over Ayers Rock (ULURU)
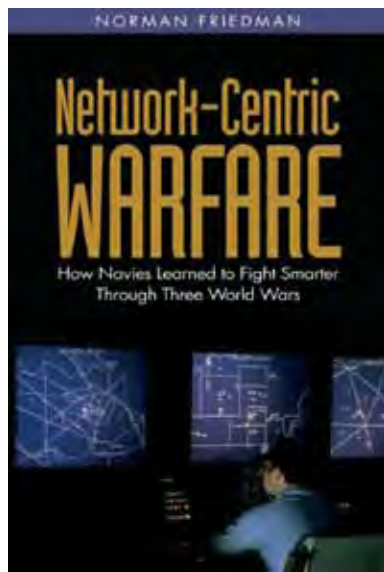
NEW IN NAVIES PHOTOGRAPHY BY MICHAEL NITZ

THE CHINESE PEOPLE'S LIBERATION ARMY NAVY (PLAN), TYPE 052B DESTROYER PLANS GUANGZHOU (168). THE DESTROYER PARTICIPATED IN THE SAIL BUNAKEN INDONESIAN FLEET REVIEW OFF MANADO AND BITUNG.

Book Reviews

Network-Centric Warfare: How Navies Learned to Fight Smarter Through Three World Wars

by Norman Friedman

xxi, 592 pages, illustrations, acronyms, notes, index

Naval Institute Press, 2009.

RRP AUD$75.00

Reviewed by SBLT Mark Karow

The concept of Network-Centric Warfare (NCW) has become something of a 'buzz word' in recent times. Indeed, it is a challenge to find those involved or with an interest in contemporary military affairs who are not aware of NCW.

What is perhaps less widely known is the disputed nature of this concept, for there are those who assert that the basic premises of NCW – the harnessing of Information Technology (IT) to enable military operations – may not be as a much of a Revolution in Military Affairs (RMA) as some works might suggest.

In my own limited experience at least, this is not an uncommon reaction from seasoned naval officers about NCW, particularly those who have been using a fused, computerised tactical picture based on information from combat data systems, linked to organic and non-organic sensors for all of their professional lives.

This is the line of argument that Norman Friedman takes in his book – what he believes should more correctly be termed *picture-centric warfare* has been in practice since Admiral Sir John Fisher harnessed the advantages of proliferating radio technology at the turn of the last century. Friedman terms this the Radio era and through his War Room tactical plot at the Admiralty, Fisher was able to use this fusion of multiple sources (including intelligence) to command and control the movements of friendly vessels and track those of other navies over the entire globe.

Following on from these developments, the Radar era in World War II saw both the exchange of information and its accurate fusion into the tactical picture become vital to the conduct of operations – particularly in air defence. Indeed, the spiralling problems of air defence against massed jet aircraft provided no small impetus for the onset of the Computer era. Computerisation of the fusing of the tactical picture, not only assisted in countering the air threat, but facilitated the design of systems and assets capable of engaging in Over the Horizon-Targeting (OTH-T) against surface threats, or acting as interceptors over the vastness of the ocean expanse in order to prosecute sub-surface threats.

This discussion of how navies have evolved the way they fight over more than a century is an enlightening read. Merely as a technical history of certain Cold War era systems, Friedman provides a fascinating insight for those who have inherited such automation as a normalcy in naval operations. But this is more than a technical history. Whilst there is the potential for the layman to become lost in the sheer amount of acronyms and terms used in the latter half of the book, Friedman's manner of explaining concepts through more simple analogies does provide a great deal of accessibility to aspects of NCW that have shrouded it with a perhaps undeserved aura of complexity. On the other hand, the detail of the book – most noticeable in the length of the footnotes – adds a depth to *Network-Centric Warfare* that should prove interesting to readers with a desire to pursue their own study of such aspects of naval operations.

Reviewed by (Acting) Sub-Lieutenant Mark Karow is a MPhil Candidate, UNSW-ADFA

Norman Friedman

Carrier Battles — Command Decisions in Harm's Way

by Douglas Vaughn Smith, 346 pages, US Naval Institute Press.

ISBN 1591147948

Reviewed by LCDR Bradley Smith

Carrier Battles is a book that has been written for those who have an interest in both US Naval history during WWII, and the art of decision making and influence of officer training on those decisions. The author has attempted to analyse the key carrier battles during this period to demonstrate that superior training produced by the US Naval War College enabled the US to overcome a Japanese naval force initially greater in both number and technological capability.

The book is a good read for those who simply wish to gain a greater understanding of the scale of the numerical advantage that the Japanese had at the beginning of this period, and the success of the US in battles against these forces, with detailed descriptions of the events and outcomes of each battle (including detailed tactical charts, and statistical tables of each force). As the title suggests the book describes the major carrier battles of the Pacific (Coral Sea, Midway, Guadalcanal, Santa Cruz, and the Philippine Sea). Whilst this is interesting in itself the focus is on the method and thought process of each commander's decision making to shape and ultimately win these battles.

The book does not develop the individual characters or stories of heroism that are encountered in many other titles written about the largest naval campaign seen to that date and after. It also provides only limited insight into the decision making process of the Japanese officers during these battles. It is a book focused on analytical assessment of the US naval commanders who achieved extraordinary success, and on how that success was derived from their officer training.

The book provides great insight into the performance of commanders in battle and how their training shaped their decision making and tactical thinking. A recommended read for those wanting to gain a greater understanding of the importance of making sound military decisions under pressure, and of the value which a professional military education can provide.

Armidale Class Patrol Boats leave Darwin Harbour in formation at the commencement of the sea phase of the Minor War Vessel Concentration Period

Visions from the Vault

Coronation Contingent 1953

Having served in Korea and witnessed the British atomic tests at the Monte Bello Islands during 1952, the aircraft carrier *HMAS Sydney* (III) continued her busy program into 1953. In March she left Melbourne for England, having embarked the Australian service contingent to the coronation of Her Majesty Queen Elizabeth II.

Sydney left Australia in company with the cruiser HMNZS *Black Prince* and sailed via Fremantle, Aden and Malta. Arriving in Portsmouth in early May she remained to take part in the Coronation Review at Spithead the following month. *Sydney* returned to Australia via the United States, Panama and New Zealand, but spent just a month alongside before beginning preparations for a further deployment to Korea. This photograph shows the carrier firing a salute while at Portsmouth.

ANI On-line: A guide to the new website.

Our new website is now on-line! In addition to the features available on the previous site, the new site also features a library of past journals, a discussion forum, a news section and member list. This short guide is designed to help you take full advantage of the new features.
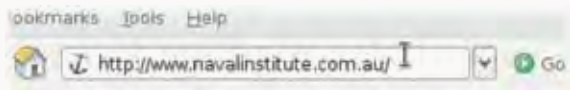
Figure 1

Obtaining an account

In order to access the new features of the site you must have a user account for the website. If you have a current subscription to the ANI, navigate to the website www.navalinstitute.com.au using your web browser (figure 1), click the "Members Login" menu item (figure 2), then click the link to download an application form. Fill in the form, then fax or post it to the ANI Business Manager. Once your account has been created, you will receive an email that outlines your member ID and password.
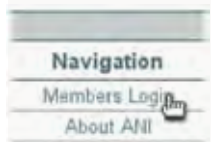
Figure 2   *Figure 3*

Logging in to your account

Once you have your account details, you are ready to login and access the new features of the site. In order to login, navigate to the website (figure 1) and click the "Members Login" item (figure 2). Enter your member ID and password as they were provided to you, then click the "Login" button. The case of the member ID and password are important: i.e. "CaSe" and "case" are considered entirely different words by the authentication system. Each letter of the password will appear as a single "*" to prevent others from seeing your password as you type. If you have entered your details correctly, you will be presented with the news page. The grey status bar at the top notifies you of the account you are using (figure 4). You are now able to access all of the new features of the site.

Figure 4

Logging out of your account

In order to protect your identity and to prevent malicious use of your account by others, you must log out of the site when you are finished browsing. This is especially important on public computers. In order to log out, click the "Logout" link in the grey status bar (figure 4).
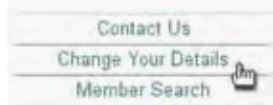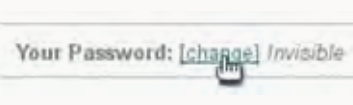

Figure 5   *Figure 6*

Changing your details

When your account is created, only your member ID and password are stored in the system for privacy reasons. However, you may provide other details that are visible to other ANI members. In order to change your details, login and click the "Change Your Details" menu item (figure 5). Then select the "change" link (figure 6) next to either your personal details or password. Change the text appropriately and click the "save" button (figure 7).

The personal information that you provide will be visible to other members of the ANI but will be hidden from members of the general public. You may provide as much or as little detail as you wish but none of the fields are compulsory. However, you may not change your member ID as it is the link between the on-line database and our off-line records.
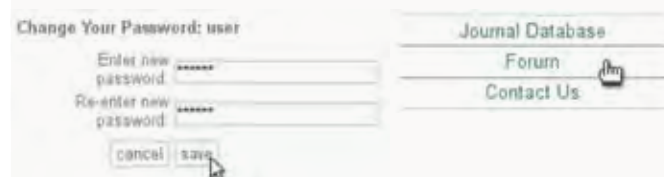

Figure 7   *Figure 8*

Participating in the forum

In order to post topics and replies in the discussion forum, first login and click the "Forum" menu item (figure 8). Then select a forum that you would like to view by clicking its "View Topics" button (figure 9). Select a topic that you would like to read by clicking its "View this topic" link (figure 10). If you are not interested in any particular topic, you may add your own by clicking the "Add New Topic" button (figure 10). Similarly, once you are viewing a topic, you may post a reply by clicking "Add New Post". Fill in the heading and body of your reply and click the "Submit" button to add your reply to the topic. If you change your mind while writing your reply, you may click the "Cancel" button and your reply will not be added to the topic.
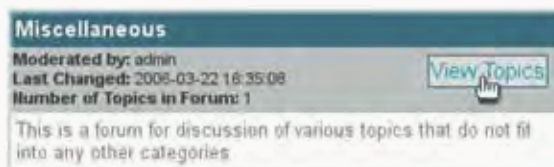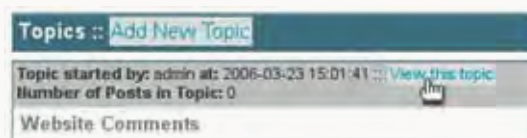

Figure 9

Figure 10

Further questions

If you have specific questions regarding website features or even a feature request, post a topic in the "Website Questions" forum and a site administrator will reply. Otherwise, happy browsing!

Thinking of Making a Contribution?
Style Notes for Headmark

In general, please present your work with the minimum of formatting.

PARAGRAPHS:

Don't indent, and leave left justified. Separate paragraphs by one line. Single spacing only. Use one space only after stops and colons.

CONVENTIONS:

Use numbers for 10 and above, words below. Ship names use italics in title case; prefixes such as *HMAS* in capitals and italics. Book and Journal titles use italics.

Use single quotation marks for quotations. Do not use hyphens for any rank except Sub-Lieutenant.

CITATIONS:

Endnotes rather than footnotes. Use footnotes to explain any points you want the reader to notice immediately. Book titles follow Author surname, first name, title if any. Title. Place of publication: publisher, year of that edition.

So:

Adkin, Mark. *Goose Green.* London: Leo Cooper, 1992.

Adler, Bill (Ed.) *Letters from Vietnam.* New York: EP Dutton and Co., 1967.

Articles use quotation marks around their title, which is not in italics.

If citing web sites please use the convention:

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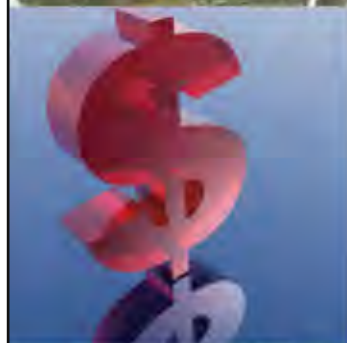
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