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THE NAVY

THE MAGAZINE OF THE NAVY LEAGUE OF AUSTRALIA

SUBMARINES – PART 2

BIGGER NETS, MORE FISH: POLICING IN THE PACIFIC

A TALE OF FOUR CITIES

MODERN MARITIME WARFARE

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HMAS CANBERRA (L02), Sydney Guardship. Autumn 2015, Mr Craig Binks.

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KNOWING PASTS: DEFINING FUTURES

Building Tradition

In recognising Australia's maritime history, this editorial considers tradition and continuity as being the lodestone of a successful Navy. This is of particular relevance to Australia, as we navigate a Pacific future rich both in promise and uncertainty. Continuing this theme, this issue examines our Future Submarines; looks at Maritime Warfare in the 21st Century; provides a compilation of speeches by Chief of Navy and completes with a paper on maritime law enforcement. The sense is of transition and step change, as maritime strategies move from mass and control to influence and command. Enabling the step change will be Navy's enduring traditions of service and continuity. Under attack en route to rescuing the British Army, along with many Australians and New Zealanders from Crete (including members of Ed.'s family), Andrew Sir Andrew Cunningham (ABC), one of the standout British Navy Admirals of WWII (along with Admiral Sir Bruce Fraser, of British Pacific Fleet fame), commented:

> 'It takes the Navy three years to build a ship. It will take three hundred years to build a new tradition. The evacuation will continue'

HMAS BALLARAT (J184-B236) wearing her British Pacific Fleet pennant number, Yokosuka naval base c. 1945.

Navy is founded on a tradition formed and bequeathed to it by the RN – a tradition forged in fire with our close Allies, the U.S., U.K., Canada, India, Singapore, Malaysia, and New Zealand. With a new Prime Minister and a Leader of the Opposition committed to constitutional change, it is perhaps time to examine our traditions and consider what we will bequeath to future generations. Many Australians see the Flag as theirs; not some foreign power's. At the same time, the HMAS title of our ships is redolent with the sea; the First Fleet; our older colours; Common Law and Flag (the Australian Blue Ensign); while recognising the Aboriginal Flag and that of Torres Strait. Under arrangements being considered across the Tasman, the New Zealand Flag will probably change in favour of a new design.

Over time, like the Canadian Maple Leaf, a new NZ Flag will earn recognition and encapsulate the fine traditions of our near neighbours. The push for constitutional change goes further than Flag – and without thinking through could challenge continuity. Australians have served, fought and died with distinction since before Federation, latterly with the Governor General as Commander-in-Chief. It is a tradition of service, embodied-in-sovereignty, second-to-none – it stiffens the sinews; respects continuity with the past and builds confidence in our future. It is part of an Australian designed and built tradition - priceless.

While there is no certainty of constitutional change – we should perhaps think through the names by which our Navy (and Army and Air Force) may in future be known. While the RAN title might be retained under a Republic (as in the RSN), HMAS may be harder to replace. Similarly, while the White Ensign – like that of the Indian Navy – may remain the same (with or without a change in Flag), the loss of the HMAS link with Fleet and a tradition of service to country and sea stretching back to the English King, Alfred the Great, may be harder to replicate. Yet, given Australian's ingenuity for adaptation and compromise, we may yet find a way to grandfather/mother a new title for our Ships, which respects our pasts; while recognising their futures.

It has been suggested that 'while it may take three years to build a ship and three hundred years to build a Navy tradition; it may all be lost in three decades'. Noting recent concerns expressed by Admiral Sir Jeremy Blackham (see Flash Traffic), the 30 year rule appears, sadly, to be the case. In thirty years, the RN has moved from being a formidable Blue Water Fleet, capable of fighting and winning at 8000 nautical miles (the Falklands War) to an increasingly uncreditable home flotilla, seemingly defined more by in-being than fact. One should never underestimate the British and the island-migratory populations that make up the whole. The fear is the rot may now be unstoppable and that the inherent technos allowing Britons to live, work, serve on and by the sea is being lost – the ineffable tradition of serving at sea.

HMAS VOYAGER (I31 / D31) off Suda Bay, Crete during the evacuation of the island in May, 1941.

HMA Ships NAPIER (G97) and NIZAM (G38) leaving Trincomalee on submarine patrol early 42 both took part in the evacuation from Crete May 1941.

Challenges facing RAN are somewhat different. Australia is construing a Fleet differentiated by design, build and class. It is building on and forging a new generation navy, based upon a tradition of service and a people increasingly unique by culture, ethos and background. Yet we are also – along with the U.S. – a melting pot, in which people from all over the world come to find and build new futures. And our peoples have often come from conflict – fleeing countries such as Ireland, Vietnam, Germany, Iran, Austria, China, Italy, Iraq, Afghanistan, Poland, Turkey, Russia, Syria, Greece, Philippines, Sri Lanka, Sudan, Korea – the vast majority going on to contribute in all respects to Australia and its rich cultural tapestry.

Amongst Australian traditions is the 'Tall Poppy Syndrome' – a reputation of never taking authority too seriously and continually challenging the bases. As a national trait, this has been suggested as being both our greatest weakness and our greatest strength – an example potentially being the [systemic?] annual procession of new Prime Ministers, Treasurers and Defence Ministers. At the same time, there is a need to provide the leadership necessary to represent Australia into the 22nd Century, rather than importing talent from abroad or relying on others, such as the U.S., to take the lead. This will mean growing and nurturing our own tall poppies, which returns to the need to know our pasts, in order to define our futures.

The average age of Australian professions, Services, industry and volunteer networks is key to their future viability. Generally speaking, a healthy average age for any organisation – including volunteer organisations – is in the mid-40s. As example, the Radiologist profession in Australia, like farming and many volunteer groups such as the Rural Fire Service (RFS), have an average age in their mid-50s. The impact of an ageing average age can be fourfold: creating job-blocking (stasis in the profession); thereby reducing the generation of expertise and efficiencies (why bother?); reducing opportunities for new joiners; and, so preventing the nurturing of future leadership skills.

The challenge to Australia's Maritime Industry, including Navy (and APS / DSTG), is similar: it needs to grow numbers by two or three fold; to harness existing expertise and boot-strap new joiners into the profession. And it needs to grow Australian leaders and experts, knowledgeable of its traditions, designs and classes. At the same time, there may be a crisis of belonging amongst many young Australians – not only recent immigrant populations. Traditionally, we have radicalised young people to become sailors, soldiers, doctors and engineers (doing the math!), so they can deal safely with existential matters of life and death, humanely and compassionately. Radicalisation happens: it is neither a good nor a bad. Answering the ageing problem, the RFS in Victoria has expanded its numbers through adroit use of the migrant visa system. As a result, the average age has dropped; the gender balance improved; new skills are being learned; traditions transferred and neighbours have become colleagues-in-service.

This is a time of opportunity for Navy if it is to double in size over the next 15 years and sustain its Fleet-in-emergence. Encouraging young Australians to join, belong and be part of Navy and its inclusive tradition of service to country, while radicalising them for good is what Navy's have always done. We want our fabulous young Australians, reportedly exhibiting traits similar to the Great Generation (b. 1915-1929), to belong and to contribute, rather than waste their talents and lives on fundamentalists, bigots and ne'er-do-wells. Australia needs a modern crewing model to build and sustain new generation Navy. Can Navy grandfather/mother our tradition to define a new, unique and inclusive belonging for all our people – vital to Australia's future health, well-being, defence and security? You bet we can! ■

THE NAVY LEAGUE ANNUAL CONFERENCE

On 5th October 2015 members of the Navy League gathered in Sydney for our Annual General Meeting and a meeting of the Federal Council of the League.

One part of the meeting I always enjoy is the segment in which each of our State Divisions report on their activities for the year.

These reports always cover a wide range of activities. Lunches, support for Australian Naval Cadets, discussions on the future of Naval shipbuilding, Trafalgar dinners, completion of an RAN memorial, the Maritime Discussion Group, the rejuvenation of Navy Week and think tanks are just a selection of the activities reported upon. Our State Divisions are busy!

We once again had a representative of the New Zealand Navy League attend Federal Council. Kiwi representation is always welcome. The Wellington Branch of the New Zealand Navy League continues to run an interesting programme.

The Navy magazine remains the League shop window. We consider it to be the best magazine of its type in Australia. The magazine continues to do well. It maintains a high standard and has good readership. For many years the League has provided the magazine to Ships and Establishments of the RAN. Federal Council decided to continue to supply the magazine despite the withdrawal of financial assistance. It was agreed that there continues to be value in a hard copy magazine being produced and distributed, while recognizing that these days many people accessed reading material online.

The League web site continues to develop, our thanks to Colin Bold, who is managing the site and keeping it up to date. The site carries the League Statement of Policy. It holds a selection of the submissions the League has made to Government, Parliamentary Committees and the like. Visitors to the site can also find copies of *The Navy*, though not the latest edition. The site is at www.navyleague.org.au.

Each year the League recognizes the work of Navy ships and establishments in their communities. The amount of work carried out is considerable. From the smallest ship to the largest establishment Navy personnel make a contribution. More that 30 years ago the League decided that this work should be both encouraged and recognized. To that end the League established the Navy League of Australia Perpetual Trophy – Community Award. The Award is given to the ship or establishment that in the opinion of Federal Council has made the best contribution to their community.

From among the ships and establishments which nominated for the Award the Fleet Commander selected three for our consideration, HMAS CERBERUS, HMAS NEWCASTLE and HMAS ALBATROSS.

This year the winner of the Community Award is HMAS CERBERUS.

Our congratulations to HMAS CERBERUS and well done to everyone involved in providing outstanding support to the Victorian community. A well done too to all the other ships and establishments which nominated. They all played their part in maintaining Navy`s involvement with the community.

THE ANNUAL MARITIME AFFAIRS ESSAY COMPETITION

There were a pleasing number of good entries, both in the professional and the non-professional category. The competition sub-committee adjudged the prize winners to be:

PROFESSIONAL CATEGORY

1ST PLACE	$1000	**Cameron Eadie** Modern Maritime Warfare
2ND PLACE	$500	**Kelvin Curnow** F35s on the Canberra LHDs
3RD PLACE	$250	**Greg Swinden** Creation of the RAN College

NON-PROFESSIONAL CATEGORY

1ST PLACE	$500	**Damien Greenwood** with a timely essay on Maritime Law Enforcement
2ND PLACE	$200	**Nigel Peake** HMS AURORA
3RD PLACE	$150	**David Rees** The Problem of the Konigsberg

Although there is no fourth prize a special mention went to Chrissy Dawson for her entry.

Our thanks to all those who took part in the competition and our congratulations to the prize winners. It is expected that all the prize winning essays will appear in The Navy magazine.

The critical issue of the maintenance and enhancement of our naval shipbuilding industry was the focus of our discussion on defence. It was agreed that much more emphasis needed to be placed on Australia developing a capacity to build new ships, rather than just replacement ships for the ANZACs. It was agreed that Australia needed to create a new ship continuous build programme.

Federal Council received a most encouraging report on the progress of the History Project. Thanks to the dedicated work of Malcolm Longstaff, with the assistance of John Jeremy and consultant editor and proof reader Anne Savage, it is expected that the final manuscript will soon be in the hands of the printers.

The reason that this year the League held its Federal Council meeting and Annual General Meeting in Sydney was to enable members to attend the Pacific 2015 International Maritime Exposition and the 2015 Sea Power Conference. These events took place on the days immediately following the League Conference.

Members of the League were able to take the ferry from Circular Quay up Sydney Harbour to Glebe Island where the Maritime Exposition and the Sea Power Conference took place. It was a very pleasant way to get there.

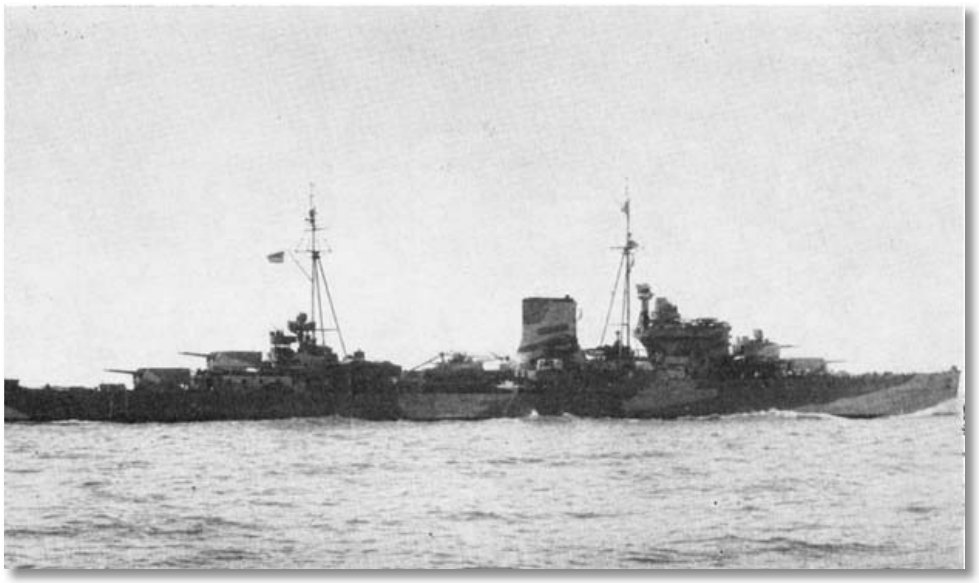
The events at Glebe Island will be reviewed elsewhere in this magazine. I will content myself by saying that the Type 26 frigate looked pretty good to me.

I believe I can safely report that our 2015 Conference was very successful. It was enjoyed by all. There was a lively discussion about the venue for the next annual conference. Most years our conference has been held in Canberra and on some occasions in Sydney. It was felt that the opportunity should be taken to visit other State Divisions. It was agreed that our South Australian and Western Australian Divisions be invited to submit proposals. At the time of writing no decision has been made, but we look forward to our 2016 Conference being in either Adelaide or Perth.

OPERATION NEPTUNE - THE ROYAL NEW ZEALAND NAVY 75TH ANNIVERSARY.

Our sister Navy is celebrating it`s 75th birthday in 2016. Neptune (the Roman God of the Seas) was chosen in recognition of HMS NEPTUNE, largely crewed by the New Zealand Division of the Royal Navy and sunk by mines on the night of 19 December 1941 off Tripoli, during the first Battle of Sirte, with the loss of 737 members of her crew. The RNZN will be holding an International Fleet Review in Auckland 17 – 22 November 2016.

We will keep readers informed on Operation Neptune.



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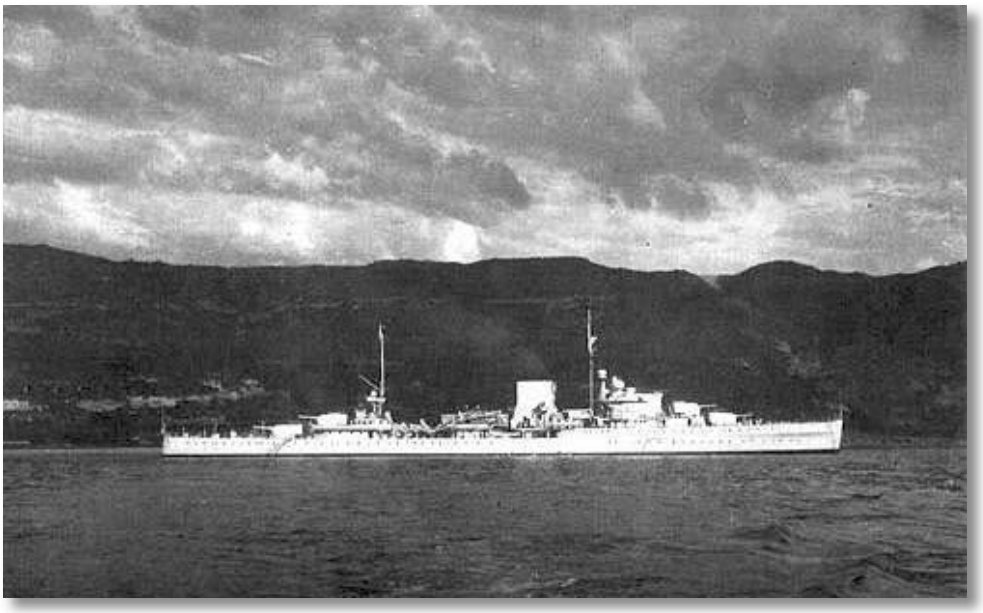


HMS NEPTUNE (20) largely crewed by the New Zealand Division of the Royal Navy, leaving Alexandria in her WWII camouflage (above) and pre war in Simonstown South Africa, below.

AUSTRALIA AND ITS 21ST-CENTURY DEFENCE NEEDS: SUBMARINES – PART II

By John Strang

In the course of defining Australia's defence acquisition program to replace its ageing Collins-class submarines, we risk repeating mistakes of the past. Replacement without foresight could be more dangerous than no replacement at all. A new government Defence White Paper, expected to appear at the same time as this article goes to print, will almost certainly reiterate a major tenet of a previous 2009 White Paper – that is, recommend that the Navy acquire 12 new submarines. [1] This is the second of two papers addressing Australian Defence Needs in the 21st Century.

Considering naval procurement, this paper argues that Australia should undertake some of the production ourselves, even if outsourcing steel-cutting and other functions to friendly countries, but always with an eye to building the sort of defence industry Australia needs.

One noteworthy example of long-term infrastructure investment is a project currently underway to replace the Gerald Desmond Bridge, at the Port of Long Beach in southern California. The new bridge, which is being designed to last 100 years – far longer than the usual expected 50-year lifespan for bridges – will be 'the second-tallest cable-stayed bridge in the United States, the first of its kind in California', and needing to be able to withstand earthquakes in a seismically-active area. The Port of Long Beach authorities, in their recent budget update, have shown how this major project is being undertaken with commendable transparency. The update provides details of how contingency issues are being addressed and how financial adjustments will be made against a 100-year perspective.[2]

Commodore Terence Roach RAN (rtd) and Chris Matherargue argue that much can be learnt from the world's most successful shipbuilding country, South Korea. Roach and Mather describe how the South Koreans, using the latest engineering IT, have been able to contain costs, especially labour costs, eliminate project overruns and achieve greatly improved efficiency in operations.[3]

To offset the constraints on our defence funding, Australia also has to be willing to cooperate with alliance partners, and to broaden pooling and sharing wherever possible. This is beneficial not only to Australia but also to each partner involved. A good overseas example of this practice is the collaboration since 2009 of 11 European nations with the United States to jointly procure and share the use of a fleet of Boeing C-17 Globemaster III long-range transport aircraft. A senior analyst at the European Union Institute for Security Studies (EUISS) has described how the Heavy Airlift Wing, as this initiative is called, has not only enhanced Europe's military capability but also been a 'smart way of jointly procuring and owning new capabilities for countries too small to do it alone'.[4]

As the importance of the maritime areas surrounding Australia grows and impacts directly on our defence capability, we need to rebalance the size of our navy to bring it into line with the other arms of the defence force. This includes crewing our navy with 20,000 personnel. A model that readily springs to mind is that of a navy with an auxiliary fleet and an improved and wider use of naval reserves – a form of militia.

Unfortunately, we are not helped by the shortcomings of academia in this country. The average research standard of our current top five universities lags well behind that of Japanese, Chinese, British and other countries' seats of learning. Hence Australia should develop a high-powered research lyceum tasked with providing the engineering and strategic thinking skills necessary to develop and support Australia's own nuclear energy and propulsion industry. Such an institution should be new and quite separate from the existing university system, and not based in Canberra.

The Germans have made Australia an attractive offer that could help us, in a commercial contract, to build our 12 new submarines – on time and

HMCS VICTORIA (SSK 876) Upholder Class Submarine, formerly HMS UNSEEN (S41).

AE2 arriving at Portsmouth en route to Australia.

on budget.[5] ThyssenKrupp's $20 billion fixed-price contract is based on constructing parts of the submarines at multiple shipyards around Australia, then completing construction in Adelaide. Time savings of up to a year could be achieved by letting ThyssenKrupp undertake some of the construction work at its massive shipyard in Kiel, Germany. The German bid could entail the giant's purchase of the ASC (formerly the Adelaide Submarine Corporation) and would include sending Australian workers to Germany for training.

The German giant's offer to recreate its impressive world-class Kiel operation in Australia, if taken up, could lead to a much-needed revitalisation of the Australian shipbuilding industry. Australia would be unlikely to achieve this on its own, without the contribution of ThyssenKrupp's undoubted quality of performance. ThyssenKrupp, moreover, offer would force Australia to improve its performance in industrial, technological and labour-management terms.

Another option for Australia is, of course, the Japanese Soryu-class submarine. The question, however, is the degree to which the Japanese would be willing to emulate the ThyssenKrupp offer to undertake a sizeable proportion of submarine construction in Australia.

In June this year, South Australia's Independent Senator Nick Xenophon visited Japan, where he discussed this particular question with his hosts. He told them there is 'no question that Japanese can build a world-class submarine, but the issue is, building it in Australia', adding that the Japanese haven't previously exchanged this sort of technology. On several occasions he reminded his hosts about what the closure of General Motors Holden as a manufacturer has portended for his home state, which now has the highest jobless rate in Australia. He said 'that's why building subs in South Australia is absolutely critical to a revival of the state's fortunes'. He called upon the Japanese to be more willing to engage with Australian industry, saying that this would be 'unambiguously a good thing – a good thing for the Japanese, a good thing for Australian jobs – and, to me, it's all about not exporting upwards of $50 billion worth of jobs to another country'.[6]

Australia certainly has the potential to develop a thriving shipbuilding industry, as can be seen by the rapidity with which the West Australian shipbuilder, Austal, has acquired globally-recognised shipbuilding expertise and delivery performance. Three decades ago it was building cray-fishing boats. Today it is engaged in constructing 21 vessels for the U.S. Navy – a contract worth more than $5 billion – and employs more than 4,000 personnel at its U.S. shipyard.

Austal's chief executive Andrew Bellamy was featured on the front page of The Australian on June 15. He said the problem with the Australian shipbuilding industry 'is not the Australian workforce or the skill set or the designer, because we have exported 250 ships out of Perth, so it can be done'. He identified Australia's lack of focus on exports as a major drawback, along with the expectation that government would step in to provide facilities. That, he said, creates the wrong culture.[7]

It is important to appreciate the urgent need, over coming decades, for Australian submarines to be able to operate over significant distances. In the past, Australia may have suffered from the tyranny of distance, but this is no longer the case. In today's world, in more ways than one, Australia is in the middle of the action.

Yet another option Australia could consider, given its budget constraints, is the leasing of U.S. Virginia-class nuclear submarines. This could involve the purchase or lease of a complete vessel or purchase of a hull plus the lease of a reactor.

The U.S. Virginia-class nuclear-powered submarine would certainly suit Australia's national interest, as one (a) proven, (b) currently in series production, and (c) with a platform of capabilities under constant improvement with 'bolt-on'. It has the speed, endurance, and station-maintenance, along with the survivability to defend any expeditionary/humanitarian operation involving ADF personnel and Australian humanitarian aid workers.

These are decisive benefits not achievable, in the main, with diesel-electric submarines.

SETTING NATIONAL PRIORITIES

The follow-through on a nuclear option for submarines would unlock the door to Australia's future as an empowered nation-state, with the flow-on capabilities (i) to enrich our vacant inland with vastly greater opportunities for sustainable agriculture, (ii) to support new mining activities, and (iii) to

HNLMS DOLFIJN (S808).


HMAS ONSLOW (SS60-SSG60) Cold Move Darling Harbour, 6 October 2015.

provide a needed nuclear repository for our uranium customers.

Key decisions on submarines and other major defence procurements should not be seen in isolation from other national priorities. The introduction of nuclear-powered submarines could provide a radical shift away from Australia's conception of itself being limited by its 'empty inland'. Small modular nuclear-power plants could provide electricity and fresh desalinated water to remote rural regions, especially to those areas that are only irregularly flooded, with beneficial results for agricultural output. (China and others will be prepared to do this, even if Australia lacks the foresight and gumption to do so ourselves).

In national development, as in defence planning, Australia should craft its own future, rather than merely waiting for it to happen. As Warren Buffet once famously observed, 'If horses had controlled investment decisions, there would have been no auto industry.' Australia should not display a similar obstinacy towards consideration of the benefits of nuclear power development.

South Australia, in particular, would derive significant benefits by becoming a centre for Australia's nuclear development, through value-adding to that state's abundant uranium resources. It would benefit workers in all sectors of the South Australian economy and revitalise research, teaching and training in the state's universities. Being able to contribute carbon-emission-free electricity to our national power grid would give that state an enviable reputation as a source of abundant clean, green energy.

Rear Admiral Kevin John Scarce AC is currently heading a royal commission to investigate the feasibility of developing nuclear power in Australia. He recently returned from a fact-finding mission to Canada, whose $C6 billion ($AUD6.3 billion) nuclear industry has generated 60,000 jobs, and to the United States, whose $US60 billion ($AUD69 billion) nuclear industry supports between 200,000 and 300,000 jobs. One of his royal commission's tasks will be to compare the price of electrical power generated from different energy sources. The costly sources of power on which Australia relies, he recently warned, is a major impediment to business competitiveness.[8]

'Over the last fifty years,' wrote James Conca in Forbes magazine recently, 'nuclear energy has proven to be the safest and most efficient of all energy sources, from both the human health and environmental perspectives.'[9]

A decision in favour of nuclear-powered submarines would see significant infrastructure developments, with the direct flow-on multiplier effect as a value-generator for all Australians.

A WAY FORWARD

Australia has only a limited time available in which to get its defence spending priorities right and ensure Australia's future maritime capabilities.

A professor of international security at the University of NSW, Alan Dupont, states that it has 'always been my view that we should look at the nuclear option rather than just rule it out without looking at it'. He continues: 'Chris [Jenkins] is not alone in his view that the obstacles to operating a fleet of nuclear submarines are not as great as opponents make them out to be. The design of nuclear turbines and power plants is improving all the time… but how many technicians you would need to support them is something that should be looked at as you review the option.'[10]

Whichever submarine option Australia takes, the reality is that any successor to Collins-class should not merely be equal to the range of 12,000 nautical miles, but needs to exceed that capability, and have the reach to encompass both India-Asia-Pacific requirements for Australian interests and needs in the Great Southern Ocean.

DECISION-MAKING AT THE TOP

How Australia goes about defence procurement will depend very much on the people involved in the decision-making process. Many knowledgeable commentators have pointed to a lack of overall vision and a paucity of knowledge of what is at stake.

Retired submarine engineer CDRE Paul Greenfield recalls attending the recent Royal United Services Institute (RUSI)'s Submarine Summit in late March, where, he says, many of the attendees expressed 'great fears for Australian industry with the potential for an overseas build'. He himself observes that much of the engineering and technological know for the Collins project has already been lost. He concludes: 'There is also no defence industry policy, nor even an overriding strategic industry policy.'[11]

A lack of technical understanding in the field of defence can lead to expensive mistakes, as a leading U.S. defence think-tank has found.

A forthcoming study by a leading U.S. defence think-tank provides an


Ship Submersible Host Impression of an SSH concept at sea.

Royal Australian Navy Collins class submarine HMAS SHEEAN SSG 77 passes the historic United States Navy Iowa-class battleship USS MISSOURI BB-63 as she makes her way into Pearl Harbor RIMPAC 2014.

object-lesson in the dangers of investing in defence equipment that rapidly becomes obsolete. Traditional fighter aircraft, such as the F-22 and F-35, risk becoming obsolete before they even enter service. The report's author, John Stillion, a senior fellow at the Centre for Strategic and Budgetary Assessments (CSBA) in Washington, points out: 'Over the past few decades, advances in electronic sensors, communications technology, and guided weapons may have fundamentally transformed the nature of air combat.'[12]

Australia's chief defence scientist Dr Alex Zelinsky has expressed concern that Australia's Defence Department has become top heavy and that decision-making processes are 'not robust and … becoming cumbersome'. He says: 'The decisions that are being made must be defensible from a technical, financial and a strategic point of view and this is where they want to strengthen that process up.' He adds that the voice of engineers deserves should 'be heard more loudly at the table where decisions are being made'.[13]

These observations bring home the importance of sound analysis in defence procurement, particularly as we look to a far-distant horizon some decades ahead when deciding on a new submarine fleet for Australia. If Australia limits our options or takes a short-sighted approach, we risk buying our way into obsolescence. We therefore have a collective responsibility to seek out the best decision on our future submarines capability.

There are, however, encouraging signs for the future of defence. The Government, after its tumultuous first year in office and transfer to Prime Minister Turnbull, is functioning far more smoothly. A recent report in the Australian Financial Review (March 9, 2015) describes how the PM and the Secretary of the Office of Prime Minister and Cabinet, are working constructively and strongly with the secretaries of all the government departments.

South Australian Labor Premier Jay Weatherill, by his recent decision to conduct a royal commission into the development of nuclear power, has ensured that debate on the issue will not fall victim to partisanship.

For too long, defence policy has suffered from being incubated in isolation from proper public understanding. It seldom receives adequate media coverage, with the Australian public remaining unaware of the extent to which our defence spending is dangerously low. Likewise, the potentially dangerous environment in which Australia operates is equally misunderstood.

Above all else, it is our national sovereignty that we are working to protect. Nothing should be allowed to obscure that one guiding light.

This year, with the centenary of Gallipoli and the 70th anniversary of Victory in the Pacific likely to be prominent in public thinking, we have a not-to-be-missed opportunity to direct the Australian public's attention to our country's long-term defence needs. Australia should certainly highlight the role of U.S. submarines in achieving Victory in the Pacific. These vessels certainly proved their worth and 'value-for-money' by saving Australia. At his speech in Gallipoli, then Prime Minister Abbott invoked the spirit of the Anzacs:

'They did their duty; now, let us do ours. They gave us an example; now, let us be worthy of it. They were as good as they could be in their time; now, let us be as good as we can be in ours.'

That is the task before us, as Australia negotiates the next essential twelve months, including Federal election and maintains the momentum necessary to sustain Australian ship and submarine build programmes. ■

1 Sam Bateman, 'Political hijinks: Australia's submarine programme deadlocked', *Jakarta Post*, April 10, 2015.
URL: www.pressreader.com/indonesia/the-jakarta-post/20150410/281715498135680/TextView

2 'Key messages: Gerald Desmond Bridge replacement project: Budget update', Port of Long Beach (California), July 2015.

3 Terence Roach and Chris Mather, 'Future submarine project – reduction of taxpayers' risk', *The Strategist* (Australian Strategic Policy Institute), July 7, 2015.
URL: www.aspistrategist.org.au/future-submarine-project-reduction-of-taxpayers-risk/

4 Jan Joel Andersson, 'Pooling and sharing that works: The Heavy Airlift Wing at five', *Issue Alert* (European Union Institute for Security Studies), No. 45, October 21, 2014.
URL: www.iss.europa.eu/uploads/media/Alert_45_Heavy_Airlift_Wing.pdf

5 Brendan Nicholson, 'German shipbuilding giant offers to deliver submarines on time', *The Australian*, May 21, 2015.
URL: www.theaustralian.com.au/national-affairs/defence/german-shipbuilding-giant-offers-to-deliver-submarines-on-time/story-e6frg8yo-1227361988911

6 Mark Colvin, 'Nick Xenophon warns shipbuilders of political consequences on Japan visit, ABC Radio National's *PM* program, July 7, 2015.
URL: www.abc.net.au/pm/content/2015/s4269209.htm

7 Brendan Nicholson, 'U.S. shows faith: Australian shipbuilders can rule the waves', *The Australian*, June 15, 2015.
URL: www.theaustralian.com.au/national-affairs/defence/us-shows-faith-australian-shipbuilders-can-rule-the-waves/story-e6frg8yo-1227397710354

8 Christopher Russell, 'Nuclear royal commissioner Scarce says industry potentially worth billions but will take decades', *The Advertiser* (Adelaide), July 24, 2015.
URL: www.adelaidenow.com.au/business/nuclear-royal-commissioner-scarce-says-industry-potentially-worth-billions-but-will-take-decades/story-fni6uma6-1227456063791

9 James Conca, 'What about nuclear power isn't good?', *Forbes*, July 7, 2015.
URL: www.forbes.com/sites/jamesconca/2015/07/07/what-about-nuclear-power-isnt-good/

10 John Kerin, 'Nuclear submarine option pushed by industry', *Australian Financial Review*, March 23, 2015.
URL: www.afr.com/news/politics/nuclear-submarine-option-pushed-by-industry-20150324-1m5cpx

11 Patrick Durrant, 'The future submarine: buyer beware', *The Journal of Engineers Australia: Civil Edition*, Vol. 87, No. 4, May 2015, pp. 42, 45.

12 John Stillion, quoted by Zachary Keck, 'Are U.S. fighter jets about to become obsolete?', *The National Interest*, April 11, 2015.
URL: http://nationalinterest.org/blog/the-buzz/are-us-fighter-jets-about-become-obsolete-12612

13 Durrant, *op. cit.*, p. 49.

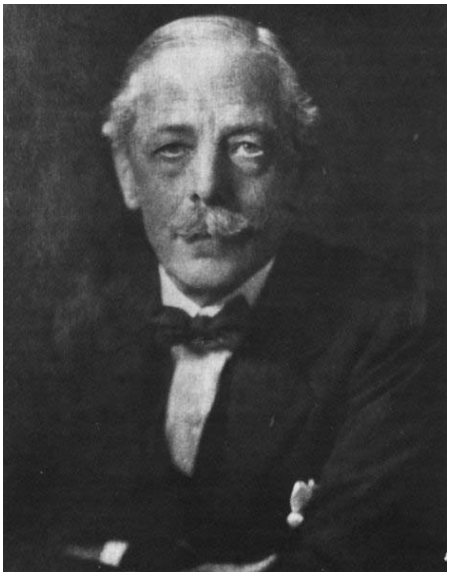
1ST PLACE

MODERN MARITIME WARFARE

By Cameron Eadie

Since the dawn of civilization, and the advent of seafaring trade routes, naval tactics have evolved, hand in hand, with developments in naval technology. By understanding the evolution of naval tactics, it is possible to make comparisons and promote discussion regarding the direction of modern maritime warfare. Any consideration of modern maritime warfare would not be complete, arguably correct, without adequate and prior reflection upon modern maritime strategy. Such a seemingly simple and direct question gives arise to complex array of responses. Strategic thought is highly pragmatic, dependent upon the realities of geography, society, economics and politics. This illustrates the point that there is no precise model, yet some recurring characteristics, demonstrating the history of strategic thought is a history not of pure but of applied reason.

Despite maritime strategy being practised for centuries, it was not until Alfred Thayer Mahan published *The Influence of Sea Power upon History* in 1890 and Sir Julian Corbett providing a more complete theoretical statement of the principles for establishing control of the sea some years later, was the topic analytically and thoroughly examined. Whilst Mahan was primarily focused upon the role of sea power, in particular in relevance to wartime national policy; power projection from the sea, a naval mission of growing significance in the twentieth century, was mostly disregarded.[1]



Sir Julian Corbett

Corbett, like Mahan recognised that naval warfare was part of a nations larger policies, but was the first to define the object of naval warfare. This definition stated the object was to directly or indirectly secure the command of the sea or to prevent the enemy from using it.[2] The strategies of naval warfare as defined by Corbett, focused upon the art of naval warfare and stressed the difference between land and naval warfare. His central principles of sea control focus on the enemy and manoeuvring for tactical advantage laid the foundations for today's naval manoeuvre warfare.

With the earliest examples of naval warfare revolving around galley tactics, evolving to the age of sail, which was to proceed the age of steam, the maritime environment of the late 19th century found itself, once again, at the precipice of technological change.

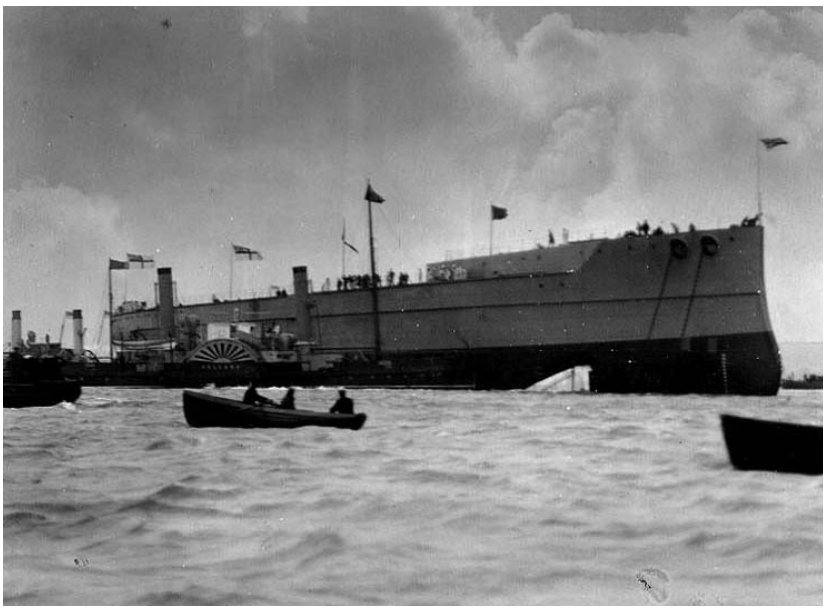
DEMONSTRATION OF SEA POWER

Technological advances became the great enablers for naval forces to demonstrate sea power. The tactics utilised to employ new machines with greater and more advanced capability were constantly refined, yet the underlying objective to directly or indirectly secure command of the sea remained. The present period of naval warfare and strategy commenced with the realisation that naval gunnery, as a primary means of combat had become obsolete, being replaced with missiles and long range combat aircraft.

As Corbett defined, command of the sea means nothing but the control of maritime communications, whether for commercial or military purposes. The object of naval warfare is the control of communications and not, as in land warfare the conquest of territory.[3] Fast forward to today's strategic landscape, and one must question if there still exists a distinction between sea control of lines of communication and conquest of territory as previously allocated to land forces. To answer this, one must recognise that the environments in which the services operate and fight are interconnected and cannot be considered in isolation. It is readily apparent that Australia's navy is attempting to ensure seamless war fighting approaches to maximise effectiveness, with the recent acquisition of Canberra Class LHD's, ongoing construction of the Hobart Class Air Warfare Destroyers and the new capabilities of the SH60 Romeo helicopters. Elements from within each arm of the defence force are increasingly developing the capacity to manoeuvre, acquire and engage targets within their respective battlespace. In respect to the maritime environment, possibly the most important realisation for maritime forces is that the nature of maritime operations leads more readily to organisation and command by task, rather than specified geographical boundaries. [4]

THE CHANGING STRATEGIC ENVIRONMENT

To comment upon modern maritime warfare, it makes sense to reflect upon the behaviours of the allied navies in response to a changing strategic environment. Such an example is AirSea Battle (ASB) doctrine, which officially became part of US grand strategy in 2010. Specifically designed to address asymmetrical threats in the Western Pacific and Persian Gulf, it required development of new air sea battle concepts for defeating adversaries across the range of military operations, including adversaries equipped with sophisticated anti access and area denial capabilities (A2/AD). The purpose of this concept as it matures, will be to help guide the development of future capabilities for effective power projection operations.[5] It's important to remember that the ASB concept was developed out of necessity to realise the overarching Joint Operational Access Concept (JOAC). JOAC is defined as the ability of a joint force to



HMS DREADNOUGHT Launch 10 Feb 1906.

maintain the freedom of action to accomplish any assigned mission. ASB's particular contribution to the operational access problem set has focussed upon the development of integrated forces.[6] With the global increase of A2/AD capabilities, and the emergence of space and cyberspace as contested war fighting domains, there is cause for concern amongst the leadership of the US military that their traditional advantages have been undermined. Formidable A2/AD capabilities have the resultant effect of US and allied forces being forced to operate at greater levels of risk and greater distances from areas of operations. ASB was born to respond to this new threat to preserve US power projection and freedom of action. Whilst ASB is a US military response to a changed strategic landscape due to the emergence of new threats, the linkage to modern maritime warfare is nonetheless significant. Broken down, in order to achieve mission objectives, the approach must be joint in nature. In the maritime environment, the "buzz" term enabling realisation of a task forces ability to manoeuvre and freedom of movement is management of battlespace. Battlespace, the zone in which a commander is confident of tracking, detecting and engaging a threat before it poses a danger is a central concept of Western modern maritime warfare. As in all forms of warfare, a critical objective is to detect the enemy whilst avoiding counter detection. To achieve this, a commander must be confident of detecting, classifying and localising an enemy threat and have the option to engage them before they pose a danger. The most favourable environment for a surface fleet remains the open sea, not restricted by the presence of land and restrictive topography enabling freedom of manoeuvre and limiting opportunities for counter detection. For surface fleets, shallow water operations are particularly hazardous in light of potential threats posed by submarines and mines. During the Cold War the potential of conflict arising between two modern and well equipped fleets on the high seas became the primary focus of American and NATO naval planning, with significant resources allocated towards Carrier Battle Groups (CVBGs). Whilst such a conflict thankfully never eventuated, in many ways Cold War thinking continues to dominate modern naval practice. In a set piece sea-air battle, aircraft carrier versus aircraft carrier or convoy, modern doctrine emphasises that the primary concern, or component of battlespace, for a fleet commander is to establish and maintain air superiority. [7]

21ST CENTURY WARFARE

Within the context of modern warfare, the CVBG exists to provide air superiority within the battle area, and deep ground support in order to effectively isolate the battlefield. [8]

In respect to aircraft, extended usage over time has identified five functional roles for naval aircraft: as fighters, attack/strike planes, patrol planes, transports, and in Anti-submarine warfare (ASW) roles. These aircraft, both land based and carrier borne variants, can project considerable firepower directly into any sea or land based target within range.[9] Underway, every naval force able to employ organic aircraft will be covered by its own fighters, with an outer ASW screen usually consisting of rotary aircraft all under the control of the force commander. As an example of capacity and sheer size, Task Force 70 of the United States Seventh Fleet, consists of Carrier and Surface Combatant strike forces. These forces combined with an embarked air wing, form the US Navy's only continuously forward deployed carrier strike group. The Battle Force is currently centred upon Carrier Strike Group Five, concentrated around one Nimitz Class aircraft carrier, a destroyer squadron composed of seven ships, two cruisers and nine squadrons of fixed and rotary wing aircraft.

Seaman Daniel Molloy holds the banner commemorating the mustering of sailors at Flinders Street Station.

Even for a strike force of this size and composition, the primary threat in modern naval combat are missiles. In hostilities, ships need to be defended not only against aircraft but incoming aerodynamic homing weapons.[10] Theatre range missiles come in two principal categories, cruise and ballistic[11], however it is the cruise missile which poses the primary threat having the capacity to be delivered from a variety of surface, subsurface or airborne platforms. Given their effectiveness, relative ease of fitting and far from crippling cost [12], it is now wonder that the anti-ship missiles have become the weapon of choice by many navies and potential adversaries. Torpedoes, although travelling underwater at lower speeds, present a similar threat. As is the case with missiles, they are self-propelled and able to launched from a variety of platforms. Modern weapons contain an array of technologies, which greatly assist in targeting and homing not to mention counter- counter measure capability. Two principles, which provide the missile with the edge over the torpedo, is the factor of expense and complexity. Missiles are relatively inexpensive and easy to operate, torpedoes are expensive and

Two MH-60-640 Helicopters.

require a moderate level of expertise to operate correctly.

Whilst these weapons systems pose an immediate threat to a commander's ability to control and influence their immediate battlespace, modern navies have been traditionally equipped and trained to respond to such attacks. On a strategic level, capable and modern weapons fit of enemy platforms compound as a deterrent, enabling a rogue state to establish and maintain an anti- access/ area denial (A2/AD) capacity. In modern warfare, this simply presents another element of complexity, particularly for an adversary packing an arsenal of ballistic missiles designed to attack key targets such as air bases and naval facilities. Combined with the growing proliferation of national and commercial satellite services, allowing targeting for missile systems and greatly extending the ranges for monitoring of force movements [13], presents a complex and challenging scenario for an allied task group.

EXPEDITIONARY COMMAND

As an expeditionary war fighting force, American forces rely upon safe deployment into theatre and the ability to maintain air, space and maritime superiority. [14]

Modern A2/AD has changed the character of modern warfare, presenting significant challenges to military freedom of action. The operational implications of such existent capability remain in question, however, as previously mentioned, AirSea Battle Doctrine can be used as a starting point to integrate command and control between the services and maximise the counter A2/AD potential of existing platforms.[15] Presently, the A2/AD problem remains an issue, which can only be tackled through a joint and integrated approach by all arms of the defence force. In particular, the impact for modern naval forces is challenging. Whilst battlespace management remains a high priority, the definition of power projection for maritime forces has been modified [16]. Power projection now encompasses moving into the littoral to influence operations inland, on a greater scale than required only a few decades ago. To provide a further challenge, it also means controlling the littoral in order to sustain allied ground and air forces ashore.

To support this, modern naval warfare is highly focussed upon command and control (C2), ability to track, and engage critical mobile targets, missile defence and to a lesser extent engage critical land based targets. Revolutions in command and control have enforced a fundamental change in the way in which warfare is managed. The U.S navy led the development of integrated sensors to provide a coherent picture to a commander.[17] Automated systems handling terabytes of data now present it intelligibly for scrutiny by human operators, coordinating not only information from ships sensors but from shore based support units. Naval Expeditionary Forces, assembled to execute a specific task, are reliant upon increased C2 capabilities. Such capabilities allow the expeditionary force to confidently engage the enemy within his citadel. The key to achieve this, once safe passage of naval units is assured is establishing air superiority. In a set piece air- sea battle, as previously mentioned, doctrine dictates that the primary concern of a commander must be to establish and maintain air superiority over his task group. In the littoral environment, air superiority must extend its influence against a shore based enemy. In an amphibious landing, the offensive tasks of air units is to maintain supremacy over the battle area, isolate the target by cutting sea approaches and blockading air feeder routes. [18] Enhanced C2 enables these set objectives to be realised quickly and for the final realisation of the task objective, to get boots on ground.

Currently, Australia's naval forces do not possess the organic air capability to protect operations on land; they do have considerable potential to contribute to combat operations throughout the battlespace.[19] Surface combatants have demonstrated effective use of medium calibre guns to provide naval fire support to land forces, such as the support provided by HMAS ANZAC to British forces on the Al Faw Peninsula in southern Iraq in 2003. The construction and delivery of Hobart Class Air Warfare destroyers will provide additional capabilities to greater contribute to air battlespace in the littoral environment, whilst providing protection to a task group's seaward flank. Canberra Class LHD's will contribute to any campaign with their ability to transport large mass, such as Army battlefield helicopters to provide support to operations on land. The delivery of these new platforms represents a quantum leap for capability for the Australian Defence Force (ADF), and in reference to the LHD's will be the first time a navy ship will have army and air force personnel permanently attached to its crew. The LHD generates a fundamental shift towards truly joint amphibious operations and represents a significant strategic leap forward for the RAN.

THE SPHERE OF MODERN WARFARE

Modern naval warfare, whilst still focussed upon traditional disciplines of gunnery, missile defence and ASW, must now also encompass a greater strategic requirement to control the battlespace. Traditionally, battlespace did not extend beyond a commanders task group, or even to the maximum weapon or sensor range of a high value unit. However, in the modern

The Abraham Lincoln battle group during RIMPAC 2000. HMAS WALLER (SSG 75) operated with this force during late May 2000 becoming the first Australian submarine to be integrated into a carrier battle.

warfare sphere, it becomes clear that the battlespace has been extended to encompass all regions of the objective, often far inshore. Establishing Air superiority, fast and reliable communications and C2 networks are the key enablers of this capability. Naval platforms need to be equipped with modern weaponry to ensure an advantage over potential adversaries, but

CH-47 Chinook Landing on HMAS CANBERRA (L02).

most importantly, need to be connected. Naval commanders must have oversight of each unit's capability in order to deploy to the maximum of its potential, but just as critical, be aware of his task forces limitations.

Modern navies are moving towards command and control centric platforms, equipped with modern weaponry and high levels of automation to maintain and assert dominance in the maritime environment. Platforms designed to embark aircraft, personnel and critical stores are heavily supported by screens of air warfare capable warships and to the extremes submarines, scouting ahead for potential threats to allow safe passage of the high value units. Through integrated and networked sensors and reliable real time communications, the A2/AD threat can be overcome prior to a naval force arriving within striking range. Modern naval warfare is no longer decided upon the high seas. If such an "at sea" encounter were to occur, traditional priorities would be re-established, until the threat was neutralised and the pursuit of the greater mission objectives could recommence. Such action, whilst a serious and significant aspect of maritime warfare is now within the modern context a means to achieve the final objective and the true realisation of sea power – power projection from the sea. ■

HMAS CANBERRA (L02) Achieving Initial Operating Capability.

1 P.A. Crowl, 'Alfred Thayer Mahan: The Naval Historian', in Makers of Modern Strategy from Machiavelli to the Nuclear Age, P.Paret (ed), Princeton University Press, Princeton, New Jersey, 1986, p.461

2 J Corbett, Principles of Maritime Strategy, Dover Publications Inc., Mineola, New York, 2004, p.87

3 Ibid., p.90

4 Department of Defence, Australian Maritime Doctrine, Defence Publishing Service, Department of Defence, Canberra, ACT, 2000, p.47

5 Secretary of Defense, Quadrennial Defense Review Report, US Department of Defense, Washington, DC, 2010, p.33

6 T.Morris, M.VanDriel, B.Dries. J.Perdrew, R.Schulz, K.Jacobsen, 'Securing Operational Access: Evolving the Air-Sea Battle Concept', The National Interest, Feb 11 2015, viewed 24 Aug 2015, http://nationalinterest.org/feature/securing-operational-access-evolving-the-air-sea-battle-12219

7 C.W.Koburger, Sea Power in the Twenty-First Century Projecting a Naval Revolution, Praegar Publishers, Westport, CT, 1997, p.31

8 C.W.Koburger, Op,Cit., p.30

9 Ibid., p.32

10 RADM J.R. Hill, Maritime Strategy for Medium Powers, Croom Helm Ltd, Provident House, Kent, 1986, p.171

11 C.W.Koburger, Op.Cit., p.81

12 RADM J.R. Hill, Op.Cit., p.179

13 A.Krepinevich, B.Watts, R.Work, Meeting the Anti-Access and Area Denial Challenge, Center for Strategic and Budgetary Assessments, Washington DC, 2003, p.4

14 C.J. McCarthy, Anti- Access/ Area Denial: The Evolution of Modern Warfare, US Naval War College, Newport, Rhode Island, 2010, p.2

15 Ibid., p.10

16 A.Krepinevich, et al, Op.Cit., p.3

17 C.W.Koburger, Op.Cit., p.28

18 Ibid., p.31

19 Department of Defence, Op.Cit., p.63

Bibliography

Corbett, J, Principles of Maritime Strategy, Dover Publications Inc., Mineola, New York, 2004

Crowl, P.A, 'Alfred Thayer Mahan: The Naval Historian' in Makers of Modern Strategy from Machiavelli to the Nuclear Age, P. Paret, (ed), Princeton University Press, Princeton, New Jersey, 1986, pp. 444-481

Department of Defence, Australian Maritime Doctrine, Defence Publishing Service, Department of Defence, Canberra, ACT, 2000

Dorman, A, 'The Challenges for medium sized navies in the post- Cold War world,' in D.Stevens and J.Reeve (eds), Sea Power Ashore and In the Air, Hastlead Press, Ultimo, NSW, 2007, pp.236-248

Hill, RADM J.R, Maritime Strategy for Medium Powers, Croom Helm Ltd, Provident House, Kent, 1986

Krepinevich, A, Watts, B, and Work, R, Meeting the Anti-Access and Area Denial Challenge, Center for Strategic and Budgetary Assessments, Washington DC, 2003

Koburger, C.W, Sea Power in the Twenty-First Century Projecting a Naval Revolution, Praegar Publishers, Westport, CT, 1997

McCarthy, C.J, Anti- Access/ Area Denial: The Evolution of Modern Warfare, US Naval War College, Newport, Rhode Island, 2010

Morris, T, VanDriel, M, Dries.B, Perdrew, J, Schulz, R and Jacobsen, K, 'Securing Operational Access: Evolving the Air-Sea Battle Concept', The National Interest, Feb 11 2015, viewed 24 Aug 2015, http://nationalinterest.org/feature/securing-operational-access-evolving-the-air-sea-battle-12219

Rodger, N.A.M, Naval Power in the Twentieth Century, Naval Institute Press, Annapolis, Maryland, 1996

Stevens, D, A Critical Vulnerability: The Impact of the submarine threat on Australia's maritime defence 1915-1954, Sea Power Centre, Canberra, 2005

Secretary of Defense, Quadrennial Defense Review Report, US Department of Defense, Washington, DC, 2010

01 OPERATION NEPTUNE – RNZN 75TH ANNIVERSARY

The Royal New Zealand Navy (RNZN) (*Te Taua Moana o Aotearoa*, or 'Warriors of New Zealand's Seas') commemorates its 75th Anniversary in 2016. Formed in fire, the New Zealand Navy traces its formation to four momentous events, the first when Abel Tasman was attacked by waka, north off Poponga and Collingwood, in the Cook strait. The next major encounter with a European Navy occurred in 1769 and subsequently in 1773 and 1777, during Captain James Cook's voyages' of exploration. In 1840, enabled through the offices of Captain William Hobson RN, the first Governor of New Zealand, the Treaty of Waitangi was signed, making New Zealand a colony of the British Empire. Failure to uphold the articles outlined in the Treaty of Waitangi document, deemed to have been negotiated in good faith, led to the Land Wars of 1845 to 1872. Through the recommendations of the Waitangi Tribunal (established in 1975 by the Treaty of Waitangi Act), the NZ Government has worked to resolve many of grievances submitted by the different *Iwi* or People of Aotearoa:

> 'The Crown unreservedly [apologised] for not having honoured its obligations to Ngāti Pāhauwera under the Treaty of Waitangi (*Te Tiriti o Waitangi*) and through this settlement the Crown seeks to atone for its wrongs and to begin the process of healing.'

The Māori and, largely, British killed in the wars are remembered in the Auckland War Memorial with a moving epitaph: 'through war they won the peace we know'. Almost 20% of RNZN officers and ratings are Māori, and things Māori are central to the identity of the Service, valued by Māori and *Pakeha* (non-Māori) alike.

Twelve years later, New Zealand purchased four torpedo (spar) boats and in 1887 commenced funding of the Australasian Auxiliary Squadron of the Royal Navy. As Britain rearmed to face Germany, the New Zealand Government paid for the building of HMS NEW ZEALAND, an Indefatigable class battlecruiser commissioned into the RN in 1912. She served with great distinction throughout World War I and in the battles of Heligoland Bight, Dogger Bank, and Jutland, and the Second Battle of Heligoland Bight; contributing to the destruction of two enemy cruisers. She earned the reputation of being both a good and lucky ship – attributed by her crew to a *Māori piupiu* (warrior's skirt) and *hei-tiki* (pennant) worn by the Captain during battle.

The New Zealand Division of the Royal Navy became the Royal New Zealand Navy by Order in Council on 1 October 1941. Operation Neptune was chosen as the title for a yearlong programme of events and activities to celebrate in recognition of HMS NEPTUNE, largely crewed by the New Zealand Division of the Royal Navy and sunk by mines on the night of 19 December 1941. The New Zealand crewed HMS ACHILLES participated in the first major naval battle of World War II, the Battle of the River Plate; forcing the scuttling of the German pocket battleship ADMIRAL GRAF SPEE. HMS LEANDER escorted the New Zealand Expeditionary Force to the Middle East in 1940, and was then deployed in the Mediterranean Sea, the Red Sea, and the Indian Ocean. After serving in the Mediterranean she returned to the Pacific in 1943, assisting in the destruction of the Japanese cruiser JINTSU. In August 1945, HMNZS GAMBIA was New Zealand's representative at Japan's surrender.

Although downplayed, the mutinies of 1947 – as did the RN Invergordon Mutiny of 1931 and the Royal Indian Navy mutiny in 1946 – in retrospect had a significant impact not simply in defining New Zealand's post-war Navy but also, socially, as New Zealand developed its own unique compact, social contract and distinct political-sûréte-economic identity.

The RNZN served with distinction during the Korean War, when six Loch Class frigates were deployed (HMNZ Ships HAWEA (F422), KANIERE (F426), Pukaki (F424), ROTOITI (F425), TAUPO (F423), and TUTIRA (F420)); leading Nelsonian night raids against coastal targets. RNZN medical personnel deployed in April 1967 to Vietnam, where they remained until 1971.

The RNZN supported International Force for East Timor (INTERFET) in 1999 and 2000, with the deployment of two frigates, the Anzac class HMNZS TE KAHA (F77); the Leander class HMNZS CANTERBURY (F421); and, the tanker HMNZS ENDEAVOUR (A11).

The emerging amphibious future of the RNZN as an influence-enabler; upholding UNCLOS; and, maintaining an asymmetric offshore counter-balancing (AOCB) strategy – as a close Ally of Australia and with strong economic ties to China – appears significant. The role of Navies as a means of bringing together peoples of different backgrounds to find common purpose should not be underestimated.

NAVANTIA AVANTE CLASS PROPOSED FOR SEA 1180

Navantia is proposing the Avante class as a contender for the SEA 1180 OPV programme. SEA 1180 replaces 26 patrol boats, including 13 Armidale-class, in a contract worth $1.5AUD. The Avante 1400 design has a length of 79.9 m, a beam of 11.8 m and a draught of 3.7 m – displacing 1,500 tonnes at full load. It can carry a complement of 35 with space for an additional 30.

BORDER FORCE CAPE-CLASS PATROL VESSELS LOANED TO NAVY

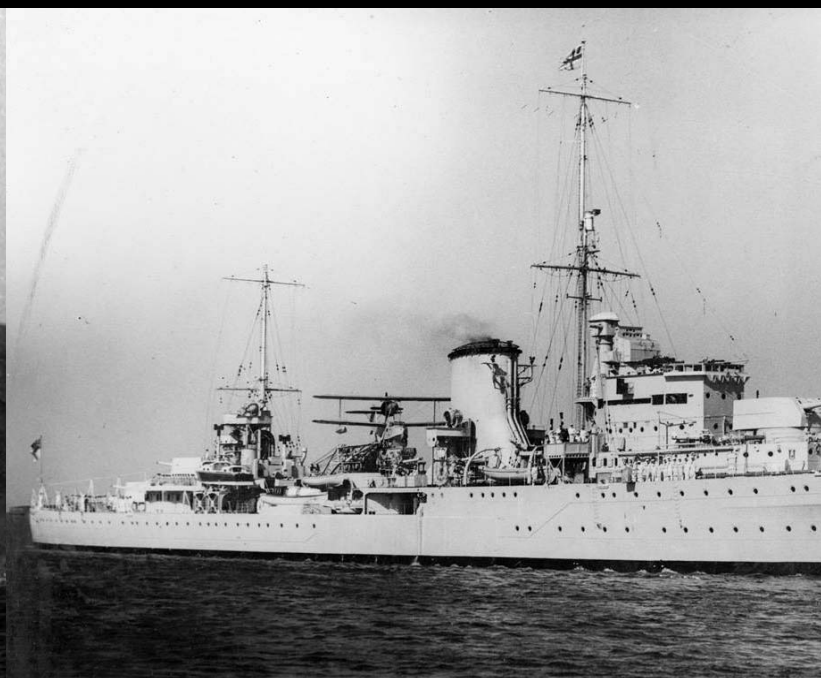
The Australian Border Force (ABF) has transferred two Cape class offshore patrol vessels to Navy to address ABF crewing constraints; while enabling RAN to meet its border security obligations, exacerbated by the loss of HMAS BUNDABERG (PB 91) and the introduction of the Armidale class remediation programme.

Crewing both classes of ship by RAN and ABF for extended patrols in northern waters is proving a challenge to both Forces – but potentially more so for ABF. Additionally, different Command and Control arrangements; Rules of Engagement (RoE) and a non-Association work force tend to make the RAN PBs a more responsive, productive and agile force.

CAPE BYRON was transferred in July and CAPE NELSON in 1 October 2015. Both vessels have

01A The four Leander frigates HMNZ Ships CANTERBURY, WAIKATO, OTAGO and TARANAKI.

01B HMS ACHILLES V (70) largely crewed by the New Zealand Division of the Royal Navy.



now been commissioned and are being operated by RAN crews. The ABF operates six Cape class boats, down from eight, with a consequent impact on shared operational capacity and capability. It is unclear when the ABF will be in a position to sustain command for all eight PBs.

02 U.S. STRENGTHENS NAVY EXPEDITIONARY FAST TRANSFER (EPF) PLATFORM (JHSV) ROLES IN ASIA-PACIFIC

Following a four-month deployment on the USN's Pacific Partnership 2015 programme USN MILLINOCKET (T-EPF-3) is to be employed to test out new operating concepts in the Asia-Pacific. One of three US Navy catamaran transport ships currently operated by the service's Military Sealift Command, the USN-led Pacific Partnership 2015 programme provides multilateral humanitarian and disaster relief (HADR) training; working with Fiji, the Federated States of Micronesia, Kiribati, Papua New Guinea, the Philippines, the Solomon Islands, and Vietnam. JHSVs have been re-designated as Expeditionary Fast Transfer (EPF) platforms - procured to meet the US armed forces' high-speed intra-theatre transportation requirements. These versatile modular ship systems are likely to become the backbone of the US Navy in South East Asia – particularly as Defence cuts impact larger programmes, e.g., the Littoral Combat Ship.

INDONESIAN NAVY CHIEF HONOURED FOR TIRELESS WORK

Indonesia's former Chief of Navy, Admiral (Dr) Marsetio, has been appointed as an honorary officer of the Order of Australia, in recognition of his tireless work to enhance defence ties between Indonesia and Australia. The citation singles out Admiral Marsetio's work in establishing regular exercises between the Indonesian Navy and the Royal Australian Navy, and his 'courageous leadership'. Admiral Marsetio said the award was reflective of the strong relationship between Indonesia and Australia's Navy.

Admiral Marsetio concluded: 'our relationship will continue to move forward, the Royal Australian Navy will always be in my heart'.

INDONESIA TO BAN FOREIGN-CREWED TRAWLERS AND FOREIGN-OWNED TRANSPORT SHIPS

The 12-month moratorium on relicensing large trawlers is likely to be extended by Indonesian Maritime and Fisheries Minister Susi Pudjiastuti. Ms Pudjiastuti wants to break the grip of foreign interests on the nation's rich sea fisheries and next month will begin setting out policies for regaining control. Learning from Australia's approach, since November 2014 Indonesia has ordered the blowing up of more than 90 foreign pirate trawlers. The audit of the industry commissioned by her, revealed that the most damaging practices were being perpetrated by licensed, nominally Indonesian fishing companies. To combat this, plans now include prohibiting transhipment, transfer of cargos trawlers at sea to reefers for processing in other countries.

This is an area of ongoing, discrete and increasing cooperation between Australia and Indonesia that is having three beneficial outcomes: a) improving understanding between the two countries; b) establishing norms of fishery protection, in accordance with UNCLOS and c) acting to deter illegal practices (including piracy and human trafficking) on the high seas.

HMAS WALLER REPAIRED AND READY TO RE-JOIN FLEET MID 2016

Repairs to the RAN Collins class submarine HMAS WALLER (SSG 75), following a fire in February 2014, have been largely completed. The boat will be available for operational programming, following work-up in mid-2016.

Rear Admiral Tony Dalton, acting general manager for submarines in the DoD's capability and sustainment group (CASG), informed a select committee that WALLER was expected to be back in the water by the end of 2015 and that end-to-end testing on the final stages of the repair was currently under way

LAST RIVER-CLASS OPVS FOR THE UK ROYAL NAVY

Construction has begun by BAE Systems for the last of three River-class Batch 2 offshore patrol vessels (OPVs) for the UK Royal Navy. The first steel for HMS TRENT was cut on 7 October. The first two of the class, FORTH and MEDWAY are scheduled to be delivered in 2017, followed by TRENT in 2018. The vessels are being purchased to maintain UK shipbuilding activity between major build programmes, such as the Type 26.

DUGONG 15 - INTERNATIONAL MINE WARFARE EXERCISE

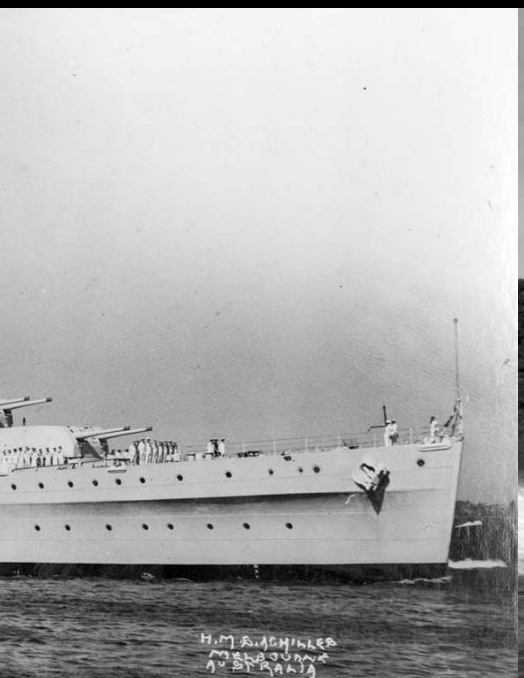
Exercise DUGONG 15, a mine countermeasures running from Hobart and involving seven Navies completed in late October. The exercise involved mine warfare and dive teams from Australia, Canada, the UK and U.S. and included two weeks to practice contemporary mine warfare and dive salvage techniques and procedures. New Zealand also took part, deploying headquarters personnel. Two Swedish officers and one Indian officer attended as observers.

Commander Australian Mine Warfare Clearance Diving Task Group, Commander Max Muller RAN, said maintaining freedom of navigation and movement through sea lanes for legitimate maritime trade was of vital importance to Australia and our allies:

> 'Ninety-eight per cent of our trade by volume travels by sea – so it is important we preserve maritime security and remain at the cutting edge of mine warfare and salvage diving, to keep maritime traffic flowing'.

Units representing Australia at DUGONG 15 included: Mine Warfare and Clearance Diving Task Group, Sea Training Group, HMAS YARRA (M87), DMS Seahorse Horizon, Mine Warfare Team 16, Australian Clearance Diving Team Four, the Defence Science and Technology Group, Australian Maritime Warfare Centre, the Mine Warfare Faculty and the Guided Weapons Sustainment Program Office, along with the Hobart based Australian Naval Reserve Diving Team Ten.

02 USNS MILLINOCKET (T-EPF-3) docks in Pohnpei Micronesia.



AMPHIBIOUS READINESS ELEMENT – ARE READY, AYE READY

The Amphibious Ready Element (ARE) demonstrated its capacity in waters off the North Queensland coast during the Sea Series exercises.

The exercises enabled the amphibious force to achieve an interim operational capability (IOC).

The exercises comprised 1100 embarked military forces (EMF) and crew on board HMAS CANBERRA (L-02) with medium lift helicopters, landing craft and small boats, trucks, troop carriers and other vehicles. The EMF included major elements of 2nd Battalion, the Royal Australian Regiment, and 5th Aviation Regiment supported by HMAS STUART (FFH 153), Air Force assets as well as other government agencies.

Major General Smith reported

'The [ARE] has been tested in scenarios that reflect tasks that the Australian Government may direct in response to local and regional emergencies'.

Commander of the Amphibious Task

Force (CATF), Captain Jay Bannister, RAN stated:

'The training enabled a diverse and capable force embarked in HMAS CANBERRA, to learn how to operate as an Amphibious Joint Task Force. The exercise also provided us with an opportunity to rehearse for future humanitarian assistance and disaster relief missions with the support of colleagues from the Department of Foreign Affairs and Trade and the Australian Federal Police'.

03 DSME AND NAVANTIA REPLENISHMENT SHIPS PROPOSAL FOR RAN

SPS CANTABRIA (A15) previously spent nine months operating with Navy and forms the basis for Navantia's design proposal for SEA 1654 Phase 3.

Also competing is the South Korean shipyard Daewoo Shipbuilding and Marine Engineering (DSME) whose proposal is based on BMT's Aegir 18A support ship design. The DSME design proposal has a length of 180 m, beam of 26 m, draught of 13 m, and a standard displacement of 25,800. The design is apparently very similar to the logistics support vessel that is being built for the Royal Norwegian Navy

KOREAN EXERCISE REFINES ASW SKILLS WHILE POISING DILEMMAS

HMA Ship's STUART and ARUNTA worked with the Republic of Korean Navy during Exercise Haedoli-Wallaby 2015 off the coast of Busan, Republic of Korea. The exercise comprised AP-3C Orion aircraft from the Royal Australian Air Force's 92 Wing in Edinburgh, South Australia and

Republic of Korea ships JEON BUK (Incheon class frigate), CHUNG NAM (Ulfan class frigate) and SUNG NAM (Pohang class corvette) along with submarine CHOE MU SUN and multiple RoK aircraft.

The two forces conducted joint anti-submarine warfare (ASW) and seamanship drills over two days, honing their skills and further strengthening the interoperability between the Republic of Korean Navy and the Royal Australian Navy.

POISING BETWEEN THE DRAGON AND THE EAGLE – A ROCK AND A HARD PLACE

Time, timing and tempo the three relatives are what make events into crises. The timing of Australia' planned exercises with the PLA Navy's South Sea Fleet and visit to the Chinese naval base of Zhanjiang places the RAN in a highly delicate position.

Following the exercising of rights of Freedom of Navigation (RFON), by the U.S. guided missile destroyer USS LASSEN (DDG 82) and Australia's strong rebuke against China's extensive reclamation and construction work in the South China Sea, HMA Ship's STUART and ARUNTA (after their successful exercises with the Republic of Korea) maintained their programme. There was some thought that the exercise may be cancelled but this may have been the more of two evils. There was also consideration that both ships, on returning to Australia, might exercise RFON in a manner similar to the USN LASSEN shaping operation. Not-surprisingly this has been ruled out by the Turnbull government. Nonetheless, at some time – if Australian credibility is to be maintained – Australian ships and aircraft are going to have to run the RFON gauntlet.

The eventful coincidence of the scheduled exercises and the U.S. exercising of RFON in the South China Sea exposes U.S., Australian, and Allied incoherence and plays to Chinese advantage. The question facing Australia becomes more if than when – an unstable position within the Extended Deterrence model. This places additional pressure on Australia to commit to exercising RFON in the South China Sea or risk perceptions, already being adroitly exploited by China's state media, becoming the de facto reality.

As Rear Admiral James Goldrick RAN (rtd) has argued, rights of freedom of navigation 'need to be [exercised] repeatedly, independently, non-provocatively and without fanfare'.

U.S. ACADEMICS ADVOCATE AUSTRALIAN NUCLEAR DETERRENCE

Christine Leah (an Australian educated academic) and Crispin Rovere consider that over the past century, Australia has been America's most dependable military ally. In every major U.S. conflict, including World Wars I and II, Korea, Vietnam, [Afghanistan] and Iraq, Australians have fought alongside.

Recognising that, 'as competition between China and the United States heats up in the Western Pacific, Australia…is doing all it can to keep its options open' they nevertheless maintain that 'Australia is highly vulnerable to long-range missile attack'. In a high-intensity conflict between the U.S. and China, they fear 'that China may target Australia with long-range nuclear missiles as a step up the' deterrence escalator and 'demonstrating to the U.S. its capacity, and willingness, to conduct nuclear strikes over intercontinental ranges'. In this eventuality, they suggest, extended nuclear deterrence provided by the U.S. would have failed and 'retaliating on Australia's behalf would demonstrably mean accepting large-scale nuclear attack by China on continental U.S. (CONUS). Australia's lack of an effective independent strategic deterrence (as for U.K. and France) would make Australia less and not more vulnerable in such a scenario. Leah and Rovere contend that 'the most effective means for Australia to insulate itself from long-range nuclear attack is to develop or acquire its own reliable long-range nuclear deterrent'.

If Australia, a non-nuclear weapon state party to

03A BAE Systems Type 26 Contender for SEA 5000 with CEAFAR Radar (with only 8 in the Royal Navy's T26 sub-class this now appears like a less likely solution).

the Non Proliferation Treaty, went nuclear, this could lead to further nuclear-weapon proliferation in the region. However, Leah & Rovere believe this view is fundamentally flawed and that 'if Australia determined it was a national security imperative to develop an independent nuclear deterrent, it would be legally entitled to do so' within the bounds of the NPT. As this legal status does not apply to America's other allies in the Asia-Pacific, a changed nuclear status by Australia under the NPT would not therefore automatically undermine the treaty as a whole.

Finally, they suggest that 'regardless of Australia's future nuclear choices, just acknowledging the legal reality of Australia's unique status under the NPT would support America's long-term strategy for peaceful co-adaptation in the Asia-Pacific. They recommend that the U.S. government should do so as a matter of priority.

By Ed.: In the paradoxical quantum world of Nuclear Deterrence, where zero can be less-more or more-less, not being in a position to influence the Deterrence Escalator (up and down) increases uncertainty rather than reducing it. To change the emerging symmetry, an Australian 'declaration of co-adaptive Deterrence' may make Australia less vulnerable; so reducing uncertainty and restoring stability.

AUSTRALIA-U.S. REBUKES BEIJING'S SOUTH CHINA SEAS' ISLAND GRAB

The U.S. and Australia have issued a strong a strong rebuke against China's extensive reclamation and construction work in the South China Sea (SCS), and reiterated calls to uphold rights of freedom of navigation (RFON) including overflights in the disputed waters.

Australian Foreign Minister Julie Bishop urged 'all parties to not act unilaterally, (and) to not act in a way that escalates tensions, with primacy given to the principles of freedom of navigation, (and) freedom of flight'.

Australia supports Washington's plan to exercise rights of freedom of navigation patrols inside the 12-nautical-mile zone of China's new islands – waters Beijing claims as its own.

U.S. Defence Secretary (SECDEF) Ashton Carter reaffirmed that the 'U.S. will fly, sail and operate wherever international law allows, as we do around the world, and the South China Sea will not be an exception'.

China retorted: 'some countries, in a region far from their own lands, have deployed offensive weaponry on a large scale and flexed their military muscles again and again in the South China Sea'. Parrot-phrasing Russian statements on the SCS, a Chinese spokeswoman stated: '[these countries (meaning the U.S.) are] the biggest factor in the militarisation of the South China Sea. We hope the relevant countries cease hyping up the SCS issue and scrupulously abide by their promises not to take a position on the territorial disputes'.

The Chinese Embassy in Canberra stated less diplomatically: 'it would be more helpful if they could honour their commitment of not taking sides on relevant disputes and do more to promote regional peace and stability in the true sense of the word, rather than light a fire and add fuel to the flames'.

President Barack Obama reportedly stated that he told Chinese President Xi Jinping he had 'significant concerns over land reclamation, construction and the militarisation of disputed areas' during Mr Xi's first state visit to Washington.

Mr Carter (SECDEF) observed that 'uncertainty in the SCS is having the effect of increasing [U.S.] interaction with other partners in the area – its having the effect of increasing the desire [of countries like Vietnam, India, the Philippines and Japan] to cooperate with the United States'.

RUSSIAN WARPLANES BUZZ USS RONALD REAGAN (CVN-76) IN SEA OF JAPAN

In a sign of increased co-operation, if not yet a collaborative campaign, Russian Tu-142 Bear aircraft flew past the RONALD REAGAN, while on manoeuvres in the Sea of Japan (SoJ). Bordering the East China Sea (ECS), territorial disputes between Japan, Korea, Russia and China continue to fester. Fighter jets from South Korea and the US intercepted the two Russian warplanes after they flew close to USS RONALD REAGAN.

A White House spokesman sought to downplay the incident calling it 'not a particularly threatening encounter' and noting that the RONALD REAGAN was operating in international waters.

The incident occurred days after the USS LASSEN (DDG 82) exercised US rights of Freedom of Navigation (RFON) in the South China Seas.

Of growing concern to the U.S., is that while Russia and China appear increasingly able to coordinate global military influence-operations (GMIO), the U.S. has few reliable partners that can 'collaborate at reach', from the Atlantic and Mediterranean to the Pacific. The UK appears permanently out of the game and Australia and Japan are regional – not global – powers.

CHINA TO VETO FINDINGS OF INTERNATIONAL TRIBUNAL OVER DISPUTED ISLANDS IN THE SOUTH CHINA SEA

As predicted by the *Navy League Magazine*, Flash Traffic, vol. 77, no. 4, Oct 2015, China will veto any rulings arising from the Permanent Court of Arbitration's decision that it did have jurisdiction in the South China Seas (SCS). Manila maintains that the UN Convention on the Law of the Sea (UNCLOS) should be used to resolve the territorial row over China's Great Sand Wall programme.

China maintains it has sovereign rights to the South China Sea, a strategic waterway – similar in historical, maritime, geo-strategic and trade terms to the Mediterranean – through which a third of the world's traded oil passes.

The hearing is now to be held behind closed doors in The Hague, and a final decision is not expected until 2016. Rather than making matters better – the ruling may act to escalate tensions and encourage further destabilising Chinese brinkmanship.

LLOYDS REGISTER TAKES ON CHINESE SHIP-BORNE MODULAR NUCLEAR ENERGY (SMNE) SYSTEMS

On transfer of naval design and construction expertise from MOD Bath, Lloyds Register (LR) took the UK Nuclear Deterrence Force and its Nuclear

03B DCNS Future Frigate SEA 5000 Proposal.

Attack Submarines 'into class', in a highly classified section separated from its other areas. LR now acts as the Design Authority for all UK Submarines and an increasing number of RN surface vessels. Given China's nuclear partnership with LR, this gives a whole new meaning to the term Chinese walls 'as a barrier restricting access to information – conceptually, physically or through governance and policies'.

Lloyd's Register announced a co-operative Framework Agreement with the Nuclear Power Institute of China (NPIC) in Chengdu, to assist in the design and development of safe and secure ship-borne modular nuclear energy (SMNE) systems (containing small nuclear reactors) for commercial application.

Mark Bassett, the Nuclear Director at Lloyd's Register Energy (LRE), stated: 'NPIC recognises LR's unique combination of experience in nuclear, offshore and marine safety and regulation. Because we apply our expert knowledge to help clients design, construct and operate capital intensive assets to their highest levels of safety and performance, NPIC have asked us to help them safely achieve this technically challenging offshore nuclear programme'.

NPIC stated: 'there is substantial opportunity to further efforts in developing safe, clean and sustainable power generation for the future, and our latest initiative to develop energy supplies to offshore oil installations through nuclear power is just one example of how we are seeking to innovate and apply new ways of using nuclear technology for robust power supply. We look forward to working with LRE on this ground-breaking nuclear project. We also believe this Framework Agreement will create more business opportunities for future cooperation between NPIC and LRE'.

Melvin Zhang, LRE's Vice-President of Strategic Development for Greater China confirmed this as marking 'the beginning of a ground-breaking initiative for the Chinese nuclear industry, taking nuclear power generation offshore'.

At the core of a successful nuclear energy programme for Australia will be the development of its own commercial energy business. Modular nuclear energy (MNE) systems are of particular interest to Australia: the provision of energy to remote communities and the mining industry – thus reducing expensive reliance on imported carbon fuels (diesel); reducing carbon footprints; and, improving national energy security. The same MNE technology being would be ideal for fitting to Australia's last batch of 4-6 Future submarines. But, as UK and China both recognise essential to a successful defence maritime nuclear propulsion programme, is a safe, secure and viable commercial sector – afloat and ashore.

Lloyds Register believes that their collaboration with NPIC 'is a powerful alliance to support the development of floating nuclear power generation'. A question for UK becomes 'how far can LR's Chinese Walls be made to stretch?'

NEW CHIEF SCIENTIST DR ALAN FINKEL GOES NUCLEAR

Embracing the scientific community, Prime Minister Malcolm Turnbull stated science will ensure 'we won't be cowed into fearful desperation'. Continuing this theme, the new Chief Scientist envisages an Australia with no coal, oil or natural gas and says nuclear power plants should be considered as part of the country's energy future. Dr Finkel's vision 'is for a country, society and world where we don't use any coal, oil or natural gas, where we have zero emissions electricity' He said the best way of getting to zero-emissions was by introducing viable alternatives, not just turning away from coal: noting the cost of infrastructure, 'nuclear should absolutely be considered as one of those alternatives if demand for energy increased'.

The PM stated that:

> 'Energy poverty is one of the big limits on global development'; while noting that 'the pace of improvements in renewable technology and storage [technologies] has been extraordinary'.

ENERGY STATE PRESSING FOR NUCLEAR OPTION

The Prime Minister is backing a nuclear industry for South Australia and the creation of a nuclear fuel cycle industry in Australia. Commending the ALP South Australian Premier Jay Weatherill for setting up an inquiry to consider if the state should have a nuclear industry, he said that 'while he was sceptical about the need for nuclear power, Australia should become involved in the nuclear fuel cycle to produce fuel rods, export them and then transport them back home once used, and store them in outback nuclear waste dumps'.

The significance of the Weatherill-Turnbull initiative is that it provides cross-party, bi-partisan support for establishing a nation-wide debate for securely balancing Australia's future complex energy needs. This debate goes beyond the storage of used rods and into the nuclear fuel cycle; including ultimately the use of nuclear energy in Australia. In the first instance this could mean developing ship-borne modular nuclear energy (SMNE) systems for use offshore. SMNE systems, however, are equally viable in remote mines and communities – increasingly reliant on carbon (diesel) imports. Crucially, there is a tight coupling between energy and cyber security – a nexus fundamental to Australia's future viability as a Knowledge Enterprise Economy (KEE).

Senator Edwards commissioned extensive research, for a submission to the South Australian Nuclear Fuel Cycle Royal Commission. His results suggest 'an ambitious model of services predicated on providing custody of used fuel, rather than disposal, paired with the committed commercialisation of the infrastructure required to undertake complete recycling of the material while generating zero-carbon electricity'. Senator Edwards four-stage approach includes:

1. A multinational independent spent fuel storage installation;
2. An industrial-pilot scale fuel recycling and fabrication facility based on processing;
3. Inherently safe fast-breeder nuclear reactors; and,
4. Deep borehole disposal of short-lived waste products.

Dr Raymond Spencer, the chairman of South Australia's Economic Development Board, concluded

03C F125 Project - Baden-Württemberg class of frigates.

'there is potentially a major economic opportunity for South Australia in the safe management of spent nuclear fuel based on merging mature Intermediate Spent Fuel Storage Installation technology with Generation IV recycling and reactor technology'.

Rear Admiral Kevin Scarce, AC, CSC, RANR, the former South Australian Governor General, stated that a 30-to-40-year vision was required, and even if his final report recommended that a nuclear industry be established, it would take between 10 and 15 years to set up the necessary regulatory frameworks and protocols.

South Australia hosts 30 per cent of the world's known uranium deposits and BHP Billiton's Olympic Dam copper and uranium mine, 560 kilometres north of Adelaide, is the world's largest known uranium deposit. The nuclear fuel-cycle industry could be potentially lucrative for Australia, Finance Minister Mathias Cormann. Noting that opposition to nuclear energy was often ideological, he stated:

'the government is keeping an open mind on any proposals put forward by a South Australian royal commission into the nuclear fuel cycle, which could identify opportunities to diversify the economic base on nuclear power'.

As noted by the Navy League, see page 32, and also in recent *Navy League Magazine* articles by Mr John Strang (on Australia's future submarines) there is a strong case for offshore ship-borne nuclear propulsion. Such propulsions systems – or SMNEs – would be reliant on a thriving and successful nuclear industry complex (NIC) for their future viability. The industry can only begin to take shape once the decision is taken – the clock has not yet started. A decision needs to be taken soon – and should be connected with the delayed Defence White Paper (DWP). A clause to look at SMNE propulsion systems for Australia's last six boats – expected to commence production in 2030 – appears highly advisable.

CHINA TAKES AWAY UK NUCLEAR POWER STATIONS

In an incredible deal with China that must, at some point, stretch beyond credulity already damaged UK relations with its fellow nuclear power, the U.S., George Osborne – the British Chancellor – signed over three English nuclear power stations to China.

Nigel Inkster, former director of operations and intelligence for the British Secret Intelligence Service (SIS), stated 'the risks of Chinese involvement were hard to assess without seeing details of the contract setting out how the new plants would be run'. He warned it was possible that a hostile state could 'insert some kind of malware' deep in the software operating the reactors and that it was essential that Ministers insist that 'manual overrides are put in place to allow operators to shut down rogue software – we are right to want to know what the strategic risks are'.

A spokesperson for the British Prime Minister said: 'we are in a new era of engagement with China, we are working closely with them on a number of issues…we would not be pursuing this course of action if we felt there was a risk to security.'

MI5 (the United Kingdom's domestic counter-intelligence and security agency) has warned publicly that the 'intelligence services of China… continue to work against UK interests at home and abroad'. Security experts fear a growing divide 'between the money men [the City of London and the Bank of England] and the security side. The Treasury is in the lead, and it isn't listening to anyone – they see China as an opportunity, but we see the threat.' The UK Treasury, however, is keen to secure Chinese funding of AUD $50 billion for a nuclear reactor at Hinkley Point, in Somerset, and a second power station at Sizewell, in Suffolk. Both are required to keep the UK's lights on, given its lack of investment in nuclear energy technology from the 1980s on.

Paul Dorfman, of University College London's Energy Institute, observed: 'no one else in Europe would cut this deal. America wouldn't dream of letting China have such a part in its critical national infrastructure. The idea the UK is prepared to do it is frankly astounding.'

TRAFALGAR CLASS SSN EMERGENCY MAINTENANCE IN UAE

Confirming concerns of the British Navy's materiel readiness state and ability to safely maintain its nuclear submarine force, one of the UK's four Trafalgar Class submarines undertook emergency maintenance in UAE. The submarine suffered technical problems while on a top-secret mission in the Arabian Gulf and had to go alongside in Fujairah. The Trafalgar class entered service with the RN in the 1980s and are due to be replaced by the much delayed and problematic Astute class. The UK Submarine Force had previously been issued a 'Code Red' safety warning, after inspectors found radioactive leaks. The report by the Defence Nuclear Safety Regulator found that cracks in reactors and nuclear leaks were directly attributable to Trafalgar class submarines remaining in service beyond their design life.

UK NATIONAL DEFENCE ASSOCIATION (UKNDA) LAMBASTS STATE OF UK ARMED FORCES

Vice Admiral Sir Jeremy Blackman RN (rtd.) warned the UK Government the 'RN is in a perilous situation and needs 4,000 extra sailors to man its new aircraft carriers and nuclear submarine fleet'. UK Defence chiefs are apparently asking countries across the world to loan Britain sailors in a desperate bid to make up the numbers. Vice Admiral Sir Jeremy warned: 'from a naval point of view, there is a serious problem…without achieving those numbers it will be impossible to send ships to sea fully manned'. He stated that 'there is a serious manpower problem which will negate some of the investment we are making in equipment unless it is addressed. There is a deal on the table but it falls very, very far short'. In response, Defence Secretary Michael Fallon announced to the Tory Party conference that he would cut the number of RN officers by a further 300 and recruit just 600 extra sailors – 'until morale improves?' By contrast, the Chief of Defence Staff, Sir Nick Houghton, told Chatham House that the 'greatest risks which the defence board faces is related to our ability to recruit and retain skilled people'.

The two new RN 'white elephant' aircraft carriers, already being considered for mothballing, are expected to come into service in 2020 but there are concerns there are currently not enough sailors to crew them or pilots and planes to fly off them. Strategic Defence and Security Review (SDSR) 2010 made the gratuitous decision to get rid of its world renowned Fleet Air Arm and war-winning Harriers. UK Government is due to order more F-35 stealth jets but currently only eight have been purchased. The RN has sunk below its complement target – as warned of during SDSR 2010 – and will not be able to crew new ships and submarines about coming into service. Colonel Richard Kemp (rtd.), who commanded British forces in Afghanistan, commented:

'It is quite shocking that this country, which has produced the world's greatest Navy, should feel it should have to resort to recruiting from other countries in order to manage the very tiny Navy we've got today'.

The UKNDA recommended a check list with which to decide whether UK SDSR 2015 (with potential relevance to the delayed Australian DWP) is 'fit for purpose':

- Has the SDSR realistically and honestly analysed the changes to the security environment since 2010 and the weaknesses exposed in our defence capabilities?
- Has it identified the range of threats to our security both as a nation and as NATO member?
- Has it set out a clear strategic vision to enhance our security both now and in the future?
- Does the strategy have a convincing foundation of hard and soft power for its implementation; and is it supported by co-ordinated Government departments (led by an adequately staffed and funded FCO) and by the Intelligence and Security Agencies?
- What are the implications for conventional forces of the replacement nuclear deterrent and has cyber warfare received balanced attention?
- Will our Armed Forces be sufficiently adaptable and ready for the unexpected?
- Are we able to ensure supply of our key equipment and support requirements at need?
- Has the budget adequately catered for the nation's defence and security needs now and for at least the next decade?

Note: More of the same - UK SDSR 2015 has been released and has strengthened the RAF and Special Forces at the expense of the RN and British Army. HMS OCEAN (L12) is to be decommissioned in 2018 two years prior to the Queen Elizabeth Class (carriers) coming on stream and there is to be a sub-class of only 8 Type 26s.

04 THE CHINESE MOTTE; KEEP; BAILEY; GREAT SAND WALL – DRAGON'S POINT STRATEGY

Robert Cuthbert Blake,
NLA Strategic Assessment Correspondent

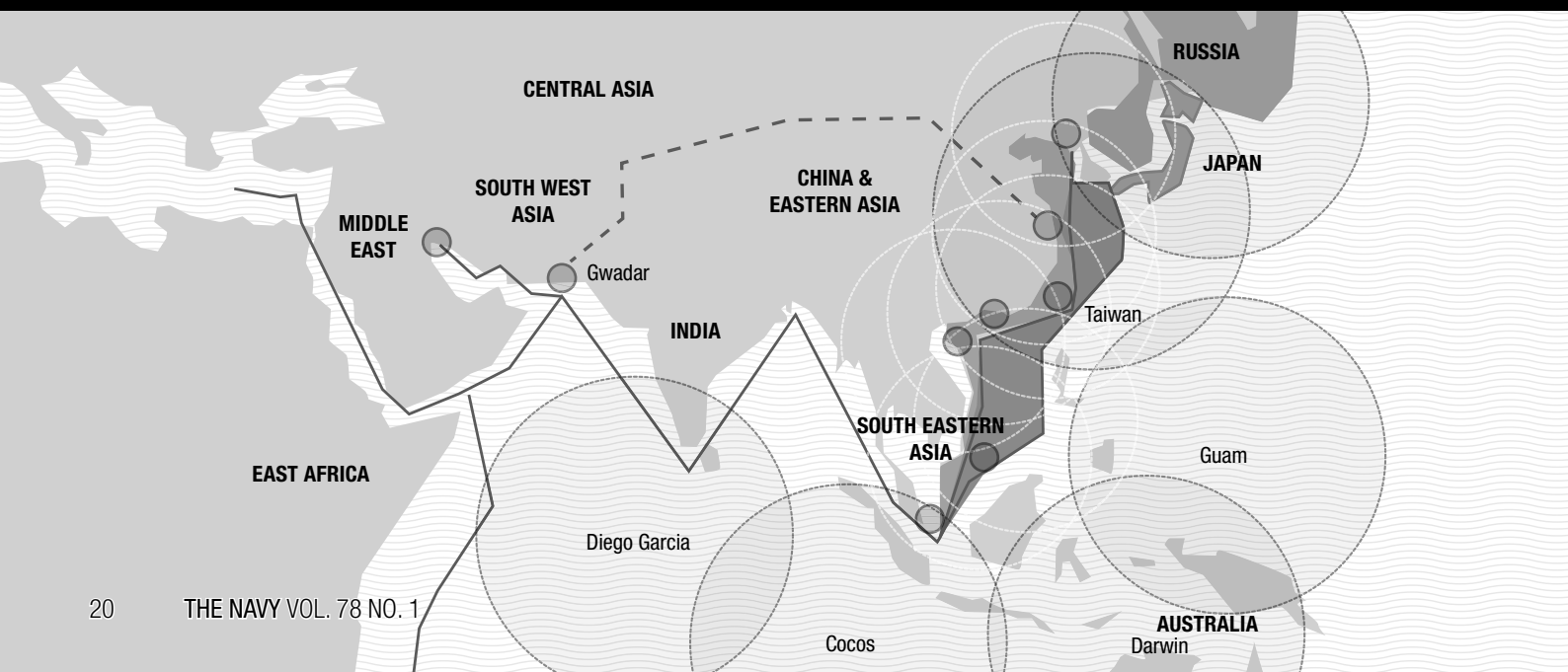
Chinese tactical strategy in the South China Sea is based upon two lines of defence; incorporating the 'nine-dash line', claimed by the Republic of China in 1946 following the defeat of Japan. The first line of defence is the network of China's Pearls, comprising its political-sûréte-economic relationships running along its south and western sea lines of communication (SLOC), from Shanghai and Hong Kong, around India, to Pakistan (Gwadar), non-ISIS Iraq (effectively now a political extension of Tehran) and Sudan. The 'near SLOC' forms China's 1st Island Chain, essentially a defensive network based upon the South China Sea and which forms the 'Bailey'. The 1st Island Chain includes Shanghai, Hong Kong, Hainan; incorporating Taiwan, and China's northern claims in the South China Sea. The 2nd Island Chain acts as an 'Extended Deterrence Network (XDN)' – acting as the Motte or bank of sand islands being called the 'Great Sand Wall'. The XDN extends to North Korea; incorporating claims on South Korea, Japan, the Philippines, Malaysia, Vietnam and the southern South China Seas, round to Singapore and the Straits of Malacca. Singapore and Tokyo are incorporated within China's 'Extended Pearls'. The 'Keep' is represented by mainland China; incorporating Taiwan.

The challenge to Japan, Australia, Singapore, Malaysia, and the U.S. is clearly evident. Those countries within China's intended 'Motte and Keep' (Vietnam, Taiwan, Singapore, Malaysia, Thailand and others) have a choice – to align with China or forever be working 'from the inside out'; accepting the de facto existential challenges to their Freedom [of Navigation] posed. The challenge to the West and those countries 'within the Pale', where Common and Customary Conventions on the Law of the Sea (UNCLOS) still apply, such as the Philippines, Indonesia, Japan and Australia, is that if Chinese claims are acknowledged and become settled, that they will always have to work 'from the outside in'. In the event of a future Chinese feint towards Taiwan this would mean 'crossing the machicolations', literally crossing the 'killing spaces' established by China's 'Near and Extended Deterrence Networks' (NXDNs) – its 'Sand Motte and Bailey'.

The challenge goes further, for the shape of the NXDNs acts also as a multi-pronged 'spier point' – China's so called 'Dragon's Spear' – aimed southwards; through South Eastern Asia to Australia and eastwards, towards South Korea and Japan. A very real existential challenge is being posed by China and, by extension, to the U.S. and to other countries in the region. If Australia, the U.S. and other like-minded countries fail to persistently uphold UNCLOS and the rights of freedom of navigation (by sea and by air) in the South China Seas, then they will provide de facto sovereignty to China's claims. If they take on China, then they will need the will, capability, capacity and determination to see the campaign through to a successful conclusion. And this may well mean putting soldiers, sailors and pilot's lives on the line. China (and Russia's) view is that the West – and the U.S. in particular – does not have the will and determination to see the matter through. This makes the matter even worse – for deterrence may well already have failed. If it has failed, then this will be seen in countries in the region making their own accommodations with China; so providing de facto and potentially even supporting de jure recognition of China's claims.

A Pushtun proverb says 'we have time; you (the

04 China's Dragon Spear (RCB)



Soviets, Russians, NATO, U.S., British, etc.) have your clocks'. China and Russia are relying on the strategic incontinence of the West and that Western powers will soon be distracted by other events, manufactured or otherwise – for example Russia's next border dispute with Estonia, say. And the West has demonstrated, in Iraq and Afghanistan that it does not have time on its side. If the West does not address the matter now and consistently over the next few years, it can only get worse. Indeed, the defeat of U.S. influence in the Pacific may already be occurring – without a shot being fired. But China should be careful, the Allies also have skin and time in this game – and our time may not yet be China's: we will need to use it cunningly and wisely.

05 STEEL CRISIS THREATENS UK TRIDENT NUCLEAR DETERRENCE FORCE

Work on the UK's Trident nuclear deterrent force may run into trouble following the mothballing of the Dalzell site. Indian owned manufacturing giant Tata announced on 20 October that it would be mothballing steel plate mills in Scunthorpe, Dalzell, and Clydebridge, as well as closing one of two coke ovens in Scunthorpe as part of a restructure of its Long Steel Products Europe business. UK Steel is the only mill in the country capable of producing the steel required for the UK's Trident submarine programme, as well as armour plating for a range of armoured vehicles used by the British Army. A UK MoD spokesperson stated 'steel for key defence programmes, including submarines, is sourced from a range of suppliers. It is the responsibility of prime contractors to obtain the steel required to complete MoD programmes at a competitive cost, within time constraints and to the required quality'.

AUSTRALIAN RESEARCH AND HIGHER EDUCATION CRISIS

Commenting recently, the Prime Minister noted that 'collaboration between Australia's universities, research centres and industries was weak'.

Occuring when there has been the shot gun wedding of CSIRO with NICTA; reorganisation of the Australian national nuclear research and development organisation (ANSTO) and the reduction in status, standing and name of DSTO – from Organisation to group (DSTg), a fallout from the First Principles Review (FPR) – Australian Research and Higher Education is in crisis. The crisis in Higher Education (HE) potentially goes further. *The Times Higher Education* 2014-2015 league tables, applying a dozen different indicators – including aggregated measurements of teaching, research and reputation – paints a conflicting picture. Although Australia has the seventh highest number of universities in the ranking, its Top 5 Universities are stabilising as a Tier 6 provider. Against comparative GDPs and populations and with English as its first language, Australia should be expected to have five universities in the Top 20 as opposed to the Top 60. In comparative terms, Japan and Canada do better. While study costs are clearly a driver, a question facing good (low risk) regional / Australian students, may be between studying 'at home', or attending better Tier 1, 2, 3 and 4 universities in the US, UK, Europe, China and Canada.

Unlike in the US, UK and Europe, Australia does not have an aspirational HE leadership *Academy* (Europe); a generous and engaged *philanthropic* base (US); or a *collegiate* system (UK), providing for *autonomous*, qualitative research-based higher education – other than through government funding and capped student grants. Concomitantly, Australian research and its universities are more exposed to *heteronomous*, existential leadership and management diktat and less immunized against shorter term political whims and performance management targets – constantly attempting to fatten the golden goose by measuring it.

Without adequate non-government funding (beyond Federal or State), an independent Academy and lacking principled research leadership, the HE and Research sectors are 'going nowhere fast'. DSTO is a case in point. In 2005, it was assessed as being the 'jewel in the crown of Allied Defence research organisations'. There were exciting programmes of work and research teams at the S&T cutting edge. By early 2015, DSTg had 574 vacant jobs (over 25% of its pre First Principles Review (FPR) establishment). According to a union spokesperson, a third of the job cuts outlined in the First Principles review could come from DSTg. The group also had a significant number of staff working in acting positions with as many as 10% receiving higher responsibilities pay.

In an answer to a question-on-notice from Labour's Defence spokesman, Senator Stephen Conroy, the DOD said 'many of the 574 positions would not be advertised or permanently filled. Defence has more positions established than funded to provide flexibility in workforce management'

Professionals Australia ACT director David Smith said the Australian public service's (APS) hiring freeze had probably further compounded the problem. He recognised that expert scrutiny by DSTg was more valuable than ever, as Defence bought numerous weapons at huge expense to taxpayers. Mr Smith went on to say: 'we knew a lot of [DSTO] staff were acting up but what we didn't know they were carrying that many vacancies – it's basically… hollowing out by stealth'.

DSTg is feared to be temporally and thematically sub-critical – exacerbated by changes to 'senior science leadership [made during 2013/14] performance management changes to DSTO structures'. Morale appears shaken; with an ageing S&T work-force looking increasingly for opportunities to leave or retire. Efforts to restore scientific prestige and standing in DOD, initiated by the Chief Defence Scientist (CDS), were not assisted by machinations of senior 'company-men', seemingly resentful of the imposition of a successful 'industry outsider'. Their manoeuvring may have come at a pyrrhic cost to Defence and DSTg. For example, as an indictment of senior Directors, the FPR found that '[DSTO senior management] struggled even to articulate clearly… the value it contributed to Defence outcomes'. The review recommended DSTO be merged with the Capability [Development] Group – now disbanded. FPR recommendations for DSTO were not taken up

05 Work on the UK's Trident nuclear deterrent force threatened by the mothballing of the Dalzell site.

by the Abbott Government – so the title DSTg may be no more than a halfway house.

To deliver Australian Defence & security and contribute to future Knowledge Enterprise Economies, research and research-based education is critical. The answer may not be 'more of the same' but in leading a new shared equity partnership (SEP) between academe, government and industry – broadly envisaged by CDS. A working model could be an extension of the Rapid Prototyping, Development and Evaluation (RPDE) program; incorporating DSTO, NICTA, ANSTO and Australian Universities with commerce and the DOD? Given DSTg executive failure to articulate a future or what they do, to the FPR, it is highly doubtful that current DSTg senior management can deliver. It is perhaps time for Likert-style senior change management and the cross-sector pulling through of those scientists who can lead Defence S&T? Lamenting the poor state of science in Australia, the outgoing chief scientist, Professor Ian Chubb said:

> 'If national science was a cricket team, Australia would have a few great players, but a pretty average team'.

06 RUSSIA-CHINA DEVELOPING MARITIME [HIGH-SPEED] CABLES CYBER INTERDICTION CAPABILITY (CCIC)

Russian submarine activity has increased 50% over the past year, according to the U.S. military; with growing concern that Russia and China could sever underwater fibre-optic cables upon which Knowledge Enterprise Economies depend. Russia has form in this area – exercised during the 2007 Estonian crisis (resulting in the formation of NATO's Cyber Command) and in 2008, in Georgia.

The *Navy League Magazine*, vol. 74, no. 4, Oct 2012 noted: 'Cyber/ Maritime Security, undersea high-speed data cables carry 95% of international cyber-internet communications'; worth an estimated $10tn for global business. The *Navy League Magazine,* vol. 77, no. 4, Oct 2015, 'Flash Traffic' recognised:

'the South China Seas (China's emerging Great Sand-wall) also represent the critical 'cyber-switch' for all Pacific and Asian knowledge enterprise economies (KEEs). The South China Seas include, specifically, the cyber choke-points (CCPs) of Singapore, Shanghai and Hong Kong – routing through the Malacca Straits, Hokkaido, Honshu, California, Vancouver, Bombay, and the Straits of Hormuz. Australia is reliant on all these switches and hi-speed cables for its Cyber traffic'.

Michael Sechrist, a former U.S. DOD project manager, reported: 'the risk here is that any country could cause damage to the system and do it in a way that is completely covert'. Russia and China could also be collecting data in order to eavesdrop on communications. Admiral Mark Ferguson USN claimed this was part of hybrid warfare:

'Involving the use of space, cyber, information warfare and hybrid warfare designed to cripple the decision-making cycle of the alliance. At sea, their focus is disrupting decision cycles'.

The U.S. recently tracked the Russian 'research ship', the YANTAR, carrying two deep-sea submersible, as it travelled towards Cuba and Guantanamo Bay – where a major U.S. undersea cable is switched. Russia and China are thought to be targeting the cables at their deepest points – alluded to in August Cole & Peter Stringer's recent book: 'The Ghost Fleet'. A UK diplomat has suggested that 'the level of activity is comparable to…the Cold War'. Commander of the United States' Navy submarine fleet in the Pacific, Rear Admiral Frederick J. Roegge stated:

> 'I'm worried every day about what the Russians may be doing'.

THREE CRITICAL STRATEGIC ISSUES FACING THE U.S. AND ITS ALLIES

Admiral Scott H. Swift USN, Commander, U.S. Pacific Fleet spoke eloquently and candidly during the Pacific 2015 maritime exposition and conference. Three themes were of specific relevance to Australia:

- With regard to U.S. standing on UNCLOS and RFON, he reaffirmed the U.S. as a maritime nation adhered and practiced the convention in all its dealings on the high seas. He noted the weakness of the current position was that the U.S. had yet to ratify the Treaty and felt that recent developments in the South China Seas (SCS) emphasised the need for the Senate to ratify, soon (the tide is turning): 'if we do not address the SCS issue shortly, it will become a shore problem'. He acknowledged the roulement of U.S. Marine Corps through Darwin of great benefit.

- On Cyber, he acknowledged the importance of the region and the increasing reliance of business on Cyber and the Navy on business for all its operations. Changes in thinking and working with Cyber are impacting strategy – and seen often in the way our young people use IT. A key question is how to sustain Cyber-Operations (CyOPS), over time? Note: as a pressing example there have been recent claims that Russia and China have been targeting European companies bidding for Australia's Submarine program.

- Admiral Swift, acknowledged that the GFC was an 'ongoing security issue'; impacting the US Navy and US Marine Corp's ability to 'reset the force' – to re-structure U.S. Armed Forces, post Afghanistan and Iraq. The GFC had impacted industry and ship-building, through the laying off of skilled personnel – now no longer available to shipyards. During times of austerity it was harder still 'to communicate value to Treasuries – when success is measured by nothing happening'. Nonetheless, he recognised that 'the financial cost of building carriers, in itself produces value'. ■

06 Russian Scientific Oceanographic Research Vessel (ORV) YANTAR

A TALE OF FOUR CITIES:

SPEECHES FROM CANBERRA, LONDON, SYDNEY AND WASHINGTON

Delivered by Vice Admiral Tim Barrett AO CSC RAN

This paper is a compilation and analysis of four addresses by Vice Admiral Tim Barrett, AO, CSC, RAN, Chief Navy in Canberra, Washington, London and Sydney drawing from his speech to the Royal College of Defence Studies (RCDS), London, 2 July 2015; his Presentation to the Navy League [of the US] Sea-Air-Space Exposition, Washington, 13 April 2015; his Addresses to the ASPI Future Surface Fleet Conference, Canberra, 31 March 2015 and to Pacific 2015, 6-8 Oct 2015

> 'If we do not provide security of the seas no one else can, or will, do so.'[1]

In addressing RCDS, CN posed two fundamental questions:

1. What does 'maritime power' really mean in the 21st century, when a new set of power aspirants is emerging?, and;
2. How much of that power should we aspire to, on our nations' behalf?

In his opening to Canberra, CN raised 'three issues of fundamental importance concerning: a) Lethality; b) Effects; and c), Ship Availability'. CN's opening gambit in London and his more pragmatic annunciation in Canberra may suitably be captured in Admiral Lord Nelson's signal to Earl Spencer, from the Mouth of the Nile, 9 August 1798:

> 'My Lord, was I to die this moment, want of Frigates would be found stamped on my heart. No words of mine can express what I have, and am suffering for want of them'.

Vice Admiral Tim Barrett, AO , CSC , RAN.

CN argued that how [we] answer the two questions posed in London, 'directly affects our nations' ability to defend and promote their security interests'. From which it may be deducted that, in answering them, Australia will need to address the subordinate design questions regarding lethality, effects and ship availability (quantity versus quality).

In Washington, CN's speech was entitled 'Mahan and Turner Restored: Naval Power and the Democratic State in the 21st Century'. In this speech, CN 'examined the contemporary relationship between maritime power and the decision-making powers of the state focusing on the [Clausewitzean] proposition that 'war is the continuation of policy by other means'. CN's central thesis was that 'any state that has its survival and the protection of its citizens in mind MUST retain sufficient lethality to preserve the peace and prosecute war when necessary':

> 'The constant that underpins the state's ability to continue policy by other means is the armed force available to it and its willingness to use that force'.

In Sydney, CN suggested that Navy is an intrinsic national capability, intimately connected to the social, economic, industrial and educational drivers of national well-being. It is about innovation. It is about continuous improvement. It is about Navy and the Nation. It is about the future. This means that our civilian intelligence personnel, our dockyard workers, our naval architects, our enlisted and commissioned personnel act collectively to maximise the strategic effect of our platforms and their capabilities. In CN's view, the key elements of this new conceptual architecture are:

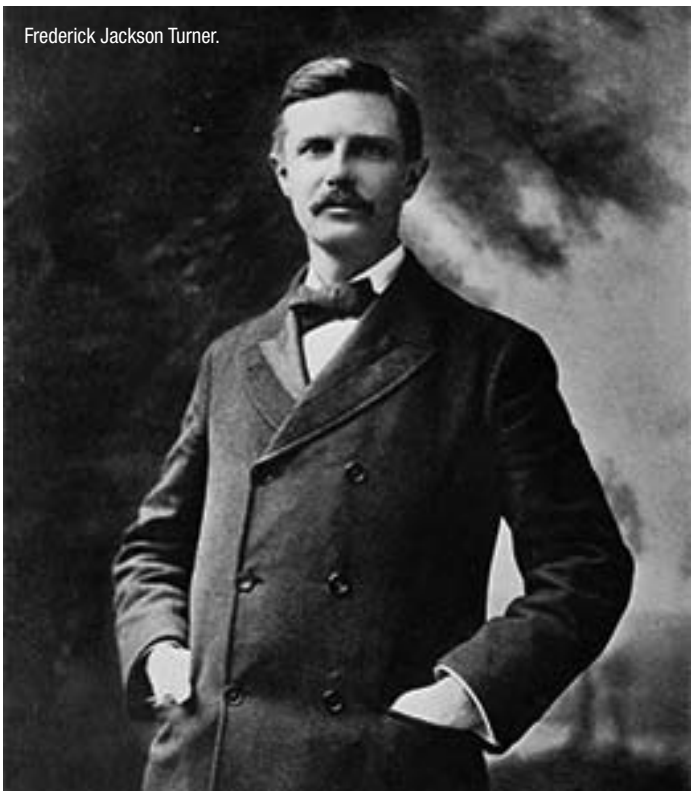
- Navy as a national [knowledge] enterprise;
- Navy as a system;
- the centrality of decisive lethality;
- the significance of deterrence as a consequence of that lethality;
- the importance of availability and sustainment affordability.

DECISION MAKING AND TAKING

The Russian Navy remains a powerful and constantly modernizing force. The Indian Navy is growing in both capability and reach. And the Chinese Navy has already demonstrated its ability to project power at long range. The Chinese Navy's deployment early in 2014 of an amphibious assault ship and two guided missile destroyers into the Indian Ocean was a palpable reminder of how ambition and reach are coming together in China.

Comments: CN's Washington speech was potentially more to do with 'decision and policy making' and differentiating sufficiently between decision-making (research, designing, planning and policy setting), strategy and 'a strategy', critical thinking and decision-taking (including policy implementation and capability delivery). In peace time Western Navies, the emphasis tends towards a form of decision-making and 'planning blight', with risk taken against research, new designs, critical-strategic thinking, implementation and delivery. It is this latter part of the equation that the First Principals Review intends to address – but we should not hold our breath.

In addressing the question of 'Mass' in London, CN suggested that 'the defining characteristic of maritime power [is] something more dynamic, more agile, more responsive to unanticipated change [than mass] and more flexible in the hands of skilled leaders'. In Canberra, CN considered the confluence of the LHD, Seahawk Romeo, and AWD programmes, arguing:


Frederick Jackson Turner.

> 'The timing of these program schedules has complicated the job of our national decision-makers, as they are faced with an increasing complexity and magnitude of the decisions that need to be made and the inherent inertia that naturally flows from making such large commitments. But they are decisions that need to be made. And if made decisively and deliberately, they will present opportunity for industry by providing greater certainty'.

At ASPI, CN described his role to be ensuring 'that everyone who impacts on the critical decisions that will generate the future fleet grasps the strategic purpose, the operational concepts and the capability requirements around which the future fleet is designed and funded, thereby ensuring expenditure is proportionate to the need…Given Australia's unique strategic position, you cannot simply buy naval capability, of consequence, off the production line like a C-17'. At RCDS, CN explored the nature of maritime power in the 21st century to identify its critical components, especially the strategic effect of being able to impose unacceptable costs on potential adversaries, and them 'knowing this to be so'. In saying this, CN articulated the Deterrence component of an effective Fleet; '[touching] upon the critical role of leadership and decision-making in the exercise of maritime power, and the growing significance of strategic manoeuvre as the critical driver of effective alliance operations, both joint and combined'.


The Previous Prime Minister with CDF and CN on board HMS CANBERRA (L02).

In London, CN politely sidestepped issues of international concern regarding the standing and status of the UK Armed Forces and the Royal Navy in particular. Instead, he noted only that: 'on…current trajectories, by 2040 [2] our two navies will not differ much in size, yet we will both be expected to meet current tasks as we take on new ones'. With this in mind, CN recognised 'his duty [as CN]…to revisit periodically, the fundamental concepts and principles that underpin the legitimate retention and use of armed force by the modern democratic state'. He reaffirmed that 'these concepts and principles provide the basic legitimacy, authority and credibility of the individual armed services'.

Noting Prime Minister Turnbull, CN recognised that 'one of the emerging characteristics of the 21st century is the power of disruptive technologies to provide new and completely unimagined opportunities – opportunities both to discharge existing tasks better and to take on new ways of doing things'. This technological interdependency he suggested has two significant consequences for Navy's future versatile, modular operating systems (VMOS):

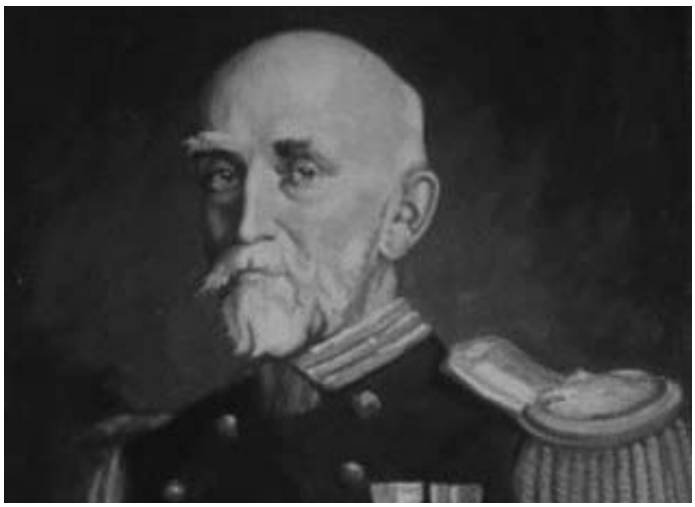
> First, it forces capability managers, especially the Chiefs of Service, to redefine their roles as network managers and systems operators rather than the simple owners of discrete military arsenals. It forces us away from platform-think to systems-think.
>
> Second, it forces capability managers to see the delivery of capability systems as a whole of nation enterprise.

MARITIME POWER: THE SEA-SCAPE

In setting the scene at RCDS, CN took 'a bird's eye view of where we [RN, USN, RAN] have come from over the past century as the relationship between naval power and strategic maritime power has continued to evolve'. He argued that 'the evolution of naval power in the 20th century went far beyond the development of battleships and heavy cruisers, the ability to mount complex amphibious operations, or to mount submarine operations on the scale of the Krieg marine under von Tirpitz – incidentally one of Mahan's most serious devotees'. In this respect, CN posited that Naval Power has become Maritime Power. He suggested that 'what we observe is that between the Battle of Jutland and the Battle of the Coral Sea, naval power evolved into maritime power… and that...mass at sea was not the determinant'. The basis of CN's London paper was that 'within a period of just over four decades, naval power evolved into maritime power by incorporating both air power and submarines as intrinsic components of both force projection and fleet protection'.

Note 1: The Battle of the Coral Sea is of significance to Australia yet it is the Kokoda legend and not the Battle of the Coral Sea that remains uppermost in Australia's thoughts. In less than two years' time it is the 75th Anniversary of the Battle of the Coral Sea. The Navy League led on the 50th Anniversary in 1992 when President George Bush (Sr) attended.

At RCDS, CN suggested that although the Battle of the Atlantic was the dominating factor all through the war in Western Europe, In the Pacific, the Battle of the Coral Sea began the defeat of Japan. This was the first naval battle in history where the opposing fleets could not see each other, at sea level. He went on to say, without in any way detracting from the strategic and logistic brilliance of the amphibious landing in Normandy, the fact is, that the United States and Australia conducted over forty amphibious landings together during the Pacific war. Our joint operations with the US Navy during the Pacific War set the scene for our consequent alliance with the US.



Alfred Thayer Mahan.

Rear Admiral James Vincent Purcell Goldrick AO, CSC, RANR.

Note 2: The remarkable British Pacific Fleet incorporating RN, RAN and RNZN capabilities had first to fight its way into the US Navy to, secondly, form a vital and respected part of the Pacific war. More details of this remarkable and most powerful ever of the Royal Navy's Strike Forces can be found in David Hobbs (2011) excellent book on the same, reviewed in *The Navy* Magazine. This was the model, in hindsight, the RN may have used to lead and build its Cold War navy, not the attritional cost-capability-driven structures it ultimately arrived at.

Ultimately, CN maintained that 'it is all about lethality and deterrence': our government wants to deter conflict and contribute to the maintenance of peace and security around the world. They can only achieve that, however, if they are able to deploy decisive lethality to sanction anyone who might wish to use armed force against us. Lethality is indeed the ultimate purpose of a navy. Fear of the consequences of that lethality is what deters armed adventurism – deterrence is a consequence of lethality:

> 'Lethality is the ability of Navy's fleet to generate decisive outcomes in conflict'.

SYNTHESISED SHIPBUILDING

> 'Only Creswell, a century ago, experienced a major fleet expansion in peacetime on the scale we will see in the decade ahead for our Navy.' [3]

Navy operates around the region and the world meeting our Government's tasking. Ultimately our peacetime task, along with other navies, is to provide what the old naval prayer calls: 'a safeguard for those who pass upon the seas on their lawful occasions'. The key problem in the RAN achieving this aim, as identified by Rear Admiral James Goldrick, is in managing 'the mismatch between the expertise that we can generate and sustain ourselves and the wide range of capabilities that we need to operate'. CN further recognised that 'the next decade presents us with expanded opportunities for building capability in partnership with others. More than ever, technology unites us; it enables us to be powerfully and seamlessly interoperable as never before'.

Noting the ASPI theme of the 'confluence of timing around major shipbuilding programs and…aggregated cost', CN reiterated the need 'to retain a focus on lethality as the core requirement for any future force'. For this he foresaw that 'better asset management [by Navy, Defence and industry]…[would] maximise availability'. CN further contended 'that in large part availability stems from the proper management of sustainment' and that 'the sustainment methodology for the ship (throughout its life and to the point of disposal) should be derived during concept design of the platform'. In essence, a return to CN's opening statements in Canberra regarding improved decision-making and decision-taking. CN recognised that a generational shift in our thinking and in our understanding of what Australians can and will do to provide for our future surface fleet has begun. Continuous shipbuilding recognises that we truly understand the nature of systems on ships and how they impact our planning for sustainment and availability.

CN further opined that 'one of the core responsibilities of the Service Chiefs is to ensure that the conceptual foundations and structural principles on which their service operates are well understood by decision-makers and operators alike during the force design process'. And 'it is essential to translate these concepts into effects to be achieved rather than to a prescribed solution which may focus solely on the platform'. He further articulated that 'operational effectiveness of the force is as much about platform availability as it is about weapons systems'. In essence, he surmised, 'the pressure is on me to make sure that our requirements planning processes are both disciplined and strategic: how we deliver our strategic goals must be determined by 'what' those goals are, not the other way round.

NUSHIP ADELAIDE (L01) and HMAS CANBERRA (L02) Garden Island Sydney July 2015.
Photo by Captain Jonathan Sadlier AM, RAN.

STRATEGIC SETTING

As a national strategy, continuous shipbuilding is not only about its primary purpose of building a fleet of ships. But at a deeper level, continuous shipbuilding unites the Navy and the Nation in a far-reaching strategic enterprise. This is because continuous shipbuilding invests the Australian

NUSHIP HOBART III (D39).

Devastators of Torpedo Squadron 6 (VT-6) on USS ENTERPRISE (CV-6) during Battle of Midway

Navy and the Australian nation with the means to deliver a common enterprise and at the same time to exercise a greatly enhanced global influence.

In Sydney, CN emphasised that Defence is a national enterprise and that Australia's strategic military focus must remain above, on and under the sea; noting that the distances we need to traverse remain a key consideration. Recalling Alfred Mahan, CN noted that:

> 'Seapower at its best enables the quiet and the weak to go about their business and to sleep securely in their beds.'

Referring to Andrew Gordon's book, 'The Rules of the Game' and his "Blinding Glimpses of the Obvious", CN reminded his London audience that: 'a service which neglects to foster a conceptual grasp of specialized subjects, will have too few warriors able to interrogate the specialists'. As a key watchword of the leader – perhaps deeply part of what may be described as Nelson's touch – CN advocated 'self-doubt and the consequent self-examination are critical attributes of the warrior':

> 'An inherent scepticism and a constant questioning of doctrinal mantras are the essential tools of strategic and operational relevance'.

Further elaborating on this position, CN went on to explain that 'warfare is always a contest of political will where the crucial weapon is the mind'. From this he deduced that 'the true test of our leadership is our agility of mind and the efficiency of our decision-making'. The capacity for strategic manoeuvre, he maintained, 'rests in our ability to ensure that our doctrine that gives effect to strategic intent is clear, up-to-date and properly understood by our fighting men and women'.

The essence of CN's London argument was to 'maintain focus on strategic effect – deterrence and domination of the adversary – rather than on the various tools [in other words capability driven strategy] by which we might achieve that effect'. To do this he advocated:

> 'First, we need to retain the ability to exploit and manipulate the strategic advantages deriving from our ability to project power at sea.
>
> And second, we particularly need to look to our strategic capacity for allied and coalition operations, to ensure that we have the mass and the flexibility to gain and hold control of the sea.'

This is where CN suggests 'interdependence and partnership come into their own'. And to achieve this, he suggests, 'it is absolutely critical that we maintain our focus on the cardinal capabilities that enable us to apply lethal force at the adversary's point of maximum vulnerability, where the application of that lethal force makes the greatest strategic sense'. CN explained these cardinal capabilities to be:

- First, force projection at a distance (the Battle of the Coral Sea)
- Second, the imposition of unacceptable costs (the Battle of Jutland)
- Third, targeted and decisive lethality (the Falklands War, and the first Iraq War)
- Fourth, agility, by which I mean the ability to take decisions quickly, to manoeuvre naval force with speed and flexibility, and to enhance survivability by ensuring that our warfighters are able to adapt doctrine and tactics to meet the needs of the moment (the Battle of Leyte Gulf).
- And finally, the 'exploitation' and 'manipulation' of the sea as the dynamic contemporary meaning of the traditional static concept of 'sea control' (which is what the RN achieved in the Battle of the Atlantic).

Maritime power, CN maintains, 'rests on core (and shared) national values that determine the unstinting support of the nation…to work [with our Allies] together to achieve a common strategic purpose'. Noting the eight hundredth anniversary of the signing of Magna Carta in 2015, CN was reminded of the need to think through 'what war is all about'. War is ultimately, he suggested, about:

> 'deterring, resisting and defeating any attack on the values that define us as nations'.

This, he concluded:

> Is the critical test of leadership – the ability to inform and strengthen our governments in setting clear strategic direction and providing the wherewithal to achieve that strategic direction, and to empower our fleet commanders and the captains of our warships to exercise their imaginations and initiative within the framework of clear strategic direction. ■

Note 3: *The Navy* Magazine acknowledges also the team of 5-6 Speech-Writers who work, often behind the scenes, to develop the concepts and vision of Navy, for CN.

1 CN Speaking to Seapower Conference, Sydney, 6-8 Oct 15.

2 By Ed., there is debate as to when the two trajectories may cross in terms of capability and capacity – some suggest as early as 2025 if the materiel and competency decline of the RN is not reversed in the UK's SDSR 2015. Such change will require a fundamental change in RN senior leadership.

3 CN, Seapower Conference, *ibid.*

1ST PLACE

BIGGER NETS, MORE FISH: POLICING IN THE PACIFIC

Damien M. Greenwood

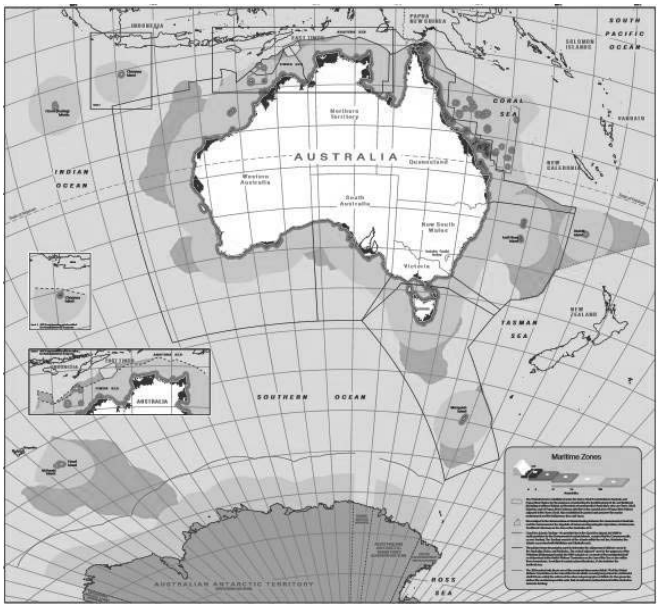
With the third largest Exclusive Economic Zone (EEZ) in the world, how does Australia enforce it laws in such a massive swathe of ocean and protect maritime commerce in the area? This paper aims to provide an overview of Australia's law enforcement efforts on the Australian frontier by first looking at the challenges, and then the responses to those challenges through Australian and overseas cooperation. Focus will mainly be on Australia's Pacific frontier, where most of Australia's maritime neighbours are and where most law-enforcement activities take place.

> Criminal networks seeking to bring illicit drugs into Australia will continue to find it harder and harder to operate when they are up against the combined efforts of multiple law enforcement and border protection agencies across the South Pacifi
>
> AFP Assistant Commissioner Ramzi Jabbour [1]

In August 2013, the Australian Federal Police (AFP) received intelligence from the United States Drug Enforcement Agency (DEA) that the 13-metre yacht *JeReVe* with two crewmen on board was on its way from Ecuador to Australia. The yacht was of interest because it was thought to be carrying a large quantity of cocaine destined for the lucrative Australian market. The yacht was tracked as far as the Cook Islands, monitored by the AFP, DEA and Cook Islands Police. When the yacht left the Cook Islands, contact was lost.

In November 2012, the *JeReVe* ran aground off the remote Tongan island of Luatatifo; the yacht was battered and broken after several months in the Pacific. The Tongan Police quickly attended the scene. On board they found the dead body of crew member Ivan Rindzak – and 204kg of cocaine. The Tongan Police contacted the AFP and a joint recovery operation and investigation was commenced. It is thought the two crewmen fatally overdosed on their illicit cargo. Rindzak's colleague is thought lost at sea.

The case of the *JeReVe*, an operation that was part of an AFP-led task force known as Project Cringle, shows the kind of effective cooperation that is possible between regional law enforcement. As the regional power, Australia takes an active part in policing throughout its sphere of influence, particularly the South Pacific region. This is done through various means including active peacekeeping missions, international liaison and cooperation, capacity building and training, multi-lateral and bi-lateral treaties, and providing material and humanitarian assistance.



Australian Fishing Zone 2008 Department of Agriculture and Water. Produced by Geoscience Australia.

THE AUSTRALIAN FRONTIER

Under the United Nations Convention on the Law of the Sea (1982) (UNCLOS), countries have special rights to marine resources up to 200 nautical miles from the baseline (the low water mark on the coastal edge of a country). Australia's EEZ includes Australia itself, the Australian Antarctic Territory and a number of outlying territories. Australia's EEZ is therefore truly huge in scale: at more than 11 million square kilometres it is the third largest in the world after the USA and France.

Beyond the Australian frontier are the small Pacific Ocean nations with expansive EEZ's but little by way of assets to govern their huge maritime territories. This is a vulnerability not just for Pacific nations, but also for Australia. Transnational organised crime syndicates exploit these areas in their operations.[2]

The Pacific Patrol boat Program (PPBP) was one way to alleviate this vulnerability, and it allows Australia to have better surveillance and intelligence gathering capabilities through partnership with these Pacific nations. This has provided something of a 'buffer' for Australia outside its own EEZ allowing it to anticipate any potential threats or criminal activity targeting Australia. Nevertheless, despite the additional presence of these 22 patrol vessels the effective enforcement of governance in Pacific territorial waters remains a huge challenge that a few extra boats cannot totally solve.

As a demonstration of the problem in the region, Chalk (2008) cites the example of Indonesia which has a huge patrol zone of approximately six million square kilometres. Based on his interviews with experts on the subject, such a large area would require about 300 vessels to adequately enforce maritime laws. However, Indonesia only has about 115 vessels in total, of which only 25 would be operational at any one time. As a result, in combination with a number of other issues, the problem of piracy in Indonesian waters is one of the worst in the world. Compared with the 22 boats of the PPBP, the potential scale of the problem in the South Pacific becomes apparent.

While the remoteness of the Pacific territories may act in their favour by providing a disincentive to criminals, this and the attendant difficulties with effective law enforcement may also present an opportunity to criminals seeking to engage in illegal activities such as smuggling drugs, guns, contraband, or people.

Commander Martime Border Command, Rear Admiral Michael Joseph Noonan AM, RAN, appointed Deputy Chief of Navy (DCN), early 2016.

ILLICIT DRUGS

Australia is a significant target market for drug traffickers due to the high prices fetched by drugs such as ice and cocaine. Most drugs entering Australia do so through the postal system, but a large proportion arrives by sea [3], whether through established ports or through clandestine drop-offs somewhere along the vast stretches of the Australian coast. South American drug cartels have even established bases in South Pacific countries in order to facilitate drug trafficking to Australia. [4]

There are various reasons why sea transport is an attractive option such as the ability to transport large volumes in the one shipment, the sheer volume or cargo arriving by sea, the low percentage of incoming containers being screened, and an expansive and sparsely patrolled coastline.

The major drugs coming into Australia by sea are amphetamine-type stimulants (ATS) such as ice, crack, and crystal meth; cannabis, and cocaine. Most ATS come in through Asian countries via syndicates based in mainland China, Hong Kong or Vietnam. Australia is a major consumer of ATS, as evidenced by the fact that the street value of ice in Australia is several times higher than in Asian countries [5]. In 2013-14, 38% of the weight of ATS detections arrived by sea cargo, the largest of which was 203.2 kilograms.

Cannabis is the most widely used illegal drug in the world. Although the number of cannabis detections arriving by sea cargo in 2013-14 accounted for 0.2% of the number of detections, the weight accounted for 80.3% of all cannabis detected in that year. The largest seizure was 125.9 kilograms of cannabis seed concealed in boxes from Hong Kong to Brisbane.

Most of the cocaine coming to Australia comes from Columbia and Peru. Like ice, cocaine is a highly addictive stimulant that can lead to feelings of euphoria. It is a strong hallucinogen and results can be felt very quickly after consumption. Prolonged use can cause permanent psychological problems, heart arrhythmia and other physical problems depending on how it is consumed. Although seizures of cocaine imported by sea in 2013-14 were minimal, in 2012-13 sea cargo accounted for 72.2% by weight of all cocaine seizures for the year. [6]

The scourge of drugs is a major problem in Australia. According to the Department of Prime Minister and Cabinet's National Ice Taskforce, in 2013 8.3% of the population had been a victim of a drug-related incident (abuse or other forms of violence), 2.1% of the Australian population were users of methamphetamine and half of these used ice.[7] Aside from the damage to society, organised crime and terrorist groups use drug sales to fund their operations, causing even further harm.

PIRACY

The International Maritime Bureau defines piracy as:

> An act of boarding or attempting to board any ship with the apparent intent to commit theft or any other crime and with the apparent intent or capability to use force in the furtherance of that act.[8]

Australian waters are largely free from piracy, although several piracy blackspots exist in Indonesian waters such as on the east coast of Kalimantan or the northern coast of Sumatra.[9] While these are outside Australia's EEZ, they do have a potential impact on Australia's sea lines of communication (SLOC) which pass through these chokepoints. Australia itself is a hard target for pirates given the speed with which the Australian Defence Force (ADF) and law enforcement can deploy and constant border patrols by units attached to Border Protection Command. The violence inherent in acts of piracy simply attracts too much attention compared to the stealth involved in smuggling operations.

Geographically, the remoteness of the Pacific nations acts in their favour. There are fewer choke points for marine traffic, and the level of traffic is very low. Other factors that help keep piracy to a minimum include a lack of criminal organisation and resources indigenous to the region, and the lack of adequate bases from which pirates can operate and seek refuge.

OTHER MARITIME-RELATED CRIMINAL THREATS TO AUSTRALIA

Tackling people smuggling remains a high priority for Australia's government. While maritime arrivals have reduced significantly in recent years, Australia remains a target for people smugglers. Many of those being smuggled into the country are economic migrants from Afghanistan, Iran, Iraq and Sri Lanka. [10] These boats pose a problem for patrol vessels as they are often destined for one of Australia's remote outlying territories such as Ashmore Reef and Christmas Island, which are closer to the poorly patrolled waters of Indonesia than to Australia. This means larger patrol areas that stretch already limited resources. The implementation of Operation Sovereign Borders in September 2013 saw a significant drop in illegal boat arrivals. However people smugglers in the region have traditionally been very responsive to changing government policy so it will be seen if the recent successes seen against people smuggling will continue.

Terrorism is one of the top priorities in law enforcement today. Maritime terrorism includes hijacking vessels, standoff attacks, and use of vessels as vehicle-borne improvised explosive devices.[12] Incidents are rare but have occurred in the Pacific region such as the attack on Superferry 14 in the Philippines in February 2004, where an improvised explosive device was detonated while the ferry was off Corregidor Island at the

Austal launches Cape-Jervis Class Patrol Boat, CAPE LEVEQUE.

HMAS LAUNCESTON (ACPB 94) enters HMAS COONAWARRA basin.

mouth of Manila Bay. The explosion capsized the ferry and killed 116 people. Responsibility for the attack was attributed to the Abu Sayyaf Group (ASG) terrorist organisation. Is there a risk to Australia? There is a risk, but terrorists generally lack the sophistication to carry out such attacks and there are much more attractive targets in the region that don't require the same level of expertise. While the consequences of a terrorist attack in Australian waters could be catastrophic, the likelihood of it happening is remote and as such the risk to Australia from maritime terrorism is low.

CASTING THE NET: AUSTRALIA'S LAW ENFORCEMENT RESPONSE

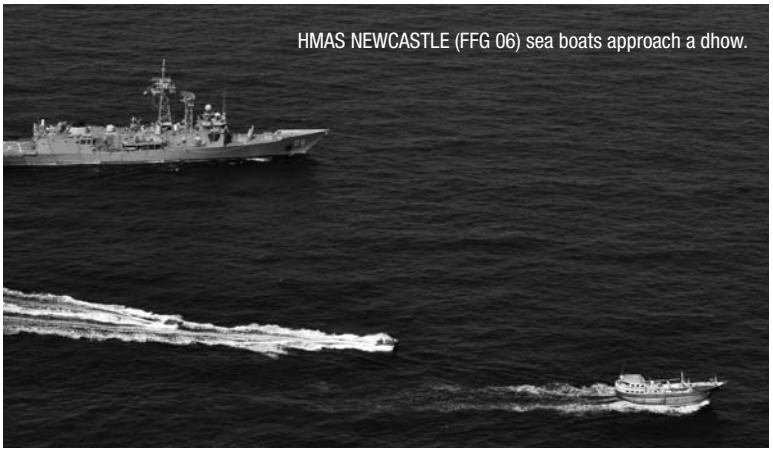
Policing in Australian waters is undertaken by a number of organisations such as the Australian Border Force (ABF), the RAN, and the State police forces. Investigations and operations are also conducted by the AFP. The Australian Maritime Safety Authority (AMSA) has jurisdiction over Australia's EEZ and maintains Australia's network of marine navigation aids as well as maritime legislation.

At our seaports, a number of task forces have been created to provide '…a coordinated and integrated approach to combatting serious and organised crime…' [13] The Waterfront Taskforces are Polaris (NSW), Trident (Victoria) and Jericho (Queensland) and are joint operations between the AFP, ABF, Australian Crime Commission, Australian Taxation Office, Australian Transaction Reports and Analysis Centre (AUSTRAC), and the relevant State police force. These taskforces have seen some success, including a recent operation to disrupt a major syndicate that resulted in 18 people being charged with 81 offences, the seizure of 73kg of prohibited drugs, $893,139 in cash, 22 firearms and over 3,000 rounds of ammunition. [14]

The AFP-led Project Cringle is another law enforcement initiative to stem the flow of illegal drugs entering our borders via the Pacific nations. The project aims to coordinate law enforcement agencies across multiple jurisdictions to provide effective responses to intelligence on incoming vessels suspected of involvement in illegal activity. Aside from the recovery of the *JeReVe* the project continues to prove its effectiveness with several shipments intercepted, including one operation as recently as 25 August 2015 which resulted in the seizure of 70 kilograms of cocaine from South America via Vanuatu with a street value of approximately AUD$17.5 million. The operation was a joint effort between the UK National Crime Agency, Vanuatu Police Force, ABF, AFP, and Queensland Police.[15]

Enabling all of this is Australian Commonwealth legislation to ensure the safety of shipping in Australian waters, such Part IV of the Crimes Act 1914 which deals specifically with piracy. Other legislation includes the Maritime Transport and Offshore Facilities Security Act 2003, which implemented the International Ship and Port Facility Security (ISPS) Code, an agreement signed by several countries including Australia to enhance the safety and security of shipping and associated facilities. There is also the Maritime Powers Act 2003 which designates members of Customs (now ABF), AFP officers, and other specially appointed personnel as 'Maritime Officers' with powers to board and inspect vessels in Australian territory. Assisting in the administration of this legislation is the Office of Transport Safety (OTS) within the Department of Infrastructure and Regional Development. The OTS also coordinates the various preventative security measures between the states and the federal government.

Integral to the law enforcement response by Australia is the implementation of Operation Sovereign Borders. The operation is led by the ADF with task groups led by the AFP, ABF and the Department of Immigration and Border Protection (DIBP). The operation is designed to protect Australia's borders, with emphasis on the problem of asylum seekers arriving in Australia by boat. As we have seen, this has so far been successful in reducing the number of illegal boat entries by up to ninety percent.



HMAS NEWCASTLE (FFG 06) sea boats approach a dhow.

THE PACIFIC PATROL BOAT PROGRAM

The importance of the Pacific Patrol Boat Program for law enforcement in the region cannot be understated. Following the establishment of the 200-mile exclusive economic zone through UNCLOS in 1982, several Pacific nations found themselves with vast jurisdictions and no assets with which to patrol them. They quickly requested help from the Australian and New Zealand Governments and the program was announced by Australian Prime Minister Bob Hawke in 1983.

Following this, between 1985 and 1997, Australia engaged in its largest and most complex defence cooperation project in its history: building a total of 22 162-tonne patrol boats for 12 nations throughout the Pacific. These patrol boats – all gifts from Australia – form the backbone of international law enforcement in the region. Several are operated by local defence forces while others by police or coast guard. All are used for surveillance, fisheries protection and law enforcement duties by the countries concerned. They are currently deployed as below:

- Papua New Guinea Defence Force – 4 boats
- Fijian Navy – 3 boats
- Federated States of Micronesia National Police – 3 boats
- Tongan Maritime Force – 3 boats
- Royal Solomon Islands Police Force – 2 boats
- Cook Islands Police Service – 1 boat
- Kiribati Police Service – 1 boat
- Marshall Islands Government – 1 boat
- Palau Police – 1 boat
- Samoa Police Service – 1 boat
- Tuvalu Police Force – 1 boat
- Vanuatu Police Force – 1 boat

Patrol boat class Pacific Solomon Island Police boat RSIPV 03 LATA.

In addition to the boats themselves, Australia also agreed to provide the necessary maintenance infrastructure to ensure the ongoing operability of the boats. With the PPBP now in its third decade, replacement vessels are being sought with numbers expected to be about 20, and a total cost of around AUD$2 billion.[16]

INTERNATIONAL COOPERATION

Australia has recognised that maritime security and effective law enforcement requires a multi-faceted approach that goes beyond endless patrols by the overworked Armidale class patrol boats. A significant part of this strategy is the close relationship Australia has with its Pacific neighbours which is manifested by close working relationships involving the ADF, AFP and a myriad of government agencies. The PPBP is but one example of the lengths Australia is willing to go to ensure stability and security in the region including the mobilisation of military personnel to intervene in civil wars, government instability or disaster relief.

Vital to regional cooperation is ensuring a close relationship with our largest neighbour, Indonesia, especially in the realm of people smuggling. However recent issues including the execution of Australians for drug trafficking and the possible paying off of people smugglers by the Australian government has created tension in bilateral relations. Further afield, Australia enjoys close working relationships with US agencies working on the other side of the Pacific, and with European agencies monitoring drugs emanating from that region to ours. Such relationships look set to continue into the foreseeable future.

Given the huge areas that require patrolling, cooperation between the far-flung Pacific nations is vital for Australia's safety and security. This cooperation '…focuses on building partnerships between individuals, governments, inter-government organisations, and private sector companies rather than a donor-recipient relationship'.[17] These partnerships allow Australia to significantly enhance its maritime surveillance in the region and be prepared for potential threats from criminals, pirates or terrorists. To use an analogy: 'A bigger net catches more fish'.

HMNZS TE KAHA (F77) commanded by Commander Simon Griffiths RNZN and recently involved in the Gulf with HMAS NEWCASTLE (FFG 06) in highly successful counter-narcotics (CN) Operations.

Seized narcotics are laid out on HMAS NEWCASTLE (FFG 06) flight deck, Winter 2015.

CONCLUSION

Australia's regional power and wealth has allowed it to provide a relatively secure border. The same wealth that provides resources to patrol Australia's vast EEZ also makes it a prime target for drug runners, people smugglers and other undesirables. In order to provide another layer of security, Australia has actively engaged with its neighbours to enhance its law enforcement response, improve its maritime surveillance, and increase the stability of the region. Such efforts will also provide enhanced security for Australia's maritime commerce. In particular the Pacific Patrol Boat Program has provided much-needed resources to countries otherwise ill-equipped to adequately enforce their own borders and safeguard their EEZs. Further efforts are being made with Indonesia to repair strained relations and improve cooperation to combat people smuggling.

In addition, continued vigilance from law enforcement agencies, particularly the ABF and AFP, will help prevent Australia's streets from being awash with drugs coming in from the Pacific. Programs such as the Waterfront Taskforces and Project Cringle should continue to receive adequate resources and funding from government to provide effective law enforcement responses, particularly given the Federal government's focus on the drug 'ice' and its negative effect on Australian society. While the financial costs of such programs may seem extreme, the consequences of not having them would prove far more costly, both in terms of hard currency and Australian lives. ■

1 AFP Media Release: *'Pacific dragnet intercepts $370 million worth of cocaine bound for Australia'* 23 August 2013.

2 Le Miere, C (2013). *All at sea: Illicit activity thrives in ungoverned maritime areas*. Jane's Intelligence Review, November 2013, pages 30-35.

3 Australian Crime Commission 2013-14 *Illicit Drug Data Report*

4 http://www.smh.com.au/national/drug-cartels-target-australia-from-south-pacific-bases-20131129-2yh67.html. Accessed 17 August 2015

5 United Nations Office on Drugs and Crime: *World Drug Report 2014*. In China the price of a gram of amphetamines was US$10.02, in Indonesia US$20, South Korea US$23.42, and in Australia a whopping US$229.08.

6 Australian Crime Commission *2012-13 Illicit Drug Data Report*

7 http://www.dpmc.gov.au/sites/default/files/files/fact_Sheet-what_the_ice_problem.pdf. Accessed 17 August 2015.

8 As used in Chalk, P. (2008). *The Maritime Dimension of International Security: Terrorism, Piracy, and the Challenges for the United States*. Santa Monica; RAND Corporation.

9 Bateman, S. (2011). *Sea piracy; what's the current situation?* Australian Police Journal, Volume 65 No. 4, December 2011, pages 186-192.

10 United Nations Office on Drugs and Crime (2013): *Transnational Organized Crime in East Asia and the Pacific: A Threat Assessment*.

11 http://www.smh.com.au/federal-politics/political-news/both-sides-claim-credit-for-slowing-boat-arrivals-20131020-2vvfp. Accessed 17 August 2015.

12 See Herbert-Burns, R., Bateman, S., & Lehr, P. (Eds). (2009). *Lloyd's MIU Handbook of Maritime Security*, Chapter 5. Boca Raton; Auerbach Publications.

13 AFP Media Release: *'Jericho joins Polaris and Trident'* 13 August 2013

14 AFP Media Release: *'Polaris waterfront taskforce operation; 18 arrested, drugs, cash and weapons seized'*. 28 April 2015

15 AFP Media Release: *'Joint Queensland operation nets cocaine haul on yacht'*. 25 August 2015

16 Minister for Foreign Affairs and Minister for Defence Media Release: *'Maritime security strengthened through Pacific Patrol Boat Program'*. 17 June 2014. Accessed 27 August 2015.

17 Bateman, S. *Australian Global Maritime Capacity Building*. In Forbes, A (Ed) (2010). *Maritime Capacity Building in the Asia-Pacific Region*. Seapower Centre, Australia.

STATEMENT OF POLICY

For the maintenance of the Maritime wellbeing of the nation.

CURRENT AS AT 1 JANUARY 2016

The Navy League is intent upon keeping before the Australian people the fact that we are a maritime nation and that a strong Navy and capable maritime industry are elements of our national wellbeing and vital to the freedom of Australia. The League seeks to promote Defence self reliance by actively supporting defence manufacturing, and the shipping and transport industries.

The strategic background to Australia's security is changing and in many respects has become less certain. The League believes that Australia should pursue the capability to defend itself, paying particular attention to maritime defence. Through geographical necessity Australia's prosperity, strength, and safety depend to a great extent upon the security of the surrounding seas and island areas, and on unrestricted seaborne trade.

The Navy League:

- Believes Australia can be defended against attack by other than a major maritime power and that the prime requirement of our defence is an evident ability to control the sea and air space around us and to contribute to defending essential lines of sea and air communication with our allies.
- Supports a continuing strong alliance with the US.
- Supports close relationships with all nations in our general area and particularly New Zealand, PNG and the island States of the South Pacific.
- Advocates the acquisition of the most capable modern armaments, surveillance systems and sensors to ensure that the ADF maintains technological advantage over forces in our general area.
- Advocates a significant deterrent element in ADF capability enabling powerful retaliation at significant distances from our shores.
- Believes the ADF must be capable of protecting commercial shipping both within Australian waters and beyond, recognising that this means in conjunction with allies and economic partners.
- Endorses the control of coastal surveillance by the ADF, and the development of the capability for the patrol and surveillance of all of Australia's ocean areas, its island territories and the Southern Ocean.
- Welcomes Government initiatives concerning the recovery of an Australian commercial fleet capable of supporting the ADF and the carriage of essential cargoes to and from Australia in times of conflict.

As to the RAN, the League, while noting the vital national peacetime tasks conducted by Navy, including border protection, flag showing/ diplomacy, disaster relief, maritime rescue, hydrography and aid to the civil power:

- Supports the concept of a Navy capable of effective action in war off both the east and west coasts simultaneously and advocates a gradual build-up of the fleet and its afloat support elements to ensure that, in conjunction with the RAAF, this can be sustained against any force which could be deployed in our general area.
- Welcomes the announced increase in Defence expenditure to 2% of GDP over the next 10 years.
- Considers that the level of both the offensive and defensive capabilities of the RAN should be strengthened, in particular with an increased number of new frigates to replace the Anzac Class, noting that these vessels will be our main escort forces in the middle of this century in a very different world.
- Strongly supports the acquisition of large, long range and endurance, fast submarines and notes the deterrent value, reliability and huge operational advantages of nuclear powered submarines and their value in training anti-submarine forces.
- Notes the potential combat effectiveness and flexibility of the STOVL version of the Joint Strike Fighter (F35 Lightning II) and supports further examination of its application within the ADF.
- In order to mitigate any industry capability gap following the completion of the Air Warfare Destroyer program, recommends bringing forward the start date of the planned future frigate program.
- Urges that decisions to enhance the strength and capabilities of the Army and Air Force, and to greatly improve the weaponry, and the intelligence, surveillance, reconnaissance, cyberspace and electronic warfare capabilities of the ADF, be implemented.
- Supports the development of Australia's defence industry, including strong research and design organisations capable of the construction and maintenance of all warships, submarines and support vessels in the Navy's order of battle, and recognises the fundamental importance of a stable and continuous shipbuilding program for the retention of design and building skills and the avoidance of costly start up overheads.
- Supports the efforts by Navy to rebuild the engineering capability to ensure the effective maintenance and sustainability of the fleet.
- Advocates the retention in preservation (maintained reserve) of operationally capable ships that are required to be paid off for resource or other economic reasons.
- Supports a strong Naval Reserve and Australian Navy Cadets organisation.
- Advocates a strong focus on conditions of service as an effective means of combating recruitment and retention difficulties.

The League:

- Calls for a bipartisan political approach to national defence with a commitment to a steady long-term build-up in Australia's defence capability including the required industrial infrastructure.
- While recognising budgetary constraints believes that, given leadership by successive governments, Australia can defend itself in the longer term, within acceptable financial, economic and manpower parameters.

THE NAVY LEAGUE OF AUSTRALIA

TENTH ANNUAL MARITIME AFFAIRS ESSAY COMPETITION 2016

The Navy League of Australia is holding the eighth maritime essay competition and invites entries on either of the following topics:

TOPICS

- 21st Century Naval Warfare
- Australian Naval History
- Australian Maritime Industrial Strategy

CATEGORIES

A first, second and third prize will be awarded in each of two categories:

Professional, which covers Journalists, Defence Officials, Academics, Naval Personnel and previous contributors to ***THE NAVY***; and

Non-Professional for those not falling into the Professional category.

Essays should be 2,500-3,000 words in length and will be judged on accuracy, content and structure.

PRIZES

- **$1,000, $500 and $250** (Professional category)
- **$500, $200 and $150** (Non-Professional category)

DEADLINE

Saturday 27 August 2016

Prize-winners announced in the January-March 2016 issue of ***THE NAVY.***

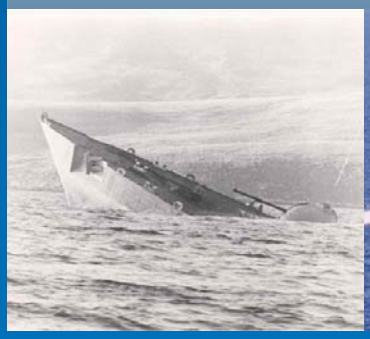
Essays should be submitted either in Microsoft Word format on disk and posted to:

Navy League Essay Competition
Box 1719 GPO, SYDNEY NSW 2001

or emailed to ***editorthenavy@hotmail.com***

Submissions should include the writer's name, address, telephone and email contacts, and the nominated entry category.

THE NAVY reserves the right to reprint all essays in the magazine, together with the right to edit them as considered appropriate for publication.



Ships of the British Pacific Fleet (BPF) in Woolloomooloo, Garden Island, Fleet Base East circa 1945. Photo believed to be taken from HMS UNICORN (I72) with HMS WESSEX (R78) alongside and HMS GEORGE V (41) to the South.