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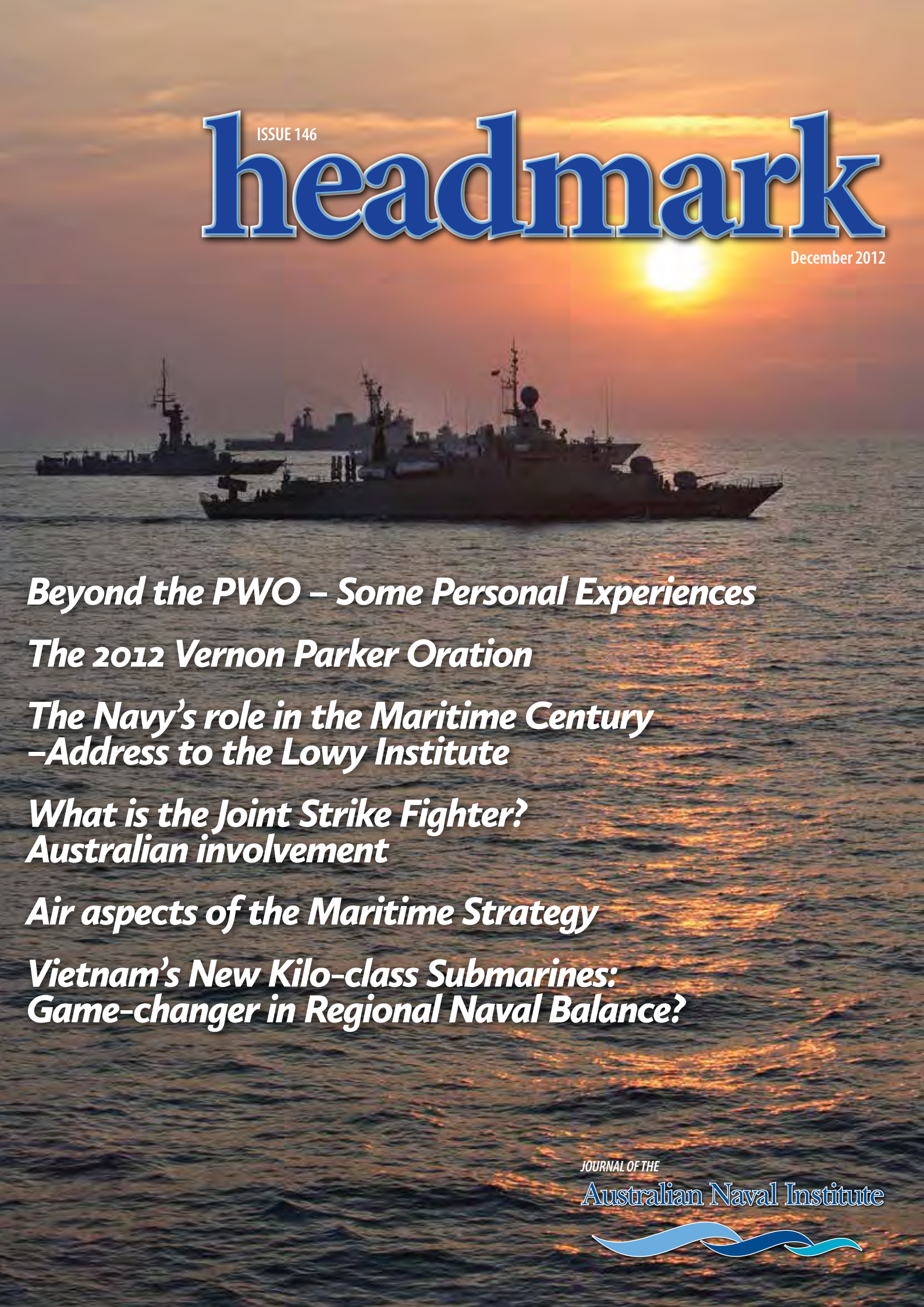

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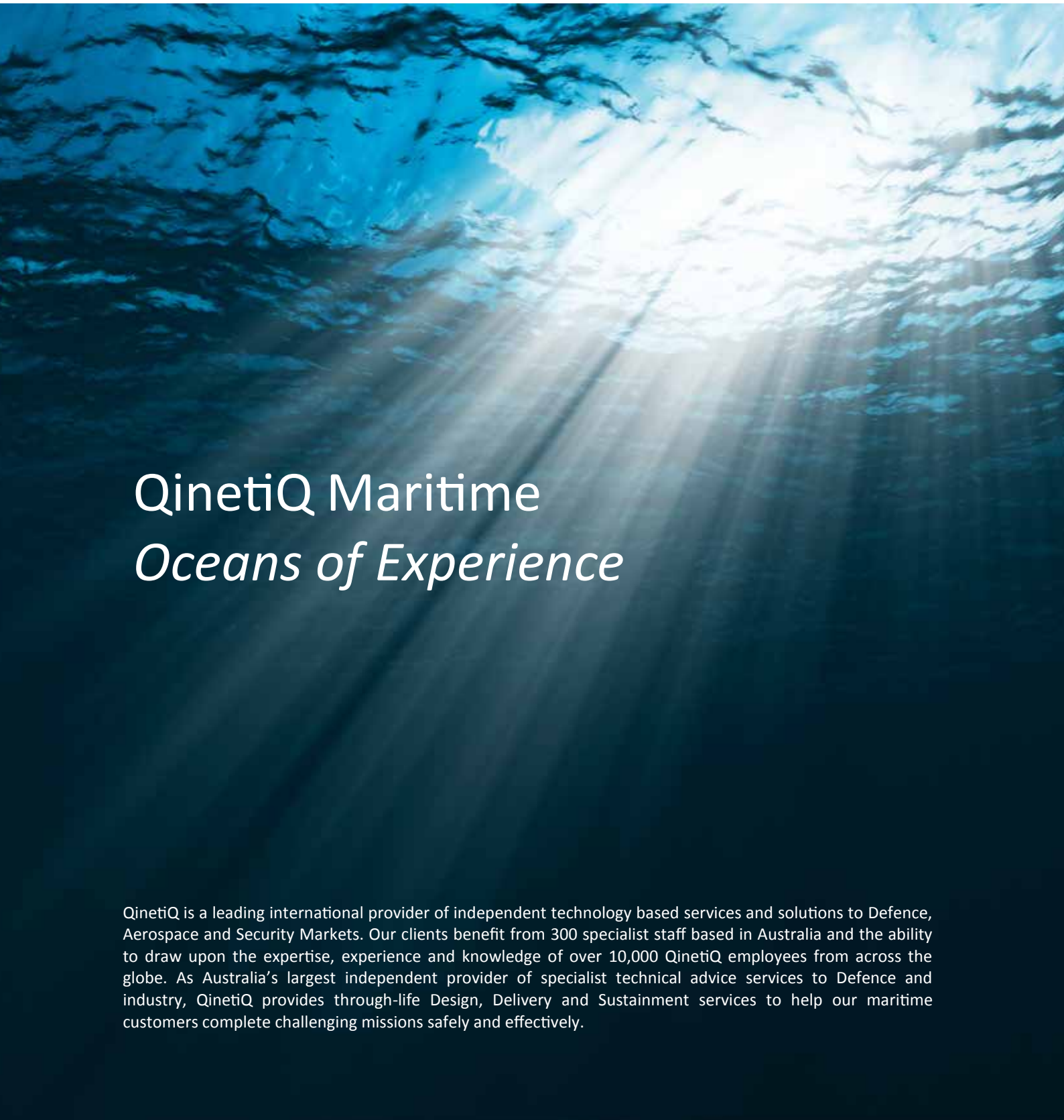

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A Perfect kick off

The South Sydney Rabbitohs and ANZ Stadium dedicated their final home game of the season to the brave men and women serving in the Australian Defence Force in Australia and on peace keeping missions overseas, as they took on the Parramatta Eels in the 'Australian Defence Force Challenge' on Sunday 26 August at ANZ Stadium. The match ball was delivered by 816 SQN Sea Hawk Helicopter to Air Marshal Mark Binskin, AO, Vice Chief of the Defence Force, who then handed it over to the games referee. The RAN Ceremonial marching band performed the national anthem prior to game kick off.

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Beyond the PWO – Some Personal Experiences

BY VICE ADMIRAL DAVID SHACKLETON, AO (RTD)

Well done to Rear Admiral James Goldrick for stimulating debate about warfare and the articles by Lieutenant Commander James Edmondson[1] and Captain (now Commodore) Peter Leavy[2] which have added to the conversation. All are to be applauded. The topic is one of enduring value to the RAN.

In reading the three articles I wondered if some historical anecdotes might be of interest to modern day readers.

How the navy trains to fight has great relevance to how it will fight when push comes to shove. As it is for the Navy at large, getting the very best from all of a ship's crew and its total capability is critical for success. And in this mix now, is the network (both internal and external), which could be amongst the most powerful of force multipliers, or its Achilles heel. I can remember when CSOC3I at Maritime Headquarters and sea riding *USS Blue Ridge* as the first Australian to have full exposure to Exercise Tandem Thrust, the cry in Flag Plot was 'it's on the network'. A serious problem for Commander 7th Fleet back then was: 'who authorised the engagement to start because it wasn't me'?

I am of that generation of PWO's that learned and practiced the warfare game in what could be called the dusk of the analogue era, and experienced the digital dawn in the RAN when the Naval Combat Data System (NCDS) was introduced. I doubt there are many fond memories amongst my peers of plotting tables and their idiosyncrasies of cogs, wheels, and chinagraph pencils. As the on-watch operations room officer in the Flag Plot of the carrier *Melbourne*, I remember well the Admiral asking in a loud clear voice "where is the bloody submarine". And the nonplussed Leading Seaman RP with a cheesy grin on his face saying "here it is sir", as he picked up the plastic token from the deck where it had been knocked by the energetic duty Staff Officer who was attempting to get a brownie point. Fortunately the Admiral had a sense of humour.

How anybody made sense of what was going on when dealing with the shouting that was necessary to be heard over the din of multiple speakers from various quarters of the ships armament is beyond comprehension. But, strangely, and against all odds, it did seem to work. I worked in that environment and it was exciting in a quirky way. As an adjunct to this, I did enjoy my time as an air controller for a variety of reasons, amongst which was that the folks on the other end of the radio were, by and large, rational people while in the sky.

My PWO course was number 10 and undertaken at *HMS Dryad* in UK. I was one of four RAN officers in a group of about 32. *HMAS Perth* was being fitted with NCDS in Long Beach USA in 1975 when I started the course. Two of us did two years exchange with the RN on graduation followed by the Advanced Warfare Officers (AWO) course prior to returning to Australia.

The RN PWO course was conducted in a highly professional manner. The officer and sailor instructors were impressive and they really knew their stuff. However, there was an Australian PWO on the staff who tried very hard, and with varying degrees of success, to restore the balance with some rather serious RN officers. The engineering theory and practical content of the course was relatively high. We were particularly expected to be able to hold intelligent conversations with Weapons Engineering officers and sailors about the sensors and weapons we would become responsible for as warfare officers in our future ships. We learned, in some detail for example, how the gunnery system worked and so on. The RN had the view that the skills

Sonar Technician Surface 3rd Class Landon Walker stands watch in the combat information center aboard the guided-missile cruiser USS Bunker Hill (CG 52). (US Navy photo by Mass Communication Specialist 3rd Class John Grandin)

needed to be an effective watchkeeping warfare officer did not remove the need for seaman officers to become knowledgeable specialists in a domain such as the previous long course officers had been. Their solution was the AWO course, but at that time it didn't fully make the grade (in my view) so far as delivering on the promise of deep specialist knowledge. The Electronic Warfare, communications and other elements, especially Task Group command and control, were excellent. But the RN was still working out what the digital age meant, and on my AWO course was much underdone.

On graduation as a PWO I was posted to the last of the Batch 3 Leander frigates, *HMS Ariadne*, where I took over from another Australian on exchange. The ship was less than five years old, but it had all-analogue sensors and weapons. I was one of the two PWO's. My counterpart was the ASW officer, ship's training officer and nuclear depth charge officer; I was the Operations officer and all the rest – which I really enjoyed and learned much from being so fully occupied. When a PWO was not closed up we kept bridge watches, as did the navigator. A 25 knot passage through the English Channel in lumpy weather and lousy visibility was guaranteed to keep you totally awake for the entire middle watch, especially as there were no assistants on the bridge other than the signalman; and the Captain sitting his chair providing encouragement whenever necessary.

First stop after graduation from *Dryad* was Command Team Training, followed by a family removal to Plymouth in parallel with Harbour and Sea Acceptance Trials (HATs & SATs), and then a full Basic Operational Sea Training (BOST) work up at Portland of about seven weeks.

SATs Gunnery in the Plymouth exercise areas was exhilarating. I had to re-learn a few gunnery things the hard way. One was to ensure that firing was completed before the towed target became too close and the crossing rate became extreme. My strong recollection is of the WEEO trying to hide from the Captain who climbed up to the GDP to deliver one of the best blasts of my career. The only thing that had gone wrong was the 4.5" gun had trained from the starboard beam to right ahead while still firing, and that a merchant ship called up on VHF asking if there was a war on in the approaches to Plymouth. On a positive note, the check fire alarms had worked very well.

It was a character building posting. A later episode occurred, also concerning gunnery, which the Captain as a TAS officer (Torpedo and Anti-Submarine Warfare) didn't seem to like. The live firing bombardment exercise at Roosevelt Roads (Puerto Rico) was going so well that I declined the opportunity to switch ammunition from Variable Time (VT) to Time Mechanical (TM) fuses. This was an analogue gunnery system and I didn't

Fire Controlman 2nd Class Matthew E Bell mans a SPY-1B (V) radar console in the Combat Information Center aboard the guided-missile cruiser USS Shiloh. (US Navy photo by Lieutenant (JG) Nelson H. Balido)

Beyond the PWO – Some Personal Experiences

want to run the risk of the ballistics being set incorrectly, so the firing went on for most of the afternoon with *Ariadne* eventually clocking across the range at 22 knots. The Captain was ecstatic and gave BZ's all-round. The Executive Officer, who was of the Long G variety, could not believe that it was possible to fire three years of practice ammunition in one afternoon; until I showed him the graph that extended vertically over several pages and he nearly choked. I found the RN still used the old letter style of: Sir, I have the honour to report that I have been stupid…….

The RN Task Group included about nine ships and an SSN and we initially deployed into the Mediterranean, then to South America and home via the west coast of Africa; a round trip of about four months. We literally had an encyclopaedia of trial tactics to undertake, keep records of results, and send back to CINCFLEET on our return. In my experience, navy people like trying new ideas and especially get satisfaction out of helping improve the professionalism of their occupation. Later, when I was back with the RAN and on deployment, we had to invent trials such as these ourselves. I wonder if such a circumstance came about by removal of a Flag Staff at sea after the demise of *Melbourne*. The Fleet Staff had an important role in tactical development and warfare policy, and being part of the Sea Training Group was not their only function.

The workup at Portland conducted by Flag Officer Sea Training (FOST) was hard work and very professionally rewarding. When I joined *Hobart* on return to Australia and did another work up, I couldn't believe how much less intense it was in comparison. On the other hand, in that ship we had five warfare officers on their second or third warfare posting. I found the so-called RAN PWO familiarisation at *Watson* for returning officers such as me was amateur to say the least. In stark contrast, the NCDS pre-joining courses I undertook at the Combat Data Systems Centre (CDSC) in Canberra were simply outstanding. In company with a group of other officers and sailors of both seaman and technical persuasions, I completed three operator courses of increasing complexity, an NCDS Systems course that was outstanding in terms of helping me learn just what the system could, and could not do, and an introduction to computer programming as applicable to the AN/UYK-7 computer which controlled the combat system – and I worked out that computer programing was not for me, but knowing about how it was structured was of great help operationally. This training was about three and a half months all up as I remember. When I eventually joined *Hobart* as the PWO D, I therefore had a very good understanding of 'what went on behind the VAB' and - just as importantly - why. When I later commanded *Brisbane*, this knowledge sometimes made me a difficult person as I recall.

One of Admiral Shackelton's commands, the Australian destroyer HMAS Brisbane (DDG 41) and the US Navy destroyer USS John S. McCain (DDG 56) cruise side by side in Australian waters during Operation Exercise Tandem Thrust 2001 (Courtesy RAN)

In *Hobart*, the NCDS WEEO and I shared a cabin, which was an accident of postings, but it also contributed to the cross-pollination of knowledge essential to getting the best out of what we had. The first versions of NCDS had a fairly ordinary Beacon Video Processor (BVP) in that automatic identification from IFF/SIF codes was rudimentary; the NCDS WE Leading Seaman and I wrote a minor computer patch that enabled us to enter the Mode 2 codes of aircraft coming on task and help improve the identification process. We hadn't learned how to get the best out of Link 11, so we all worked at it; operations room folks, communicators and maintainers.

On passage to anywhere in *Hobart* we tried all the casualty modes and encouraged sailors and officers to 'try stuff'. In defence watches we had a watchkeeping WE Leading Seaman or Petty Officer whose job it was to make sure the system worked how it should on a continuous basis. If there was a problem, they gave the operators options as to how to get the best out of the system while it was being fixed. There was also a watchkeeping senior sailor who made sure the Supply

Department did its part. It was a total team effort. I imagine today that the requirement has become even more intense to be a total team.

The points raised by James Edmondson about the role of warfare, and other branch sailors for that matter, in supporting the PWO are worth reflecting upon. The PWO philosophy as designed by the RN incorporated a structured organisational methodology that was intended to enable the PWO to direct and oversee the complete team's performance. Missile/Gun Directors for instance oversaw missile and gun controllers who fired weapons etc. Training was designed so that the competencies of officers and sailors were complementary and wholly focussed on the achievement of tactical success as a team. The Operations Room design and layout, internal and external communications arrangements, picture compilation and decision making procedures were part of the total systems approach adopted by the RN. The USN does it differently, and I found the design of the NCDS system, while excellent in many respects, did not support adoption of the so-called 'PWO System' to the same extent that the RN had implemented. The CIC layout of the DDG reflected USN practices, and even after its NCDS update, was not configured to meet the organisational components of the 'PWO System' and internal work-a-rounds were needed. One hopes we have learned that to maximise the potential of a tactical war fighting philosophy that involves people at its core, means that there must be a strong and clear complementarity in the way it is implemented procedurally and technically.

In my own view, to understand how best to fight the ship, it is essential that there be a deep technical literacy by both the operators and maintainers – of what is needed to fight the ship (and the Navy). For both groups it is about understanding the operational demands and limitations imposed by technical capabilities and performance. No single group/branch is likely to fully know as much about all domains as it is possible to know. But they should always know they are working together collaboratively. By technical, I mean the full range of technical and associated support capabilities of the ship, and not only the combat system. When it works, this is a very powerful team.

To close this recount of experiences, my formative years and the collective technical and operational knowledge I gained were highly valuable in my later career. I was subsequently involved in a variety of interesting technology and capability matters which ranged from working on the combat system for the ill-fated replacement aircraft carrier project, the DDG NCDS update, the *Anzac* War-fighting Improvement Program, advocating that cooperative engagement and Aegis become part of navy's future capabilities and having a role in selecting the present *Collins* combat system.

While one can expect that improvements are happening on a continuous basis, I hope these short anecdotes have recounted some of the origins of current practice, which may or may not be entirely relevant to today's circumstances. But I do hope they will contribute to the conversation about what will emerge: 'Beyond the PWO.'

Vice Admiral David Shackleton, AO (Rtd) was Chief of Navy 1999-2002 and commanded HMAS Derwent and HMAS Brisbane. He had multiple sea and staff postings during a career of 36 years. His last article in the ANI appeared in 1992 and was entitled "So You Want to Drive a Grey Ferrari".

(Endnotes)

1 Edmondson, James. "Beyond the Principal Warfare Officer - A Respectful Retort." *Headmark* (Australian Naval Institute), no. 144 (2012): 4-7.

2 Leavy, Peter. "Positioning the RAN for Future Maritime Warfare." *Headmark* (Australian Naval Institute), no. 144 (June 2012): 8-12.

The 2012 Vernon Parker Oration

BY MICHAEL WESLEY

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

It's an honour to have been invited to deliver the 2012 Vernon Parker Oration.

Vernon Parker deserves to be remembered in this way. He is not only responsible for the establishment of the Australian Naval Institute.

His career is a testament to the trajectory and proud traditions of the Royal Australian Navy. He began with the Navy as a Cadet Midshipman in 1940, and was sent to serve in the Royal Navy's campaign against the German navy in the North Atlantic.

In the 1950s he trained in the Indonesian language, and served as Australian Naval Attache in Jakarta during the difficult years of the Confrontation, impressing diplomats and colleagues with his tact, firmness and political sensitivity.

It strikes me as rather odd that someone as accomplished as Vernon Parker remains virtually unknown in broader Australian society.

Australia is an island continent washed by three of the world's largest oceans, and to its north by an extended maritime archipelago. Its non-indigenous population all arrived having crossed the seas that wash its coasts.

It depends on trade with the outside world for its prosperity – this year Australia's trade dependence, or the proportion of its GDP dependent on trade, will be a substantial 38%.

And yet Australia has no deep maritime tradition at the core of its national culture.

Our national anthem concentrates heavily on Australia's land – abounding with nature's gifts, of a beauty rich and rare, with golden soil and wealth for toil, and boundless plains to share.

The sea gets all of two mentions – our home is girt by it; and we're happy to share with those who've come across it. In popular culture also, we think of the bush rather than the sea.

The military traditions we celebrate tend to be those of the army rather than the navy. This is odd, considering that the cultures we've come from – Britain – has a rich and deep maritime tradition at its core.

For the British, the sea is central to their sense of self. Britons came to see themselves as a uniquely talented seafaring people. From the Armada to Trafalgar to the Falklands, British naval prowess was taken as a sign of a natural maritime superiority, of God's sign that the British were a people chosen to take stewardship of the oceans.

When Kipling wrote of the sea he evoked a deep yearning of the British soul:

Who hath desired the sea? – the sight of salt water unbounded –

The heave and the halt and the hurl and the crash of the comber windhounded?

As Britain constructed its maritime empire, it believed that this was an empire unlike any that had existed before. Whereas land-based empires are authoritarian, Britain's was maritime, free, Protestant, and commercial.

Despite the fact that modern Australia was founded as an act of maritime strategy, and so much of our history has been shaped by sudden shifts in maritime power, Australia has not crafted a strong maritime culture at the core of its sense of self.

We've not produced a Joseph Conrad or a Herman Melville; an Australian writer who has told us maritime stories about ourselves as a country in a way that has shaped our sense of who we are. And I worry that without a well developed maritime imagination, Australia will struggle to comprehend the challenges it will face in the coming decades.

Just recently, we were presented with a crystal clear vision of the future of our maritime environment when my Lowy Institute colleague Hugh White laid out this challenge in his inimitably clear and elegant prose in a new book, *The China Choice*.

Hugh describes the rising power of China, and the dilemma this presents to the United States and its allies in the

Pacific. He argues that the growth of China's military and commercial power poses a direct challenge to the easy predominance the United States has enjoyed in Asia and the Pacific.

This is a challenge of a different order than that of the Soviet Union, which could never compete with the United States in the economic realm.

Hugh argues that the United States is therefore faced with three choices: it can either choose to confront China and try to see off its challenge, or it can withdraw and leave the field to Beijing, or it can negotiate a power sharing deal with China in the Pacific.

Unsurprisingly, *The China Choice* has touched off furious debate within Australia and beyond, particularly in the United States. In a manner that must have his publishers licking their lips, Hugh has managed to divide foreign policy thinkers within Australia's political parties.

Launching the *China Choice* at the Lowy Institute last week, former Prime Minister Paul Keating said,

"For my own part, I have long held the view that the future of Asian stability cannot be cast by a non-Asian power – especially by the application of US military force."

Just three days later, from the same lectern, Defence Minister Stephen Smith disagreed with his old boss, saying

"In Australia's view, the United States has underwritten stability in the Asia-Pacific for more than the past half century and will continue to be the single most important strategic actor in our region for the foreseeable future, both in its own right and through its network of Alliances and security relationships, including with Australia"

Here is a dilemma that goes to the very heart of Australia's strategic and foreign policy. It is a divide that is deep and passionate.

On the one side are those who argue that the answer to the challenge of a rising China is to invest in maintaining the US alliance system's predominance in Asia.

Maintaining an unchallengeable position of strength will make it prohibitively costly for any rising Asian power with aspirations to regional leadership.

On the other hand, any sign of a weakening or disinvestment in the US alliance system will provide great temptation for regional powers to fill the vacuum, ushering in a period of debilitating power rivalries in Asia.

The stability and certainty provided by a robust US alliance system will ensure continued prosperity, a condition that will encourage potential challengers for regional dominance to accept the continuity of Asia's security order.

On the other side are those who argue that confronting a rising China will lock it into an antagonistic confrontation with the US and its allies. China must be worked with, rather than against, they argue. It must be given a stake in regional norms and institutions, and accorded space to expand into.

A China with a stake in the region will see the most powerful country in Asia with a vested interest in the region's stability.

Between these two is a third option, a hedging strategy, involving the judicious combination of alliances and regional institutions. By investing in the alliance system, and thus raising the costs to a challenger, the United States and its allies can deter China from mounting a serious challenge to the status quo.

The counterpart to this "hard" balancing is "soft" engagement through regional institutions, in which the deeper engagement of China will help socialize Beijing into an acceptance of the status quo.

The rationale of hedging is to soften the confrontational aspect of hard balancing, while closing off China's other options to being socialized through regional institutions.

These are clear policy options, and they cover a wide gamut of behaviours and suggestions. I can't think of another

The Guangzhou, one of China's front line warships, pictured in Leningrad (Public domain)

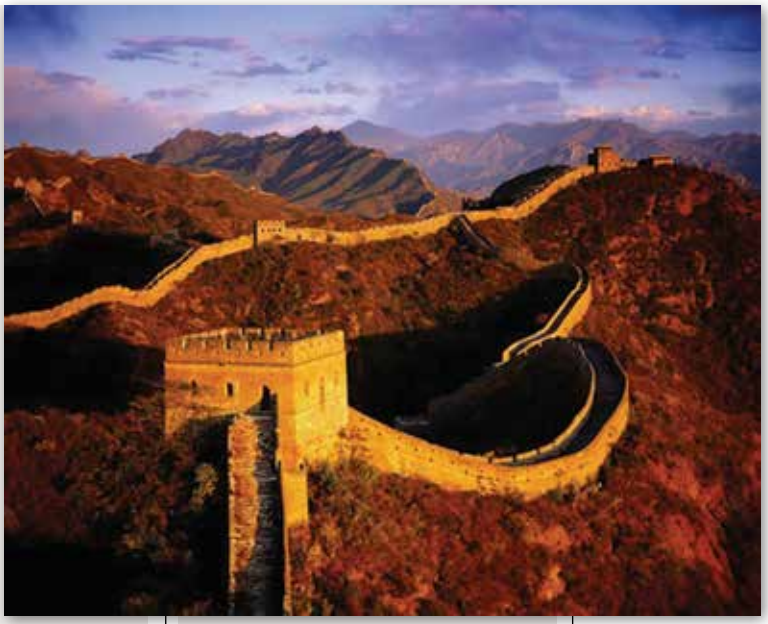
major strategic conundrum that has attracted such stark and diverging policy solutions. Each of them – predominance, accommodation, or hedging – carries within it a clear implication that the other options would be catastrophically mistaken.

The advocates of predominance argue that even the slightest suggestion of ceding ground to China, as advocates of accommodation and hedging suggest, will simultaneously dishearten allies and encourage Beijing to increase its demands.

Advocates of accommodation argue that a predominance strategy or a hedging strategy will socialize an antagonistic China. Hedging theorists are convinced that predominance without socialization will antagonize a powerful foe; and socialization without strength will open Asia's weak institutions open to manipulation by Beijing.

Despite these deep disagreements, there is one thing that all of these options share: a belief that powerful countries such as China and the United States will respond rationally to the incentives they are presented with.

The predominance strategy is based on an assumption that countries will always respond to overwhelming military superiority by backing down and playing by the rules. The accommodation strategy assumes that countries will respond responsibly and with gratitude when others make space for them and show them respect. Hedging assumes that a complex mix of superiority and accommodation will channel the foreign policy of a rising state down a channel of acceptance and then investment in the status quo.



The Great Wall of China - the ancient power is looking beyond it

These seem to me to be very momentous bets, particularly given that even a cursory reading of international history suggests that states do not always respond rationally to the incentives they face. Indeed, it's not at all hard to think of countries that have acted wildly irrationally, with major consequences for all concerned.

The reason, of course is that strategy and foreign policy are the products of politics, and politics can be a deeply irrational process. It was that greatest of all naval strategists, Alfred Thayer Mahan, who once wrote,

To understand in the best sense, it is necessary not only to recognize the interests of a nation, but to enter as well into its feelings... The sentiment of a people is the most energetic element in national action. Even when material interests are the original exciting cause, it is the sentiment to which they give rise, the moral tone which emotion takes, that constitutes the greater force. Whatever individual rulers may do, masses of men are aroused to effective action – other than spasmodic – only by the sense of wrong done, or of right to be vindicated.

If Mahan is right – and I think he indeed is – the two great protagonists in the Pacific are unlikely to respond to each other like chess players or that great fiction, *homo economicus*.

I believe there is a great deal of evidence that both China and the United States are already acting

Chinese Luda class missile destroyer - the first surface warfare vessel designed and built in China, shown in 1997

according to deep, historically ingrained impulses and images of the Pacific. Their visions of how the Pacific Ocean has affected them, shaped them, sustained and threatened them, have become fundamental to the countries that America and China are today, and will be into the future.

These historical-cultural experiences mean that Washington and Beijing don't approach their strategies in the Pacific anew every day; but that their understandings of what is possible, desirable and unacceptable in the Pacific are deeply rooted in their senses of self.

Both China and America began as small civilizations a long way from their respective Pacific coasts, and for each country, the incorporation of its Pacific coast into its expanding terrestrial empire had a profound impact on it.

Chinese civilization began on the Huang Ho plain and developed a terrestrial outlook: agrarian, of Han ethnicity, based on a Confucian conception of harmony, and threatened mainly from its landward side. Southern coastal China was a different world: commercially oriented; dynamic, maritime, and controlled by the southern Yue people. Unlike terrestrial China, its rice and maritime food production were not subject to government monopoly.

It was an outwardly-focused and open society, with trading and settler networks spanning the Nanhai, or South China Sea, as intense and dynamic as those spanning the Mediterranean on the other side of the world.

The southern expansion of the Han people incorporated the Pacific coast into the Chinese empire with the decisive defeat of the southern Yue kingdom by the Han dynasty in the first century BC. Here imperial China found a cosmopolitan, maritime society able to supply its thirst for luxury goods, spices and religious objects that could only be brought in by trade.

But China was not completely won over by its Pacific coast. The old terrestrial, harmony-obsessed China resisted the lure of maritime commerce, nurturing prejudices against merchants, the Yue people and the overseas Chinese. Surviving texts show a vigorous debate among court officials over the relative merits of an agrarian versus a commercial society.

China's divided soul gained geographical expression in 1127, when the Sung dynasty fled south of the Yangzi and established its capital at Hangzhou, a city facing the sea. As they waged war against the Mongol invaders, the Sung gained great strength and sustenance from the sea, and it was not until the Mongols mastered the crafts of seamanship and maritime strategy that they were able to defeat the Sung.

China's maritime power reached its apogee under the Mongol Yuan Empire, which sent invasion fleets against Japan and Java, and its successor the Ming Empire, which conducted seven trade and tribute missions as far as East Africa, under the eunuch admiral Zheng He. But the expeditions were halted, and commerce and shipbuilding banned suddenly in 1433.

After 4 ½ centuries as the world's leading maritime power, China turned away from the sea for the next 5 ½ centuries.

The underlying reason for the sudden and enduring urge to shut China off from the sea was a resurgence of the spirit of terrestrial China. A surge of neo-Confucianism in the imperial capital coincided with a push by scholar-officials against what they saw as the corruption of commerce and the inordinate power of the imperial eunuchs. The neo-Confucians believed that openness and commerce were profoundly disturbing to the harmony – and therefore the stability – of the Empire. But simply shutting out the sea did not eclipse maritime China. Commerce continued through smuggling and piracy, and rebels against the Ming and Qing Empires made use of the sea and its islands for refuge and as power bases.

But perhaps the most dangerous maritime threat to imperial China appeared in the form of insistent European traders who arrived on China's southern coast and refused to leave. The Pacific became a source of instability, challenge and danger, as each trading post contained the seeds of corruption, unrest and cultural challenge. But the more the westerners demanded access for their merchants and missionaries, the more the Qing dynasty drew inwards. Ultimately humiliation and defeat came from the sea – from the Opium Wars to the Japanese invasion to having to tolerate the Guomindang on Taiwan. And so Deng Xiaoping's decision to open China to the sea and the world – significantly through special economic zones along China's

The aircraft carrier USS Theodore Roosevelt, background, joins a multinational formation including the People's Republic of China Navy missile destroyer Guangzhou (DDG 168) and the Pakistan Navy frigate PNS Badr (USN photo)

Pacific coast – must rank as bravery of millennial proportions; the overturning of 5 ½ centuries of the dominance of terrestrial China.

But China's reform and opening should not be read as a clear and final victory of maritime China over terrestrial China. Embracing its maritime soul has made China wealthy and powerful, but at the cost of rising anxiety about the instability that comes from openness. Whether it's fluctuating commodity prices, or the threat of hot money flows, or the influence of new social media on the young, its very openness places China in a perpetual state of existential anxiety. Even though it has been enriching, the sea is still a source of threat and instability, with the memories of the collapse and humiliation of China from the ocean still raw and real.

For a young and vigorous America, the Pacific symbolized something very different: a boundless frontier in which America would consolidate its true nature: entrepreneurial, egalitarian, democratic, spiritually uplifting. America entered the Pacific with a commercial and missionary zeal it showed in no other part of the world. Whereas America's Atlantic face saw America as an expression of the world, its Pacific face saw America as remaking the world

In the Pacific, America's Christian and commercial zeal were fused; the vision of ancient societies, oppressed by oriental despots and pagan superstitions, and newly threatened by European colonial monopolies, aroused a righteous, crusading spirit in American breasts.

The westward-pushing spirit of America symbolized the need to escape old aristocracies of power and old monopolies of finance capital, to forge an egalitarian, intensely democratic, enterprising spirit in America.
For Americans, and Republicans particularly, the Pacific became an expression of all that was pure and vital in the American character.

President Theodore Roosevelt said in 1903:

"The Mediterranean era died with the discovery of America; the Atlantic era is now at the height of its development and must soon exhaust the resources at its command; the Pacific era is destined to be the greatest of all, is just at its dawn"

The crusading American spirit was, on the one hand, provoked by Emperors in China, Japan, and Korea, who tried to seal off their kingdoms from the outside world.Commodore Matthew Perry, whose Black Ships sailed into Tokyo Bay in 1853 to open up Japan to American trade, gave this sentiment full voice when he said:

"I have a full conviction that the seclusion policy of the nations of Eastern Asia is not according to God's plan of mercy to these peoples, and their governments must change them through fear or force, that the people may be free."

The other great provocation to the Pacific spirit of America was European colonialists that were trying to carve up Asia and the Pacific into specific trading blocs. To Americans of the 19th century, colonialism of this sort evoked the trading monopolies that had provoked the founding fathers to revolt: they smacked of a business aristocracy living off unearned income.

Ultimately the expression of America's vision in the Pacific was Secretary of State John Hay's "Open Door" notes on China, insisting that all outside powers preserve China's territorial integrity and the equality of access of all to the China market. It was imperial Japan's contravention of the Open Door principles, in carving out an exclusive empire in Korea, Taiwan, Manchuria and northern China that aroused American hostility, and ultimately led to the Pacific War.

To this mindset, the Communist victory in China came as a devastating blow: the ultimate defeat of America's vision to transform Asia in its own democratic, Christian, commercial and modern image. Hence the fury of the Republican Party over the "loss" of China, and the subsequent McCarthy inquiry, and the bitter wars in Korea and Vietnam. The Pacific for this America was, and still is, a symbol of its pure soul: a free and boundless frontier; the symbol of a dynamic future.

A glance at history shows that China and America have very different experiences of the Pacific; and the Pacific has shaped their national souls in very different ways. Geography has always shaped national cultures; so it should not surprise us that oceanography can have the same effect.

China approaches the Pacific with not a small amount of trepidation, with memories of the threats and instability that come from the sea not far from its mind.

America's Pacific is a different ocean: a place where the first great fortunes were made between the Revolution and the War of 1812; where it played a consistent and active role in pursuit of its ideals of open oceans and open commerce; where its navy single-handedly shaped the most productive and dynamic regional order ever seen.

You can see these opposed visions of the Pacific in contention in the South China Sea today. China's objectives are territorial and exclusive; its offer of freedom of passage through the waters it claims are based on restrictive rules and Beijing's express consent.

The United States has become involved in recent years in support of the principle of freedom of navigation, based on a conception that the South China Sea is a maritime commons, controlled by no-one but open to use by all. To my mind, the South China

Sea represents the broader contest for the Pacific writ small; a contest between two contrasting visions for the Pacific. This means that the contest between the United States and China has about it the quality of a dialogue of the deaf, where each side fails to acknowledge or even understand just how profoundly the other's frame of reference differs from its own.

Unlike during the Cold War, when the aims of the United States and Soviet Union were largely a mirror image, the contest for the Pacific has Washington and Beijing playing different games, with different objectives and different rules, on the same playing field.

It is this situation that is particularly dangerous. It means that a common language, a common set of understandings, and a common set of procedures for managing crisis will be very difficult to achieve. And it means that these are two great powers that are highly unlikely to respond rationally to whatever incentives structures exist. Because the Pacific lies at the core of China's and America's sense of security and self, neither side will be easily persuaded to moderate its claims.

So should we just sit back and watch the region and the world slouch toward oblivion? I don't believe so. Because the equation in the Pacific – and indeed in the Indo-Pacific – is much more complicated that just China versus America. China is not rising alone. The narrowing of the productivity gap between the developed and emerging economies – a development that my colleague Mark Thirlwell calls "the great convergence" – is occurring in other substantial economies also: India, Indonesia, Vietnam, South Korea, Thailand.

China is rising in a neighbourhood that is both crowded and jealous. Japan, Korea, Vietnam, Indonesia and India – combined population almost 2 billion people – are not about to buckle under and live under Chinese regional hegemony. For that matter the three largest of these countries – Vietnam, India and Indonesia – didn't much like the idea of American hegemony either. It is in the growing complexity of the power politics of the Indo-Pacific – the constantly shifting and cross-cutting partnerships and rivalries that are already developing – that the region's stability lies.

I believe it is the alternative – a bilateral contest between China and the United States – that would be the most dangerous scenario. But with a region of half a dozen jostling powers, both Beijing and Washington will be forced to moderate their objectives and temper their rivalry. From the other direction also, it will be in the interests of other regional countries to keep America and China engaged in the region.

For Australia this means moving past discussion of a binary choice – America or China; security or prosperity. For Australia the answer must be America and China – and Indonesia, and India, and Vietnam, and Japan, and Korea, and so on. Our diplomacy and our strategy must become more creative, more flexible, more variegated.

We must draw inspiration from our maritime environment – the unconquerable sea, so bountiful to those who listen to its rhythms and logic, so frustrating and dangerous to those who try to impose different rhythms and logics on it. Perhaps this is the century in which Australia must embrace and listen to its maritime soul:

The heave and the halt and the hurl and the crash of the comber windhounded.

Michael Wesley was until recently the Executive Director of the Lowy Institute for International Policy. Previously he was Professor of International Relations and Director of the Griffith Asia Institute at Griffith University. Prior to this, he was the Assistant Director-General for Transnational Issues at the Office of National Assessments, and a Senior Lecturer in International Relations at the University of New South Wales.

Between 2007 and 2009, Dr Wesley was the Editor of the Australian Journal of International Affairs). He has served on the Australian Research Council's College of Experts and the Queensland Art Gallery's Board of Trustees. Dr Wesley is a Non-Resident Senior Fellow at the Brookings Institution and an Adjunct Professor at Griffith University and The University of Sydney.

His most recent book There Goes the Neighbourhood: Australia and the Rise of Asia (NewSouth Books 2011) won the 2011 John Button Prize for best writing on Australian public policy.

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The Navy's role in the Maritime Century

ADDRESS BY VADM RAY GRIGGS, CHIEF OF NAVY TO THE LOWY INSTITUTE 17 AUGUST 2012

Ladies and Gentlemen, what I'd like to talk to you about today is the link between navies and national security and prosperity, and in particular the Royal Australian Navy's role in relation to the maintenance of Australia's security and prosperity. I believe this is a particularly important topic right now because Australia has entered a century which has already received many labels. But to me, as Chief of Navy, it is very much a Maritime Century and that is the label that I wish to focus on today.

Now, throughout this talk, when I use the term 'maritime', I use it in its broadest and most inclusive sense. Maritime certainly includes more than just about naval issues. Likewise, when I use the term landcentric, I am not referring to something being Armycentric.

My basic premise is that Australia is more reliant on the sea and the proper functioning of the global maritime trading system for our prosperity than at any time in the past. In short, we are absolutely reliant on good order at sea. Yet we have a landcentric mindset that underpins our strategic discourse. This mindset needs to be changed. We are a maritime nation and the sea's contribution to our prosperity needs to be properly recognised and reflected in our approach to our security thinking.

But why do I say we've entered a maritime century? And why is it particularly important now? After all you might think, we've had a globally connected economy for more than two centuries.

Surely maritime trade is nothing new and the links between it, economic prosperity and national power should be well understood? Are they though? If the historical linkages between trade, economic strength and military power need reinforcing then I can do no better than to recommend Paul Kennedy's two 'rise and fall' works on great powers and British naval mastery.

What I think has changed in recent years is the **pervasiveness** of maritime trade. Because Australia has always been connected to the world by sea, the huge growth in global maritime trade is less visible from an Australian domestic perspective. But if you look at the Liner Shipping Connectivity Index (the LCSI) which measures the changes in coastal nations' connectedness via shipping networks, you will find that 75% of countries have seen an increase in their connectivity since 2004.

Alongside this trend, there is an even greater growth in international container traffic. This has grown by an order of magnitude from about 40 million Twenty Foot Equivalent Units or TEUs in 1982, to over 500 million TEUs in 2008. Even allowing for the Global Financial Crisis, the net effect of these trends is to place a lot more international trade on the oceans of the world – the effect of maritime trade is thus far more **pervasive**, more widespread than ever before. Much of this trade is, of course, not in finished goods. It is instead in components for globalised industries. And many of these "just-in-time"

USS Essex conducts a beach landing rehearsal during Exercise Talisman Saber

The Navy's role in the Maritime Century

international supply chains depend on consistently predictable deliveries.

In addition to the containerised traffic, there is Australia's complete dependence on the free and uninterrupted movement of bulk carriers for shipping grains, oil and gas, ores and coal to our overseas markets – here, maritime trade is simply essential to Australia's ability to benefit from our natural wealth. We also depend on the bulk trades for imports. Without the constant import of petroleum products, Australia only has enough to supply the country for a few weeks. The economic and social dislocation would be massive if there was any significant interruption. Indeed, you could argue that we are now more dependent on maritime trade for the sinews of our economy than at almost any stage of modern Australian history.

Notwithstanding the growing importance of maritime trade, there is much more to the notion of a Maritime Century. The second major trend I wish to highlight is that, more than ever before, **humanity depends on maritime resources.**

The gradual extension of coastal state jurisdiction under the 1982 Law of the Sea Convention was driven primarily by the value nations have seen in two areas – offshore oil and gas and fisheries. Both of these have a direct connection to our national prosperity. The offshore mineral resources industry is essentially a postSecond World War phenomenon. The first offshore drill rigs out of site of land were deployed in the late 1940s. In Australia, it was the 1950s and 1960s before the West Australian and Bass Strait offshore fields were drilled commercially. Today, deep water drilling technology has created the capacity to tap into an even wider pool of resources.

Moving from energy to food, the proportion of the world's food sourced from the ocean is also growing. Again, starting in the 1960s, the efficiency and effectiveness of industrial scale fishing has enabled a near doubling in the per capita consumption of fish protein. As wild fish stocks have been fished out or been insufficient to match demand, aquaculture production, usually located in littoral areas, has increased fifty-fold over a similar timespan. In 2006 marine aquaculture provided over 50 million tonnes of fish protein – and much of this fish farming occurs in the Asia Pacific.

Finally, I think that no matter what your view of climate change, it seems to me self-evident that today we place a lot more value on the **intrinsic worth** of our maritime environment – the focus on compulsory pilotage for vessels transiting the Great Barrier Reef is a practical testament to this. In addition, maritime tourism around Australia's coasts makes a big contribution to our economy that is seldom mentioned.

I'd suggest to you that none of the trends I have outlined are going to be reversed – the 21st century is a maritime century, just as much as it is an Asian century. In fact, an Asian century will be even more maritime in nature by virtue of the region's geography – Asia's intra-regional trades and linkages are more maritime in character than either Europe or North America – and of course the region has more maritime boundary disputes than in any other region of the world.

So what does this mean for Australia?

Clearly a key issue for Australia is how we can contribute to ensuring that the use of the sea, for a multitude of activities, remains free and uninterrupted. There is no doubt that no single nation can maintain the security of the maritime trading system. Like most things at sea, security on this scale must be a cooperative and collaborative venture.

A big problem for us in thinking through these issues is that our national security discourse has been overwhelmingly landcentric. In some ways this is inevitable. Most human activity takes place ashore and that is where decisions are made. But our national security debate has been a largely binary discussion between the disciples of the continental and the expeditionary schools of thought. This is a discussion which skews the overall perspective and ignores some important issues. As Michael Wesley said recently, what Australia needs is a well developed maritime imagination.

For the continentalists the focus is very much on the physical security of the homeland. The sea and surrounding and air above appear to be almost an embuggerance. We have enshrined it in the term 'the seaair gap', a term that implies that the sea and air are devoid of features of interest or of value. The continentalist approach has never, and will never, be an appropriate school of thought for an island nation and certainly not for one in a globalised world. And it simply can't work for a nation which needs to protect its sovereignty and sovereign rights thousands of miles from its coast.

Our maritime zones are larger in area than continental Australia and our maritime search and rescue zone covers over eleven percent of the earth's surface. Our maritime zones contain a multitude of riches from oil & gas fields, fisheries, coral reefs to all the potential that goes with further exploration and exploitation of an environment we know less about than the surface of the moon. If I can paraphrase the Chief of Air Force's recent comments, a continentalist approach 'misses the broader context that Australia's prosperity, and indeed our way of life, is based around our ability to trade, and more precisely, to

HMAS Anzac – Gulf deployed - photo by Chris Sattler

be able to trade across the oceans and airways.'

Some may think that the expeditionary school is more maritime focused but in reality it is just as landcentric as the continentalist school – it is just focused on land somewhere else. In this approach, the sea is really only to enable the force to be transported and resupplied. This is not in and of itself an inappropriate view in some circumstances, but it again does not fully answer the mail on what Australia really needs.

Both of these schools fundamentally ignore the inherent value of the sea to Australia. They ignore or gloss over our fundamental national need to have the ability to use the sea when and as we require. There is, in my view, a third way – a maritime perspective, or school if you wish, which is rooted in the geostrategic reality of our national situation.

I reiterate that when I say maritime I use this term in its broadest context. It is a view which incorporates all the elements of military power – it is a view that integrates all dimensions of national power.

The Chief of Army has said in the past that the nation needs its ADF more than it needs its Navy, Army or Air Force – I absolutely agree with his point, but would take it even further. We are too small to be anything other than an integrated force.

I am deliberately not using the term joint, because I see integrated as being beyond joint. Integrated brings into play the capabilities of the rest of government and the broader nonADF Defence capabilities that we rely on.

We do of course need each of the components of the ADF: they each bring capabilities in the domains on which they focus. What we do not need though is a duplication of functions. And above all we don't need a strategic mindset that ignores the very thing our nation is girt by.

Intellectually I think the 2009 White Paper largely represented this maritime outlook. As Minister Smith said here last week, there were three key strategic interests expounded in the 2009 White Paper: the defence of Australia from direct armed attack; the security, stability and cohesion of our immediate neighborhood; and the stability of the wider Asia Pacific region from North Asia to the Indian Ocean. The Minister made the point that these three enduring strategic interests remain in place for the 2013 White Paper.

I think a maritime outlook to our strategic thinking encompasses all of these key strategic interests. And in the third of these interests – the stability of the wider Asia Pacific region from North Asia to the Indian Ocean – I think a maritime outlook is simply essential for Australia to be effective in achieving its strategic goals.

It has always been curious to those of us in Navy why we as a country tend to think of ourselves as Pacific nation and very rarely as an Indian Ocean one. It took some vision in the 1960s and 70s to take the step of building *HMAS Stirling* in Western Australia. It took just as much to seriously adjust the Navy's force disposition in the late 80s and into the 90s to create a two-ocean navy. Many of us have spent months deployed in the Indian Ocean. In the early 80s in particular it was our real brush with the Cold War as the Government deployed ships as part of an independent presence in the Northwest Indian Ocean following the Soviet invasion of Afghanistan.

Today, in very different circumstances, we have *HMAS Anzac*, the 53rd ship deployment to the Middle East Area of Operations since 1990.

The Indian Ocean is critical to the endtoend global trading system on which Australia depends – whether

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A significant decision to build - aerial view of HMAS Stirling wharves (CPO Mal Back)

ships come around the Cape of Good Hope, through the Suez Canal and the BabelMandeb or through the Straits of Hormuz. The goods or material they carry might not be bound for us, but, they are almost certainly bound for one of our major trading partners. The Malacca Strait, for example, is the major eastern access to and from the Indian Ocean. About 30 percent of all world trade passes through it. This includes about 80% of all China's and Japan's oil imports. In 2006, twothirds of North Asia's LNG imports passed through the Malacca Strait – a percentage that may since have decreased a little due to the success of Australia's LNG export industry. That trade obviously passes up through the archipelagic sea lanes through Indonesia.

It is also notable that some recent domestic public discussion about the South China Sea has focused on more than just the territorial disputes. About two thirds of our exports and almost half our imports pass through this area. And for most of our key partners their interests are also significant. Of course the South China Sea issue is a complex, multi-layered issue, but the discussion about how it directly affects us is I think, useful.

So what does this mean for Australia's Navy?

The advent of a maritime century means Australia's Navy must be part of Australia's overall national effort to engage with our region and we must be able to contribute to good order at sea.

Australia's ability to contribute capable forces to practical multi-lateral efforts makes us a valued partner and our diplomatic efforts are given strength by our ability to back up words with actions. This is one of the key outcomes of our operational and regional deployments – they show case Australia's practical ability to engage with and assist regional partners.

What underpins and drives Navy's capacity to serve Australia in any capacity is its warfighting capability. The warfighting task is the key reason for our existence and to have a fighting service that can't is simply unacceptable. That is why we maintain our high end warfighting skills in activities such as the recently completed RIMPAC exercise off Hawaii and the biennial TALISMAN SABRE series of exercises here at home.

Our key peacetime role is the broader maritime security role, which includes the SLOC protection mission and, domestically, border and offshore

resource protection. Finally our international engagement activities provide key confidence building and training opportunities. The point I am making here is that navies are an incredibly useful tool for government across a wide range of contingencies, not all of which need to involve the use of deadly force.

Moreover, navies are inherently international and collaborative – the seas remain the great global commons and because, as I have said, the international trading system is inherently global, we have a fundamental responsibility to contribute to its safe and effective operation. I see this as being no different to our search and rescue responsibilities – we cannot expect help for Australian mariners around the world if we do not make a practical contribution in our area. Likewise, we cannot expect to be prosperous if we don't help maintain the system that underpins that prosperity. To me this collaborative approach to the global maritime trading system is a great unifier to trading nations – the potential start point to unlock some of our more challenging tensions and rub points that exist.

But our engagement does not have to be about ships per se. A particularly important form of naval diplomatic engagement is through institutions like the ADMM+ Expert Working Group on Maritime Security, the Western Pacific Naval Symposium – an Australian innovation – and the much younger Indian Ocean Naval Symposium. The Indian Ocean Naval Symposium or IONS, as it is known, is one of the few pieces of security architecture in the Indian Ocean region. It is still developing but it does represent an important gathering of naval chiefs from the Indian Ocean rim and it does offer a particular focus on the maritime security challenges we all confront. Furthermore, all of the key global navies are represented at IONS either as members or as observers. This fact alone reinforces the point Minister Smith made last week about the global importance of the Indian Ocean.

At present the chairmanship of IONS is with my South African counterpart, I will take chairmanship in Perth in early 2014 at the next major meeting of IONS. This will be an important opportunity for the RAN to play a crucial role in the further development of this important grouping. We of course have for some years participated in the Western Pacific Naval Symposium (WPNS) which has seen the development of standard operating procedures for Humanitarian Assistance and Disaster Relief as well as regular at sea interaction, mostly focused on mine counter measures and medical support.

There is no doubt that the new White Paper process will bring about a fresh look at the 2009 White Paper force structure. There is also no doubt that given the new fiscal reality, some things will change. But given that our strategic interests remain the same, I am not expecting the basic foundations of the ADF to look that different.

You of course face choices about the type of force structure you have. Successive Governments always pursued a balanced fleet as part of a broader balanced force approach. However, we have rarely defined what this means. Various definitions exist, but to my mind, in the Australian context, it means the most cost-effective balance of warfighting capabilities that are required over the long term to defend our national interests. This does not mean we must have a little bit of everything. It does mean we focus on those capabilities that are both difficult to reacquire if lost and those which make a significant contribution to Australian security. From a naval perspective these are the core warfighting capabilities – air warfare, surface warfare and under sea warfare.

I don't subscribe to the force expansion and warning time arguments that some expound – certainly not in relation to complex, hightechnology, longlife capabilities like submarines, major surface combatants and combat aircraft. These are capabilities not quickly acquired, nor brought up to operational standards and I think it quite fanciful and ultimately strategically dangerous to plan or act otherwise. Rapid force expansion may have once held in raising an infantry battalion or building corvettes as we did in World War 2, but it simply does not hold for any of the Services today. We must accept that we are a come as you are defence force. We may be small, but we had better be properly formed and able to do what we can well.

Looking through a maritime rather than a continentalist or expeditionary lens at the naval force structure there is one overriding factor in our strategic circumstance, we must have reach and endurance. If we accept that we may need to have presence at any of the key choke points of the Indian Ocean, then we must be able to deploy and then operate in a sustained way, at a considerable distance from Australia. Even if we were to operate in the northwest approaches of the Malacca Strait as part of a multi-national regional force we need range and endurance.

If I turn to some specifics, Government is rightly looking at a range of options for the future submarine project, ranging from the smaller European MilitaryoffTheShelf option through to a new large conventional submarine design. I am less caught up in the numbers debate – the current Government policy on that is clear. I am more focused on ensuring

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that we get the best capability outcome for the resources that Government is able to put to the project. The 2009 White Paper articulates the current Government position on what sort of submarine we seek but it remains incumbent on us to explore and fully understand what the various options give us as we move towards first pass consideration – and we continue this work.

The next big debate in naval terms will be over the replacement for the ANZAC frigates. Frigates have been the workhorse of navies for hundreds of years, nothing has changed in that regard. Every bluewater Navy has them as a core part of the capability. Again, the 2009 White Paper had some very clear views on what was needed for us in a region where there was a considerable increase in the number of regional submarines. It is the frigates that provide Government with large amounts of flexibility and lots of options - but we do need to avoid the fitted for but not with trap particularly in tight financial times. We are getting the ANZACs to a great level of capability but we are approaching the half way point in their life – this is clearly not sustainable for new acquisitions if we are a "come as you are" force living in a region which has a range of dynamic security challenges.

Our frigates will continue to range across the Indo-Pacific providing presence, showing resolve, protecting trade, building stronger ties with regional navies, enforcing sanctions, countering terrorism and piracy and enforcing sovereignty close to home and even in the deep Southern Ocean. This is just a snap shot of the options they have provided Government in the last 15 years. Their utility is hopefully selfevident and the options they provide are considerable. That is why they are an essential part of any navy with a true maritime outlook.

The other big piece of the force structure going forward is the amphibious capability. There is no doubt that the power projection capabilities of the LHD, when combined with other parts of the broader ADF force structure is impressive. Maritime power projection is a critical capability for the ADF, particularly in its regional role of contributing to the security and stability of the South Pacific and East Timor. At its heart is the delivery of force from the sea, be that through naval bombardment or the use and support of land forces in an amphibious activity. Power projection however does not always involve the use of military forces in a 'hard power' way. HADR and non-combatant evacuation operations are of course a manifestation of the same foundation techniques and capabilities used for harder edged power projection missions in achieving important noncombat missions. In the LHD we will have the core of the ADF's hard and soft power projection capability.

One final thought on force structure – it is just as important to understand the cost of ownership as it is to understand the cost of acquisition. We have learnt the hard way what happens when you under resource the maintenance and sustainment of a maritime capability. This is complex work. There is no point in making it more complex by having a disparate fleet of ships and submarines that have little in common in terms of platform systems, sensors, training systems and the like. In my mind this drives us toward having classes of ships with a similar heritage or design philosophy or for us to mandate key systems and suppliers so that we keep through life cost of ownership at the forefront of our acquisition decisions. We still have to be smart in the way we do this because we can't afford to lose the advantage the taxpayer gets in the competitive nature of the early part of the acquisition process.

The work we have embarked on following the Rizzo Review into the maintenance and sustainment of our amphibious and afloat support ships has been significant and obviously informs my views about the costs of ownership. I don't think people realize the scope and scale of the task we are undertaking post the Rizzo review. Of course while the catalyst was the failure of the support system for the amphibious ships we have not confined this work to that part of the force and have taken a system wide view of the issue. In July I formally brought the Seaworthiness management system into force. This system is similar to, but not a copy of, the airworthiness system that we have had in Defence for decades. It builds on the seaworthiness board construct that was introduced by my predecessor in 2009. There is also some very good work being done regarding total cost of ownership, reducing maintenance backlog and rebuilding the maritime engineering function. This last year has been about building momentum in the program and I am very comfortable that we have done this but there is still much to be done and we will continue to remain focused on it.

Turning to our culture, New Generation Navy, our cultural change program has just had its third birthday. All our indicators for NGN are positive. We are seeing Navy's measured culture moving in the right direction. We have seen significant drops in instances of Unacceptable Behaviour against a backdrop of a more open reporting culture. We have noticed significant reductions in positive tests results for prohibited substances and alcohol testing both of these in an environment of increased testing. We will never have zero incidence of these issues, but

our people are making it very clear that they want to see people who are not living our behaviours and values held to account.

When I came to the job I said NGN would continue but that it would evolve. We are in the process of evolving the program to reflect the challenges that we face today. There will be more emphasis on the cultural dimension of the Rizzo work particularly on embedding a culture that supports the seaworthiness construct. We are doing some work on developing a contemporary war-fighting culture which also must be central to our ability to achieve our mission. What we must ensure over this time is that NGN remains fresh with our people – hence the evolution we are driving at the moment.

Finally I would like to touch on the magnificent work that our people are doing in the border protection arena. It is worth stating here that Navy's job is to safely and lawfully execute the direction of Government. It always has been and always will be. We don't take positions on policy, we execute it.

In the execution of the current policy our people are operating in a very hazardous environment – rough weather in open ocean, crowded boats, desperate people unused to being at sea.

Against this backdrop and combined with the pressures of intense public scrutiny on this issue, our people are doing their job superbly – they do it with courage, professionalism, compassion and always do their utmost to ensure that those in peril at sea are safely dealt with. We are not, and never have been reluctant rescuers as some have tried to paint us.

Ladies and Gentlemen, thank you for your time – I'd be happy to take questions.

HMAS Melbourne sails into Sydney upon return from a six month operational deployment to the Middle East Area of Operations (MEAO)

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World Naval Developments

BY DR NORMAN FRIEDMAN[1]

Late in July it was reported that there were canisters like those of the DH-10 land-attack cruise missile (a sort of Chinese Tomahawk) on board the Chinese naval test ship, presumably as a preliminary to surface ship deployment in this form. DH-10 is reportedly based on the Russian Kh-55/65 (AS-15), an air-launched cruise missile developed in the 1980s. In that form it is a long-range turbofan-powered missile (a range of 2500 km – about 1350 nm has been quoted) with either a nuclear or conventional warhead, the latter typically credited with a 410 kg warhead. These figures are roughly those of the strategic version of Tomahawk.

After the Soviet collapse, Kh-55/65 missiles remained in Ukraine. Some were illegally sold to China; a photograph of a Chinese cruise missile in a wind tunnel actually probably shows one of these weapons. The Chinese probably also obtained unexploded US Tomahawks, particularly after the 1998 strike against Al Qaeda in Pakistan.

In land-based form DH-10 is typically fired from a triple inclined launcher. It uses INS/GPS guidance and terminal electro-optical guidance, possibly digital scene-matching. The missile may also be air-launched (a modified Chinese-built Badger bomber apparently carries six missiles). All of these data are open to question. In its most recent report (August 2011) the US Defense Department credited China with a total of 200 to 500 ground-launched long-range cruise missiles (presumably all DH-10s) on 40 to 55 launchers. The figure in the 2008 report was 50 to 250 missiles on 20 to 30 launchers, the difference giving some idea of the estimated production rate.

It is also possible that the Chinese cruise missiles are based on the Russian sea-based cruise weapon, now known as the Klub series, which was actively advertised to the Chinese beginning about 2000. That seems to be the case with the tactical YJ-62 (C-602), but it has nothing like the range claimed for DH-10. Presumably the range difference is due mainly to the use of a small turbofan engine on DH-10. The situation is complicated by the known difficulties the Chinese still have in turbofan engine production, presumably due to gaps in metallurgy due in turn to the remaining echoes of the disastrous Cultural Revolution of the 1960s and early 1970s (the Chinese still depend on foreign-made high performance fighter engines, for example). YJ-62 is already on board ships, so presumably the new canisters indicate a different missile. However, the weight of the new missile is probably not far from that of YJ-62, so the new missile can probably replace the earlier one on a one-for-one basis. Given that the Russian missiles on which both DH-10 and YJ-62 were based had comparable performance, it is not clear why the Chinese chose to deploy two separate missiles. Presumably that was a matter of industrial policy (the two missiles are made by different organization).

It is tempting to compare possible Chinese naval deployment of a long-range land-attack cruise missile with the initial US Navy deployment of Tomahawks aboard surface ships, including battleships, in the 1980s. That would be unfortunate. The point of initial US Tomahawk deployment was to saturate the Soviet ocean surveillance system. It was well known that the Soviets felt compelled to track any Western warship or formation capable of attacking the Soviet Union, which meant carriers, large amphibious ships – and, after the mid-1980s, surface combatants armed with land-attack Tomahawks. The deployment of those ships increased the numbers the Soviets had to track by an order of magnitude. There was also reason to believe that the Soviet tracking system was badly stretched.

The US Navy surely already tracks Chinese surface warships, and there is little reason to imagine that the small number at sea at any one time badly stresses it. It is unlikely that small numbers of long-range land attack missiles, nuclear or non-nuclear, on board a few large Chinese destroyers would make much of a difference in this respect.

A more interesting possibility is that the Chinese plan to use their cruise missiles the way the West uses

The 4,000km-range Dong Hai-10 (DH-10) land-attack cruise missile public domain image)

1 Well known author and analyst Norman Friedman's latest book is *The Naval Institute Guide to World Naval Weapon Systems*

Tomahawk, to hit particular precision targets from unexpected axes. For example, a Tomahawk shooter can support air operations by destroying enemy air defense command centers or radars. The range of the missile, and its GPS guidance, make it possible to fire from an unexpected direction, and from a platform far out to sea. If the Chinese fielded large numbers of their DH-10s aboard surface combatants, they might present defenders, for example on Taiwan, with a serious problem. When the Royal Navy adopted land-attack Tomahawk on board attack submarines, its view was that the missiles offered leverage, in that they could disable air defenses and thus make limited numbers of carrier strike aircraft far more effective. The US Navy may have a similar view of the value of land-attack Tomahawk on board its own submarines.

However, the totals available seem limited. US attack submarines have 12 Tomahawk tubes. The British have not revealed their load-outs, but a British nuclear submarine can probably carry a comparable number of missiles. The greatest current Chinese destroyer missile load is 16 weapons, and topweight might limit replacement by DH-10s or their equivalent to no more than eight, if that. Very few Chinese destroyers are so heavily armed. A Chinese destroyer can probably never carry as many Tomahawks as a US or British attack submarine, and they would be useful only as part of a larger attack.

In all of these cases, incidentally, effective missile range is substantially shorter than the 1000 or 1500 nm with which nuclear Tomahawk was always credited. That probably has to do with the flight profile necessary to avoid being shot down near the target (not to mention the greater weight of the non-nuclear warhead).

The other possibility is that, having watched the US Navy carrying out massive precision strikes with Tomahawk, the Chinese navy or its government have something similar in mind. In recent years many missile manufacturers have advertised land-attack capability added to anti-ship missiles, which generally means providing them with GPS guidance. The result can certainly fly to a designated spot with considerable accuracy. What is omitted is that a single missile carrying 500 lbs or so of conventional explosives is not a particularly devastating weapon. Ships are unusual targets, in that a single large warhead in the right place can disable or even sink them. Most land targets are larger, and without a great deal of special knowledge they are nearly impossible to disable with only a very few hits.

Would anyone really be all that impressed by eight or so small warheads dropped on, say, a coastal city? The result would certainly be outrage, but would anyone be coerced? Even the most optimistic airpower enthusiasts would agree that it takes hundreds or thousands of such weapons to make much of an

Type 052c destroyer (public domain image)

impression on a strategic scale (and many others doubt that this scale of attack would make much of an impact).

That even applies to concentrated targets such as air defense radars. One missile may well destroy the radar antenna, but professionals tend to stockpile spare antennas. That is why anti-radar missiles are generally rated by the time it takes to repair the damage they do. There is no good reason to think that a missile directed to hit a designated spot will be much different from a 500 or 1000 lb bomb delivered against a radar site.

The US Navy well understands that a few spectacular hits are not enough. That is why it deploys Tomahawk by the hundreds on board missile destroyers and cruisers each of which may have a hundred or more vertical launch cells.

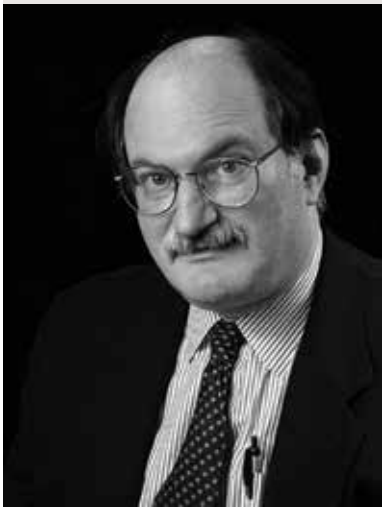
Even then there is a rub. The vertical launch cells cannot be reloaded effectively at sea; once the 100 Tomahawks are gone, the ship has to go back to a base or, at the very least, has to reload very slowly from another ship in sheltered water. The canisters the Chinese are now testing are no easier to reload afloat – and the Chinese have many fewer ships, each of which can carry many fewer missiles. Right now the only kind of ship which can easily take weapons on board at sea is a carrier, because they can be loaded horizontally and struck below in bulk storage. Small numbers of precision strike weapons offer a synergistic effect in combination with a massed naval air force, because they may help suppress its enemies. They are by no means a substitute for the massed aircraft, which can keep returning to rearm after they attack – without going to a rear area.

Land-attack cruise missiles on board Chinese destroyers certainly do, in theory, give the Chinese navy a kind of global non-nuclear reach it has not previously had. In theory, a Chinese destroyer loaded with its eight or so cruise missiles could steam anywhere in the world to fire those weapons. The reality is very different. The ship is not going to steam very far without a lot of logistical backup, which is very limited. Chinese economic control of many port systems is unlikely to provide that backup, because the local governments will still be unwilling to risk military responses from countries hit by the few cruise missiles afloat in the Chinese fleet. Nor has the Chinese fleet demonstrated much in the way of long endurance. Its best performance to date has been sustained presence as part of the anti-piracy force off the Horn of Africa.

Ultimately the Chinese program may be nothing more than a reflection of the prestige accumulated by Tomahawk, the idea being that something similar is wanted. During the Cold War the Russians often acted similarly. Every so often there were stories about Soviet military professionals and scientists complaining that their leaders rejected perfectly good Soviet-developed systems because they were sure that anything developed in the West, particularly in the United States, was a better idea. Examples included their version of the Space Shuttle and their copy of the IBM 360 computer. The Soviet missiles on which the new Chinese cruise missile is based may have reflected similar practice. We can't be sure, because much of the time the Russian professionals had their way and were allowed to make decisions based on their own views. All of this was quite aside from the well-known Soviet (and Chinese) reliance on industrial espionage to solve research and development problems.

Arleigh Burke-class guided-missile destroyer USS Barry launches a Tomahawk cruise missile (US Navy image)

Dr. Friedman is the author of The Naval Institute Guide to World Naval Weapon Systems, Fifth Edition, and Network-centric Warfare: How Navies Learned to Fight Smarter Through Three World Wars, available from the Naval Institute Press at www.usni.org



The F-35 Joint Strike Fighter
A Maritime Focus on its Potential

David Hobbs offers a personal view intended to stimulate discussion

What is the Joint Strike Fighter?

The F-35 Lightning II, more commonly known as the Joint Strike Fighter or JSF continues to fill headlines, not all of which are complimentary. It is technologically complex but over-budget, late and still some years away from operational service.

That said, however, it is demonstrating the ability to do some things that other aircraft cannot. Among these is the ability to operate successfully from big-deck amphibious ships similar to the new *Canberra* class. Its development began before many politicians were elected to Parliament or the first pilots destined to fly it joined the RAAF with discussions about a potential Anglo/US strike fighter project had followed the conspicuous success of the Sea Harrier in the South Atlantic War of 1982. The UK Ministry of Defence had informal talks with the Pentagon about the development of a Joint Advanced STOVL, JASTOVL, strike fighter to replace both the RN Sea Harrier and the USMC AV-8B.

In the early 1990s a number of other strike fighter projects were in the first stages of development in the USA including the USAF/USN Joint Advanced Strike Technology Fighter, JAST; the Common Affordable Lightweight Fighter, CALF, and the Joint Stealth Strike Aircraft, JSSA. With the end of the Cold War, however, the US Government sought economies and in November 1994 ordered that JASTOVL, JAST, JSSA and CALF be merged into a single project with, it was hoped, 80% commonality between the different variants. The merged project was known initially, but confusingly, as the JAST fighter until the new title Joint Strike Fighter or JSF was substituted in 1995. The UK maintained its interest to become a level 1 partner in the new project with UK personnel in the Integrated Project Team.

Three industrial groups were funded to carry out concept demonstrations starting in December 1995 and, surprisingly in view of their wealth of recent collaborative experience, the McDonnell Douglas/BAE Systems/Northrop Grumman design was eliminated first, deemed to be insufficiently technologically advanced, a view that some might like to re-visit with the wisdom of hindsight. Boeing and Lockheed Martin were each funded to produce two demonstration airframes designated the X-32 and X-35 respectively. Subsequently McDonnell Douglas joined with Boeing and was eventually bought outright. Northrop Grumman and BAE Systems joined Lockheed Martin.

The X-35, re-designated the F-35, was selected for full development on 26 October 2001 and Lockheed Martin was awarded a ten year $19 billion system design and development contract. Three variants were to be developed concurrently; the F-35A as a land-based fighter for the USAF to replace the F-16 and A-10; the F-35B STOVL variant to replace the USMC F/A-18 C/D and AV-8B, the RN Sea Harrier and RAF Harrier; the F-35C, carrier version to replace the F/A-18C/D and supplement the F/A-18E/F in service. All were to incorporate a degree of stealth technology with advanced, as yet un-developed, sensors and an unprecedented level of software-controlled equipment; the 'B' was to rely for vertical lift on a horizontal ducted fan system driven through a clutch by a drive shaft from the single main engine which had to be modified with a third compressor turbine and a swivelling jet nozzle.

The F-35 bore a superficial resemblance to the same company's F-22, giving the impression that it was a 'finished product', unlike the X-32 and the 'B' was expected to achieve initial operational capability with a front-line squadron in 2010, the 'A' in 2011 and the 'C' in 2012. Naively, as it transpired, development risk was not considered to be a significant factor and early operational service was to be achieved by building large batches of production aircraft and training service personnel to use them while development continued. The need for STOVL performance drove the entire design and ruled out the use of twin engines which would have been preferable for the 'A' and 'C' versions. The horizontal lift fan and swivelling tail nozzles proved difficult and expensive to develop and the airframe size had to be constrained to allow adequate puffer-jet control in the hover. It is fair to say that the 'A' and 'C' versions would be very different if commonality with the STOVL variant was not imposed on them. When the 'B' was found to be too heavy to land vertically with unused fuel and weapons, all three versions had to be completely re-designed to maintain commonality; work that would have been unnecessary on the 'A' and 'C' alone.

Australian involvement

Australia joined the project as a Level 3 development partner under Project Air 6000, contributing $144 million towards design and development

of what the Department of Defence has named the New Air Combat Capability or NACC. Stage 1 was approved in 2009 and funded two F-35As for delivery in 2014 to establish pilot and maintainer training in the USA prior to operational test and evaluation in the USA and Australia. A further 12 F-35As from the same tranche were to have been funded for delivery in 2015/17 but they have recently been delayed by two years as a savings measure. Stage 2 requires the Australian Government to fund a further tranche of up to 58 aircraft and support enabling elements to form three operational squadrons and a training unit. A project risk assessment expected in late 2012 or early 2013 is likely to delay this phase beyond the delayed implementation of Stage 1. A third phase of this stage is to consider, after 2015, the procurement of further aircraft to form a fourth operational unit, bringing the total buy to 'about 100 aircraft.'

Air aspects of the Maritime Strategy

At the 2012 Australian Sea Power Conference, the Chief of Air Force, Air Marshall Geoff Brown AO, stated that the RAAF was committed to supporting the full range of Navy activities and the Maritime Strategy. He observed that Australia is surrounded by air as well as sea and that the RAN's ability to secure the Nation's approaches and sea lines of communication represent a fundamental contribution to the defence of Australia. The air contribution to the new amphibious capability will comprise a number of roles including the provision of intelligence, surveillance and reconnaissance information; strike; air mobility and control of the air, complementing the principal roles of sea power. Tools will include the JSF; F/A-18F Super Hornet; Wedgetail AEW & C; air-to-air refuelling tankers and P-8 Orions.

In answer to questions the Chief of Navy, Vice Admiral Ray Griggs AM CSC, stated that a lot of work needed to be done before unmanned air vehicles could be procured for

F-35 on sea tests (Northrop Grumman)

The F-35 Joint Strike Fighter
A Maritime Focus on its Potential

operations with the fleet and that it was not Government policy to include fixed-wing STOVL fighters in the air groups to be embarked in the new *Canberra* class LHDs.

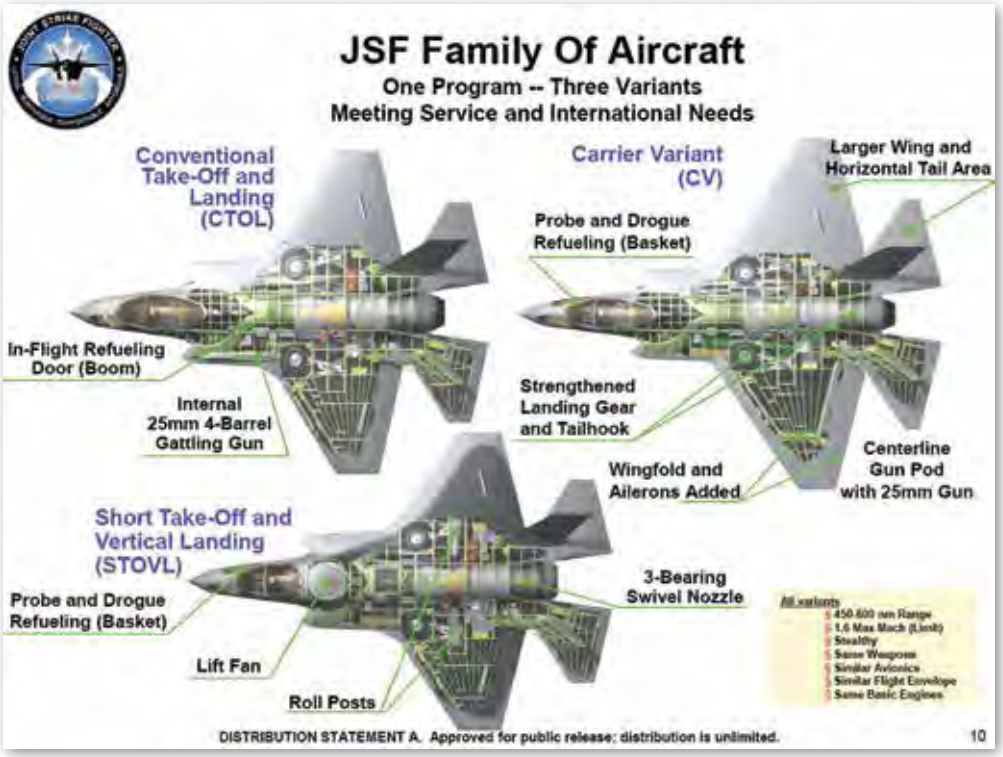
Questions

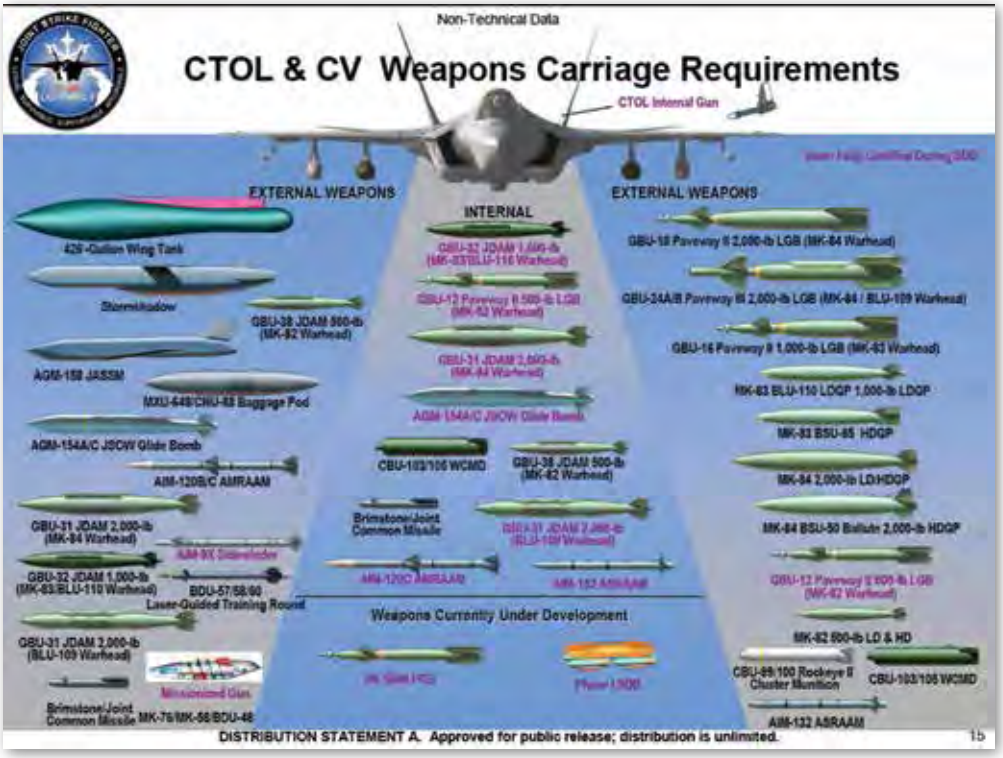
It is heartening to note Air Marshal Brown's enthusiasm for the Maritime Strategy but the ability of RAAF fighters to provide support on the scale proposed more than 250 nautical miles off the coast of Australia must, surely, be open to question. Yes, their radius of action can be extended by in-flight refuelling but long transit times for both fighters and tankers are not an efficient use of scarce, valuable aircraft. Worse, fighters only have value while their weapons last and there is no point in maintaining them on station once they have fired out their weapons even if in-flight refuelling makes it possible. Short transit times to re-arm are essential.

Perhaps airfields on island bases near the scene of action can be seized and used but does Australia have the logistic and engineering capacity to develop them quickly into operation? Fuel, weapons, spare crews, briefing facilities, maintenance facilities and spare parts must be landed quickly, set up and used in hours if they are to be effective and all of that without diminishing the support provided by the 'air bridge' to the fighting troops on the ground who are, after all the spear-head of the whole operation. A base that takes weeks or even days to establish will have little 'air control' to offer the troops on the ground or the amphibious shipping that supports them in the early days that matter.

If all this will be possible at short notice out to considerable distances from Australia then so be it, it is a most impressive capability to have. If it does not exist, however, dare I point out that when *HMAS Canberra* commissions, she will arrive at any scene of action with a runway, fuel, accommodation, workshops, magazines and technicians, all of which will be fully worked up and in operation, in effect a sovereign air base under joint command and capable of straightforward replenishment when necessary.

Viewed in this light, the Government's policy decision not to even consider procuring the F-35B STOVL version of the JSF does not seem to be rational and one has to question the soundness of the advice on which it was based. The US Marine Corps must be considered as the role





model for any amphibious force and Australians will have to work with them closely in any coalition force. The F-35B is designed for use alongside helicopters from American LHDs that are very similar to *Canberra* and the ability carry out cross-deck STOVL operations with such a close ally must be considered important. In the 'breathing space' before more JSF are ordered, there are surely questions to be answered about the variant and numbers of JSF to be procured under Air 6000 to achieve the maximum potential for Australia's Maritime Strategy without bias.

Another question of flexibility in a shorter time-scale might be worthy of consideration. The majority of operations in the Pacific are likely to comprise 'coalitions of the willing' and the training periods that make them possible. The F/A-18F Super Hornet was designed for operation with the US Navy. Should detachments be embarked in US carriers to augment the allied tactical fighter force when necessary? There are precedents with UK, French and Argentinean fighters having operated from US ships.

David Hobbs served in the Royal Navy and is a well-known reviewer and writer on naval affairs.

F-35B on descent (Lockheed Martin photo)

Inset: F-35 JSF STOVL with Lift-Fan open (Defence Industries)

F-35B Testing STOVL (Defense Industries)

F-35C - the naval variant (Defense Industries)

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Vietnam's New Kilo-class Submarines: *Game-changer in Regional Naval Balance?*

BY KOH SWEE LEAN COLLIN

Synopsis

The launch of Vietnam's first Kilo-class submarine is another step closer to Hanoi's dream of acquiring an undersea capability. Notwithstanding the media hype, Vietnam's new Kilos are far from being the game-changer in the regional naval balance.

Commentary

Recently, Russia's Admiralty Shipyard launched the first of six Kilo-class diesel-electric powered submarines acquired by the Vietnam People's Navy (VPN) in 2009, thus marking another milestone in Hanoi's quest for an undersea capability. Assuming production and sea trials run on schedule, the first Kilo should be delivered by the end of 2012, much earlier than 2014 as originally intended while the VPN will receive all six Kilos by 2018.

The submarine programme is an extension of an ambitious modernisation the VPN has embarked upon since the mid-1990s. When it was first announced in 2009, the procurement created waves in the media over its likely impact on the regional naval balance of power. However, from the quantitative and qualitative aspects, this deserves a closer examination.

Kilos in Sino-Vietnamese naval balance

Quantitatively, the VPN cannot possibly hope to keep pace with China's growing naval might due to the latter's economic preponderance. China possesses a huge submarine fleet that stands poised to further widen the quantitative gap not just with Vietnam but with other submarine operators in the region. Qualitatively, Vietnam's new undersea capability provides a credible asymmetric counter-poise to China's growing naval might in the South China Sea. As the Chinese have operated the Kilos since the 1990s, Vietnam's boats will not present a new surprise.

However, Vietnam's Kilos will still create concerns for China's naval planners who in the past did not have to consider a Vietnamese undersea capability. Nonetheless, as far as the regional naval balance of power is concerned, this new capability will not pose too great a challenge to China's naval primacy in the South China Sea, given the growing overall edge of China's submarine capabilities.

Vietnam's Kilos and Southeast Asia's naval balance

Prior to Vietnam's Kilo buy, other Southeast Asian navies had acquired smaller numbers of submarines. Indonesia and Malaysia are still confronted with a capability shortfall despite the recent acquisition of new submarines, considering their extensive maritime expanses. By 2018, with all six Kilos projected to enter service, Vietnam could potentially muster the largest undersea force in the region. However, it appears likely that existing Southeast Asian submarine operators will continue to expand their submarine capabilities within this decade.

The Kilos are not an unfamiliar sight in the South China Sea since Chinese Kilos reportedly operate in the area. Dubbed the 'black hole' of the oceans by Western naval commentators, the Kilo is equipped with excellent acoustic signature-reduction features such as hull anechoic tiles to muffle incoming sonar waves. This is not unique since submarines operated by other Southeast Asian navies possess equally capable, if not more superior, 'quieting' features.

Vietnam's Kilos are not known to be fitted with air-independent propulsion, like Singapore's boats, for extended submerged endurance without the need to snorkel, thus placing them in the same category as the Indonesian and Malaysian boats. Generally, therefore, compared to the existing types operated in the region, Vietnam's Kilos are equipped with

Kilo class submarine in tropical waters (Public domain)

Vietnam's New Kilo-class Submarines: *Game-changer in Regional Naval Balance?*

SSK Kilo Class Cutaway (Public domain)

generally equivalent onboard systems. What is notable has been the Klub-S submerged-launch cruise missiles supplied as part of the 2009 contract.

The Klub family comes in anti-ship (with terminal homing guidance) and land-attack (with inertial navigation guidance) variants. The latter deserves attention. To date, none of the Southeast Asian navies has introduced a sea-based, standoff land-attack capability which, when combined with such stealthy platform as a submarine, could allow the discreet projection of firepower into another country's hinterland. This could introduce a potential source of destabilisation into a region that is potentially volatile.

In July 2011, according to Rosoboronexport – the principal Russian arms-export corporation – the Kilos sold to Vietnam belong to the standard design while the Klub-S cruise missiles supplied with them are 'standard' variants as well. This could be construed to mean the anti-ship variant. If this is so, it does not represent a radically new capability being introduced into the region since Malaysia's Scorpenes are equipped with an equivalent capability in the French SM-39 Exocet, while the Chinese and Indian Kilos are also armed with the Klub-S anti-ship variants.

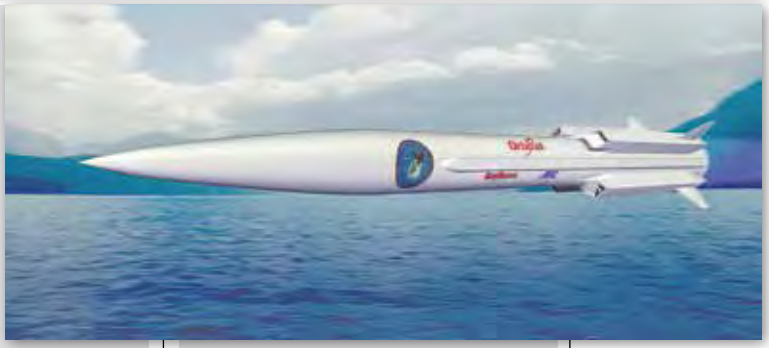
Challenges ahead for VPN

Far from being a game-changer in the regional naval balance of power, Vietnam's new Kilo-class submarines do not signify a radical shift in the regional naval balance of power.

Rather, the acquisition also demonstrates Vietnam's intent to establish a fully operational undersea capability as part of the overall effort not just to rectify pre-existing shortfalls in the moribund Soviet-era fleet but also to achieve a 'balanced' navy. The decision to procure not a token few but six Kilos demonstrates the intent to possess an operationally sustainable force-size that can offer continuous naval presence at sea, which is otherwise difficult with a smaller fleet.

This observation is reinforced by Vietnam's concerted effort to acquire not just the machines but also requisite infrastructure and human capital. In 2010, Hanoi reportedly sought Russian assistance to build submarine facilities at Cam Ranh Bay while recently it struck a training agreement with India for its Kilo crews. Similar parallels in submarine force development can be observed in the case of regional submarine operators, Malaysia and Singapore.

Notwithstanding the submarine programme, the VPN will still have to plug glaring holes in some crucial capability areas, such as maritime aerial surveillance and its ability to sustain durable naval presence in areas of national concern, such as the South China Sea. With all six Kilos fully operational by 2018, Vietnam should now also consider exploring submarine rescue capabilities and cooperate in this field with regional navies.



Klub-S missile

Building a full-fledged submarine capability in terms of operationally-ready platforms, proficient crews and relevant doctrine takes time. Ultimately, this is dependent on not just political will but also Vietnam's continued economic well-being.

Koh Swee Lean Collin is an associate research fellow at the Institute of Defence and Strategic Studies, a constituent unit of the S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University. He is also a doctoral candidate researching primarily on naval modernisation in Southeast Asia. ***This article was originally published as RSIS Commentaries No. 162/2012.***

World Naval Developments

BY DR NORMAN FRIEDMAN

In August, the Royal Navy released details of its next surface combatant, Type 26 – a modular ship. The announced plans are to build 13 Type 26 to replace the surviving 13 Type 23 frigates. All of these ships were intended primarily for ASW; the Type 23s were conceived as minimum towed array ships to work in the Greenland-Iceland-UK Gap mainly in support of maritime patrol aircraft. With the end of the Cold War, this mission disappeared, and Type 23s found themselves carrying out a wide variety of semi-peacetime missions, such as drug interdiction in the Caribbean and anti-piracy work off Somalia. An incidental effect of the change from harsh GIUK waters to calmer ones is apparently that the ships' hulls have lasted far longer than expected (cynics may suspect that the ships' longevity is really the consequence of successive governments' reluctance to buy replacements on a timely basis).

Comparing Type 26 to the US Littoral Combat Ship shows how wide a range the concept of modularity covers. Type 26 is a 5, 500 ton frigate which can be built in one of at least two versions. In appearance it is a scaled-down Type 45 destroyer with the same sort of tower foremast, in its case topped by the Artisan three-dimensional radar rather than with the big Sampson of Type 45. Type 26 was conceived as part of a long-running project to design a Future Surface Combatant, which was originally to have been built in three versions of varying capability (and cost).

Type 26 is apparently the ASW variant, presumably a direct replacement for the current Type 23, with much the same systems as the projected modernized Type 23. They include the Sea Centor vertically-launched SAM (replacing the current Seawolf) and the Type 2087 low-frequency active-passive sonar (towed pinger plus array plus medium-frequency bow array). Sea Centor is an active-radar guided derivative of the current British short-range air-to-air missile, also known as CAMMS (Common Modular Missile System). It uses an up-link for mid-course guidance. The ship will have a single gun, either the 4.5in currently standard in the Royal Navy, or perhaps a derivative of the US 5in/62 (BAE owns United Defense, which makes the US gun). There may be provision for a more powerful gun; in the past BAE has advertised a 155mm gun within the footprint of its 4.5in.

Another version of the same hull would be a gunboat (perhaps designated Type 27) supporting special operations, the towed sonar replaced by a slipway for a fast raiding boat (this version would, apparently, retain a bow sonar). Type 27 may also have a larger vertical launcher with provision for land attack missiles. Both versions have large helicopter decks and have empty spaces aft for replaceable modules. Given the signal processing requirements of the sonar, that is probably the role of the space in the ASW version; in the other version it probably supports the boat. The slipway can also be used to launch unmanned craft, in which case the

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

combination of slipway and space might support a mine countermeasures system (if the space is large enough).

BAE, the builder, apparently also expects to offer (for export) an AAW version using the Sampson radar of Type 45 and (presumably) a smaller number of missiles. The main difference from Type 45 may actually be elimination of command facilities and perhaps drastic reduction in helicopter capacity, rather than in the number of missiles (which is not very great even in the big Type 45).

All versions of the design can accommodate 36 troops (presumably for special operations). In contrast to the US LCS, Type 26 is relatively slow, about 28 knots.

In some accounts Type 26 is designated the Global Frigate; the British government apparently hopes to sell export versions. Brazil is reportedly interested, but approaches to Australia and Canada, both of which plan major surface ship building programs, have apparently failed (at least for now). Reportedly the British Ministry of Defence has also approached India and Turkey.

For Type 26, modularity means mainly that the same hull can be completed in various forms. The Royal Navy is hardly the first to embrace this way of spreading out the cost of hull and machinery design over the largest possible number of ships. Examples from the past are the US *Spruance* class (which could be built in both ASW and AAW versions, the latter materializing as the *Kidd* class and then as the *Ticonderoga*s) and the German commercial MEKO frigate. In the latter case, the builder minimized the cost of hull design by allowing the customer to choose whatever weapon and sensor fit he wanted, within fairly wide limits. In both cases, allowing for multiple alternative systems pushes up the size of the hull, but hull steel is cheap. The

New Type 26

Royal Danish Navy pushed this kind of modularity further in its StanFlex series, beginning with a 300 ton corvette. In its case the idea was that modules should be quickly replaced to change a ship's role (a small number of corvettes replaced numerous older hulls). Danish experience seems to show that such replacement is actually rare, because a ship's crew specializes to a considerable extent. Presumably the sort of modularity adopted by the Royal Navy reflects that lesson. On the other hand, current modular Danish ships have large internal bays more reminiscent of the US LCS idea.

In an LCS, modularity means that the same hull shifts easily and quickly from role to role – and that the keys to the various roles are unmanned vehicles (air, surface, and underwater). The modularity involved is really much like that of an aircraft carrier. In effect in most of her modes the ship is a carrier of various unmanned vehicles, the containers taken on board holding what is needed to maintain them. We are so used to carrier modularity that we have forgotten how special it is. The same ship, with some changes in maintenance equipment, can host radically different air wings with different kinds of aircraft – the key is its huge hangar and flight deck combination. An LCS has a large hangar plus launching facilities for unmanned vehicles, including (but not limited to) a flight deck. In one LCS variant (typified by LCS 2, *Independence*) it is striking that the payload is controlled by a CIC separate from that adjacent to the bridge. To some, that seems *outre*, even ridiculous. However, if you think about a carrier, it makes much better sense: the payload CIC is analogous to the aircraft operations control (and planning) spaces of a carrier. It is also striking that the great gap in LCS manning is in those who launch and

The Pre-Commissioning Unit Independence, the U. S. Navy's first trimaran littoral combat ship, departs to begin builder's sea trials in the Gulf of Mexico (US Navy photo)

recover the unmanned vehicles – in the equivalent to the carrier's deck personnel.

All of this suggests that the emphasis on a focused payload as a way of producing an affordable ship is unfortunate. Carriers succeed in part because their operators can mix and match payloads (aircraft and weapons) as needed, using those enormous empty spaces on board. Right now it may take the full hangar to accommodate one kind of payload, but as electronics shrinks and becomes more reliable, surely the same space will accommodate multiple payloads, either of one or of several types. The constant will be the ability to deploy those payloads. Most of the payloads in turn are ways of deploying offboard sensors to deal with the difficult conditions of a littoral area. For example, poor acoustic conditions and underwater topography (such as hills) limit the reach of sonar in coastal areas. Strewing (and monitoring) underwater arrays can transform the situation. Using multiple UUVs might make it possible to clear (or at least to delineate) a minefield far more quickly than a single minehunter can. The LCS also seems to be the natural successor to the old APD as a transport for small numbers of special forces personnel – raiders, perhaps.

It may make sense to distinguish between modules which are like those of an aircraft carrier and those which add integral hull weapons and sensors, but do not have much impact on the internal hangar space – things like the 30mm guns intended to beat off swarm boats, or like a towed sonar. One might suspect that the main reason these fittings are treated as modules is that if their weight were combined with that of the usual modules, the ship would not make the spectacular maximum speed claimed for her. Since that speed is probably the least important attribute of the LCS, this distinction seems unfortunate.

Of course, it is also true that making any of the hull weapon systems permanent would raise the unit price of an LCS, and that an important goal of the program is to produce large numbers of affordable hulls. That is not a new idea; it is why the *Spruances* were completed with so little armament. The appropriate phrase, invented by the British, is that ships can be 'fitted for but not with' important features -- which are added later, when money becomes available. Surface guns are not a module in the same sense as a complete mine countermeasures system. It is also, of course, possible that the designed crew cannot support any of the hull weapons the ship can accommodate -- but that can be resolved, perhaps by slight enlargement of the ship.

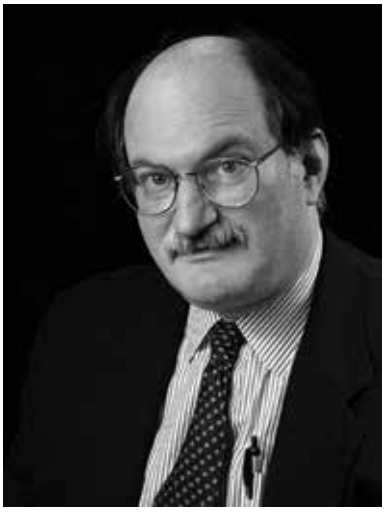
We might gain from some of the British ideas. In adopting Sea Centor, the British have taken advantage of a combination of two current anti-aircraft technologies. One is three-dimensional track-while-scan radar. A second is self-homing missiles with uplink mid-course guidance. The radar provides sufficient information for the uplink to direct the missile into a homing 'basket,' and the missile takes over. This does not work very well at long range – Aegis is still well worth the price of admission – but it offers considerable value closer in. Sea Centor uses active radar guidance. The Swedish, Finnish, and South African navies have done about the same thing with infra-red guidance. A version of Evolved Sea Sparrow is to have an active radar seeker (plus its existing up-link), and LCS already has a three-dimensional track-while-scan radar. The combination might be well worth investigating, because it would not entail any encroachment on the big

World Naval Developments

hangar or flight deck in the form of fire control radar. We already envisage an ASW module (for blue water) involving a towed sonar, and the envisaged shallow-water operating concept (using bottom arrays) is something a Type 26 cannot support. Of course both we and the British can easily support raiding craft, but presumably we gain considerably from all of that hangar space in the LCS (the high speed of the LCS may be another story).

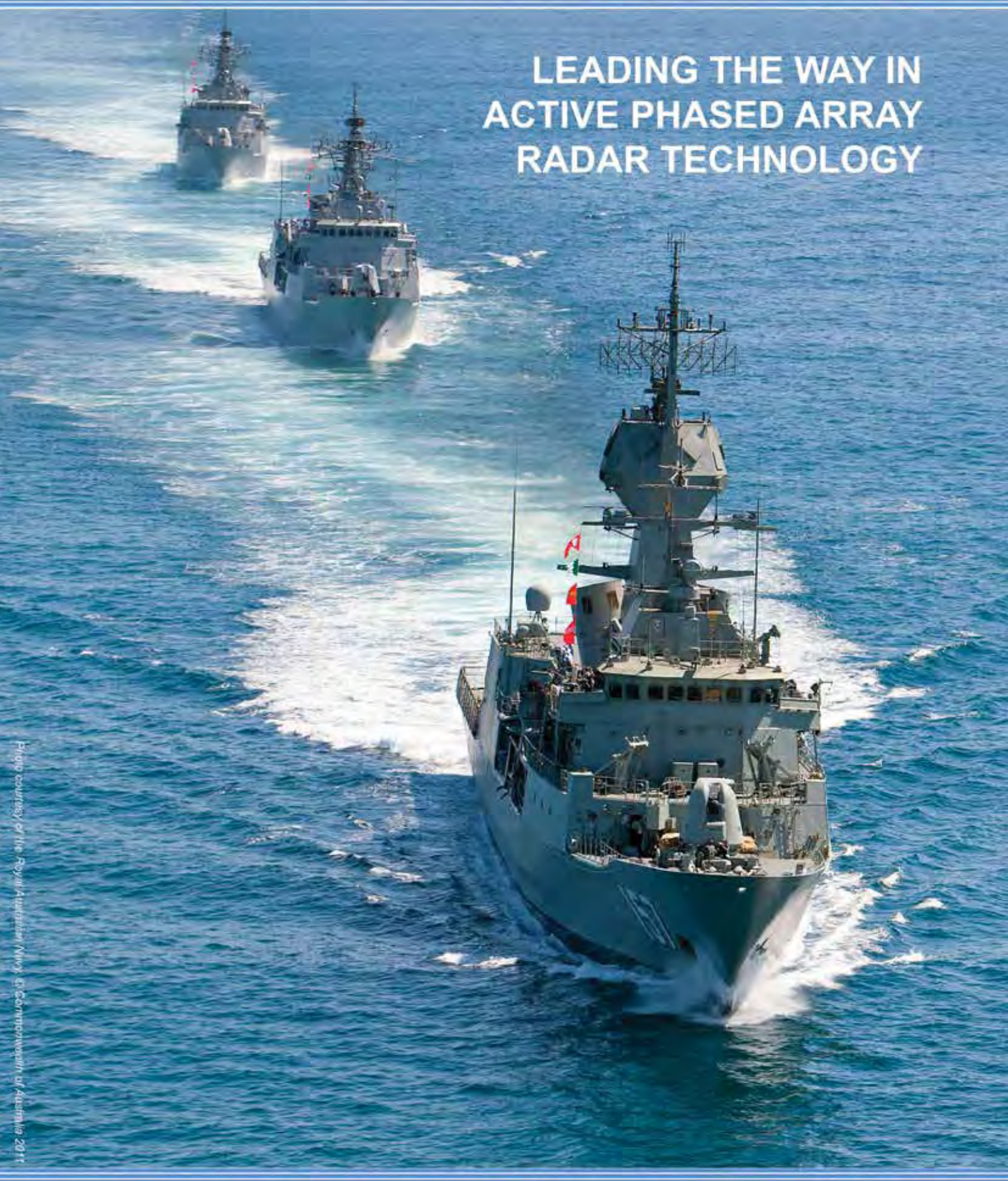
Norman Friedman's latest book is The Naval Institute Guide to World Naval Weapon Systems.

Dr. Friedman is the author of The Naval Institute Guide to World Naval Weapon Systems, Fifth Edition, and Network-centric Warfare: How Navies Learned to Fight Smarter Through Three World Wars, available from the Naval Institute Press at www.usni.org



Guests and Navy representatives attend the re-opening ceremony of the Point Perpendicular Lighthouse. The Point Perpendicular Lighthouse, a rare and outstanding example of an intact manned light station, was officially re-opened after an extensive six month refurbishment by the Department of Defence on 17 August 2012. The refurbishment was finalised in time for Point Perpendicular to participate in International Lighthouse and Lightship Weekend and it was lit from dusk until dawn 17 to 19 August.

CEA TECHNOLOGIES



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OBITUARY

Robert Clarence Gillam
1922 - 2012

Robert Gillam

TEACHER, PROFESSOR, ACADEMIC, ADMINISTRATOR & ARTIST

Robert served on the corvette *HMAS Pirie* in the South West Pacific, 1942 to 1945, as an asdic operator. He survived the Japanese bombing of the *Pirie* at Oro Bay (Buna) New Guinea (10th April 1943) when seven crew were killed.

Pirie was one of 60 Australian corvettes and was built at the BHP Shipyard in Whyalla in 1941 and commissioned in 1942. Robert on joining was one of the first crew and had just turned 20 years of age. These ships were primarily used as escorts, as minesweepers and for local defence. Their shallow draft meant they were inherently unstable at sea.

"Operation Lilliput" was the name given to the plan to reinforce the Buna-Gona area of PNG in anticipation of its capture. Two supply ships at a time were loaded in Townsville and Cairns and escorted by one or two corvettes. At the beginning of 1943, *Pirie* participated in five 'round trip' convoys. On 10 April, *Pirie* left Milne Bay for Oro Bay escorting the British supply ship *SS Hanyand* which carried military supplies, high-octane fuel, ammunition and Australian and US military personnel. *Pirie* had a 12 pounder low angle gun on the foredeck (recovered from a WW1 Destroyer), three Oerlikon guns (one on each wing of the bridge and one on X-deck), and two Lewis guns one on each of the port and starboard waists.

At 1220 hrs on 10 April 1943, action stations were sounded as information was received of a Japanese attack on Oro Bay. At 1235, a signalman sighted 22 Val dive-bombers and six Zeros approaching from astern. A single plane detached itself from the others and flew low over the ships without attacking. Then two Zeros strafed *Pirie* and one was shot down. The bombers attacked *Hanyang*, hitting it twice, putting its steering out of action and killing one and wounding six men, and they then concentrated on *Pirie* and attacked in pairs, one from each side. Crew were sprayed with water from the explosions of near misses and shrapnel from the strafing guns wounded some.

A single Val bomber then attacked from the starboard quarter. One bomb penetrated the armoured bridge canopy, deflected off the helmsman's station, killed the gunnery officer, then struck the foredeck plating and detonated. The bomb killed six members of the twelve pounder gun crew and seriously wounded the gun layer. Had it not struck the bridge first, the bomb would likely have penetrated the magazine and destroyed the entire ship.

Robert Gillam was in the asdic office on the bridge close to the point of arrival of this bomb and he suffered permanent hearing loss for the rest of his life. The Val continued the attack until chased off by a US Lightning. The time was 1253.

A doctor from Oro Bay came to attend to the wounded and a US Army Chaplain from *SS Hanyany* consigned the dead to the 'deep'. The chaplain later recommended that the ship and her company receive bravery honours. Robert lost seven friends that day and through the scattering of his ashes the wheel turns a full circle.

Japanese propaganda, describing the corvette as a destroyer, reported that she had been destroyed.

Pirie proceeded under escort to Maryborough for repairs which were completed in May 1943 and then resumed operations escorting convoys.

On 31 August 1945 *HMAS Pirie* proudly led four Aussie corvettes into Tokyo Harbour at the Japanese surrender. She had steamed a total of 117, 230 miles (188, 664 kms) since commissioning in October 1942.

Peter Gillam (son)

QUALITIES OF LEADERSHIP

BY DR TOM LEWIS

This series examines selected traits of leadership to compare Royal Australian Navy leaders against a criteria. The first of the articles took Admiral Lord Nelson, the hero of Trafalgar in 1805, as a model, as well as examining the characteristics of other well-known leaders, both civilian and military.

Seven qualities of leadership measure the subject matter, suggesting a capable naval leader is an achiever; expert in his or her field; inspires others, and takes initiative; impresses by their physical qualities; empathises with others, and is an effective communicator.

Achievement

Did the person under discussion improve their organisation? Did they leave it a better place by being a member? Promotion is recognised as a measure of achievement. With this and other measures which traditionally mark out achievement – education; decorations; amassing of physical wealth perhaps – we gain some beginnings of whether a person is a success.

Expert in one's Field

Anyone who aspires to be a leader and an example to others must obviously have expertise in their craft. In naval terms, that translates as being an expert "ship-driver"; an aviator *par excellence*; an engineer possessing a wealth of theoretical and practical knowledge - and so on. Nelson, for example, was a master at strategy – which becomes a commander of fleets – but also of tactics, which behoves a ship captain. He was also an inspired man-manager.

Inspirational

This leader inspires others to perform similar deeds. Often this is shown by the leader's actions in front of their subordinates. Nelson inspired his followers in being resolute, courageous and honourable. It is one measure of the man that so many did: Hardy, who was with him when he died; his fellow admiral Collingwood whose battle line he raced to be first to engage at Trafalgar; ship commander Berry, who followed him from ship to ship, and Captain Hallowell, who after the Battle of the Nile made him a present of a coffin fashioned from the French ship *L'Orient*'s mainmast – Nelson kept it in his cabin and was indeed buried in it.

Initiative

Sometimes described as "going in where angels fear to tread", this measure means to use judgement and advance where necessary. The leader is brave in psychological terms and takes the lead where necessary. It does not mean going forward rashly.

Nelson was a man who had the courage of his own convictions, who could often have left off and blamed superiors for failure. Instead, he was a man who chose to use initiative and advance when he knew the defeat of the enemy was attainable and essential. At the Battle of Copenhagen, walking the deck while the guns roared their broadsides, and deadly splinters whistled about his ears, he confided to Colonel Stewart, commander of infantry, who was with him on the quarterdeck, that he would not be «elsewhere for thousands». Whether he was fearful or not – and who would not have been – Nelson led by example. And when his uncertain superior, Admiral Parker, made the signal to leave off the action, Nelson refused to see it, putting his telescope to his blind eye and exclaiming: «I really do not see the signal». The British won the battle with much help from Nelson's use of initiative.

Impressive Physical Qualities

This might be rephrased as "looking the part of a leader". Would anyone have said that Horatio Nelson achieved this? Yes – and no. A short, thin man not blessed with good looks, he first entered the British navy in 1771 as a midshipman at 12 years and three months.[1] Despite being prone to sickness: "I have had all the diseases that are", he once said; he adapted well to the vigorous and often dangerous life that was the Navy.

Nelson was a man of raw physical courage who led by example. He lost an eye when an enemy shell, exploding during the siege of Calvi in Corsica, drove splinters and dust and rock fragments into his face. He suffered most terribly and often from wounds, quite willing to lead from the front. His right arm was amputated after the battle of Santa Cruz in Teneriffe due to his being hit by grapeshot.

This is what is meant by "looking the part of a leader": behaving in such a way that people can be inspired. It means to look resolute and act with resolution – as did Nelson. To lead by example. To not show physical cowardice. It might include «panache»; "the almost untranslatable expression of dash, of valour, the ability to do things with an air of reckless courage and inspiring leadership».[2] Finally, we might add that the bearing, carriage and speech of a leader should be of the highest standards.

QUALITIES OF LEADERSHIP

Empathy

The great soldier of the 18th century, Frederick the Great, had good advice on how to attain the next quality of the leader – Empathy:

> *...talk with the soldiers, both when you pass their tents or when they are on the march. Sample often to see if the cookpots have something good; find out their small needs and do what you can to satisfy them; spare them unnecessary exertion. But let fall the full vigor of law on the mutinous soldier, the backbiter, the pillager...*[3]

Empathy means to be able to imagine yourself – as leader – in the role of your people, and to show that. It is "the power of understanding and imaginatively entering into another person's feelings".[4] General Montgomery said to his troops at the Battle of Alamein: "We will stand and fight here. If we can't stay here alive, then let us stay here dead".[5] Montgomery was entering into the feelings of all of his people, who feared that they would die. Churchill's speech of WWII did the same: "We shall defend our island, whatever the cost may be, we shall fight on the landing grounds, we shall fight in the fields and in the streets, we shall fight in the hills: we shall never surrender." Alexander the Great "shared in the men's dangers, as the scars of his wounds testified…he ate the same food as they did. He was highly visible….he fought hard himself but he was ever on the watch for any acts of conspicuous courage in the face of danger amongst his men.[6]

Such statements say to you that your leader will be with you, no matter what the cost.

Communication

One needs to be understood at all times. Nelson employed in his leadership style something unusual for its day: the art of effective communication. One characteristic was to invite others to contribute their ideas for a campaign, or a battle, or a change of some sort; to educate his men and get them – and him – to know each others' minds. Nelson embarked upon the Battle of the Nile in 1798 by letting his captains engage in individual fashion. The French fleet, anchored by the bows in a line in shallow coastal water, engaged in ship to ship fashion by five British vessels sailing inside the line and anchoring, and the rest engaging from outside. Thus the French were caught between two forces. At the end of hours of fighting, the French had lost 1, 700 men to the British 200; their fleet was largely pounded to pieces, and Napoleon and his army were stranded in Egypt. Nelson had hoisted just two signals through the entire battle.[7]

For the autocratic manager this would have been disastrous: an authoritarian leader would not trust his subordinates to make momentous decisions and fight on their own. Nelson trusted his individual captains. So too, in the long pursuit of the French, years later in 1805, he had regular meetings with his «Band of Brothers» – the name applied to those who fought under him at the Nile.[8] During the long chase the officers would pool their ideas for forthcoming battles; the best use of tactics; what a following ship would do when its fellow was sighted engaged and so on. Consequently even the necessity for signals within the ensuing battle was dispensed with; the captains knew each others' minds.

Communication means to be able to use words effectively to persuade others. Winston Churchill was a great exponent of this. Eisenhower, then a US General and later President of the United States, experienced the British Prime Minister in action:

Churchill was a persuader. Indeed, his skill in the use of words and logic was so great that on several occasions when he and I disagreed on some important matter – even when I was convinced of my own view and when the responsibility was clearly mine – I had a very hard time withstanding his arguments.[9]

A capable naval leader is an achiever; expert in his or her field; inspires others, and takes initiative; impresses by their physical qualities; empathises with others, and is an effective communicator. We have seen many great leaders who exhibited those traits. This series examines how many of Australia's naval leaders performed in these fields.

1 Description of Admiral Lord Nelson and his career are drawn from Kenneth Fenwick's *HMS Victory*; Christopher Lloyd's *Nelson and Sea Power*; Peter Padfield's *Broke and the Shannon* and Robert Southey's *The Life of Horatio Lord Nelson*.

2 Welch, Ronald. *Tank Commander*. London: Oxford University Press, 1972. (135)

3 Connelly. (16)

4 *Collins English Dictionary*. Sydney: Harper Collins, 1991. (510)

5 Adler (116)

6 Adler (232)

7 Ireland, Bernard. *Naval Warfare in the Age of Sail*. London: Harper Collins, 2000. (148-151)

8 Thursfield, James R. *Nelson and other Naval Studies*. London: John Murray, 1920. (125)

9 Adler (76)

QUALITIES OF LEADERSHIP

Rear Admiral Frederick William Purves, CBE, RAN

Frederick William Purves was an unusual officer of the Royal Australian Navy. A civilian-trained engineer, he entered the service as a reservist, served in a variety of different situations in WWII, and was then offered a permanent commission. He rose to the rank of Rear Admiral, and throughout his career retained his love of engineering, being associated with the area in a variety of ways, including seeing diesel engines brought to the fore in the RAN. He was one of the few officers in the history of the RAN to reach flag rank without having had the privilege of an education at the Naval College.

Born on 13 March 1912 in the English Midlands, the young Fred Purves came to Australia his family in the early years of his youth.[1] They settled in 1920s North Sydney, close to the Harbour, where Fred was in his element. He was interested in boats and engines, swimming and scouting activities, but not the academics of education. He left school as soon as he could, and at the age of 15 years and eight days was indentured to the Adelaide Steamship Company as an apprentice fitter and turner.[2] He joined the Army in a part-time capacity as part of the Citizens' Military Forces, with the ability to be able to operate a lathe leading to his developing early expertise as a gun-layer.[3]

On 15 March 1930, aged nearly 18, Purves joined the Naval Reserve, his occupation noted as an 'Apprentice Marine Engineer'.[4] He attended training for almost the next two years, while training as an apprentice was completed in May 1932.

Throughout the 1930s he served on a variety of the Adelaide Steamship Company's vessels as an engineer. The first of these was *Oorama*, from early January 1933, where he was certified as the Third Engineer. A variety of short engagements followed, probably reflecting a direction for Purves to gain experience at sea in his chosen field.

The ships were many and varied: *Manoora, Manunda, Aldinga, Allara* and more.[5] In June 1935 he gained his Certificate of Competency as an engineer[6] and continued to serve in such ships, sometimes returning to vessel he had previously served in. His Certificates of Discharge were invariably stamped 'VG' for Very Good in Efficiency, Conduct and Ability.

In late 1936 Purves travelled to the United Kingdom to further his engineering knowledge, but was also able to be employed by the Adelaide Steamship Company to assist in the construction of the engines of a new steamer, *Bungaree*.[1] He joined this vessel as Fourth Engineer for her inaugural trip to Australia, arriving back in the country in July 1937. He continued to work for the Company in *Manunda* and *Ulooloo* until February 1939. The Company parted reluctantly with his services at his own request, and armed with glowing references[7] Purves entered the service of Burns Philp and Company as Chief Engineer in the *Lakatoi* in her operations in Papua New Guinea waters.

Purves made a studious habit of obtaining references from the Chief Engineer and often the Captain of every vessel he served in up to this point. They all speak of a keen, energetic personality; a man vitally interested in engines, ships and the sea. In the manner of the time they comment upon his 'sober habits'. In all cases the references expressed opinions along the lines of being most regretful of losing his services and urged him to return at his convenience.

Between 1936 and 1939 Purves visited Germany, primarily to study diesel engines. He was able therefore

Purves in later life with his beloved engines

1 Bungaree was requisitioned by the Royal Australian Navy during WW II and commissioned as Australia's only mine-layer.

Qualities of Leadership

to see at first hand the preparations Germany was making for war, and something of the nature of the Nazi party; which included the souveniring of a Nazi flag from the front of a staff car.[8] Around this time Purves decided to change directions a little. He was a keen observer of international affairs and, according to his later reminiscences, had seen the political winds blowing towards war for some time. He decided to join the Navy. Naturally enough, this took time.

Athol Rose, who knew Purves in later life, suggests[9] that a chance encounter with the Australian armed forces precipitated Purves's application. He assisted an Army unit get a boat ashore 'up a steep slope' by using a tank to pull the vessel. The next day the officer in charge of the Army unit boarded Purves's vessel to pass on his thanks through the Captain. Purves's qualifications were noted and the application facilitated.

While waiting for the wheels of bureaucracy to turn Purves furthered his education by enrolling as a marine engineering student at a Technical College. For the next year he continued to voyage in *Lakatoi*, and with an excellent reference behind him he finally left the company on 26 July 1940.

While onboard *Macdhui* in transit from *Sydney* to Samarai, New Guinea, the previous year, he had met a nurse by the name of Lilian Mawson. Romance took hold, and Purves soon proposed marriage.[10] The couple were wed, on 3 April 1940, at a mission station in Kwato.[11]

On 1 December 1940 Purves was appointed 'Probationary Temporary Engineer Lieutenant' in the Royal Australian Naval Reserve. He initially attended the NSW shore establishment *HMAS Rushcutter* as an Engineer Lieutenant, probably for a short training session, but then was attached to his first Navy ship. *HMAS Tolga* became his home from 30 December 1940 to 21 May 1942. This former coastal steamer of 418 tons had been requisitioned by the RAN only a month earlier. Now fitted with a 12 pound gun and half a dozen machine guns, she was working as a minesweeper.[12]

'Hard-working, intelligent and most trustworthy', was the commanding officer's reference to his engineer's service.

During 1941 Purves's marriage to Lilian saw the birth of twin boys: William and Robert.[13] He escaped a certain death that year. A signal posting him to the doomed *HMAS Sydney* as an engineer was rescinded. The engagement with the German raider *Kormoran* on 19 November saw no survivors from the *Sydney*.

The attacks on Darwin in February 1942 saw Fred Purves in the thick of the action.[14] Although a member of *Tolga*, he had been seconded to *Platypus*, the largest ship in the harbour, but also the least moveable. A veteran of many years, *Platypus* was by now merely a floating workshop. On the night of the 18th February Purves attended a party held by his friend Tommy Minto on board the hospital ship *Manunda*.

Purves's first job the next morning was the repair of the engines of the *Mavie*, a captured Japanese lugger now brought into the Royal Australian Navy. Upon return from harbour trials, and

HMAS Hobart around the end of WWII (Tom Lewis Collection)

Rear Admiral Frederick William Purves, CBE, RAN

after rigging some awnings to ward off what looked like one of the normal hot Territory 'Wet season' days, Purves and others saw approaching Japanese aircraft. He recalls:

> I dashed to my cabin in *Platypus* to obtain my helmet and respirator, hanging on a hook near the porthole. As I grabbed them, bombs exploded and I saw an extraordinary sight through the porthole: the wharf outside, a locomotive, trucks and a large number of wharf labourers were flying through the air. I went down into the engine-room, my action station…five bombs landed under the vessel, and exploded simultaneously. *Platypus* seemed to have been lifted almost out of the water, and then fell back with such force that the heavy foot-plates in the engine-room became air-borne, and I found myself in the bilge, with both hot and cold water upon me. The condensers had shattered, and water reached waist-level before it could be stopped.[15]

Purves witnessed an attack on the hospital ship *Manunda* during the first raid. Some controversy surrounds this attack: there have been suggestions it was accidental, with others vehemently holding to the view it was deliberate. Purves, with a clear view of *Manunda* from *Katoomba*, witnessed the attack by a group of dive bombers. He is certain that this group acted in concert, and that the attack was deliberate. For him, the only uncertainty lies in the reason for the Japanese reluctance to sink, rather than merely disable, the hospital ship, the floating dock and *Platypus*.[16]

After the raiders had departed, Purves recalls he went – 'covered in blood' – to the floating dock where the corvette *Katoomba* was under repair. She needed only a little welding to her asdic (sonar) dome to be ready for service, and Purves and his work team intended to get this done so she could be put back into action. It was while there that the second raid came over, and Purves recalls it was about then the ammunition ship *Neptuna* – burning fiercely at the main wharf some distance away – blew up, showering all of them with debris.

The subsequent work in Darwin was somewhat disorganised, and also took place in an atmosphere of trepidation, for the Japanese raids of the 19th were the forerunners of many more – 64 raids were made against the Darwin area during the war. Purves remembers working on the beached US freighter *Port Mar*: Robert Rayner's *The Army and the Defence of Darwin Fortress* lists 'eight 75mm guns plus jeeps and thirty two trucks' as being recovered, with all of the work being done under cover of darkness.[17] He worked on other vessels as well, generally as a diver: 'I spent many hours under the surface applying patches to the hulls.'[18] Conditions in Darwin are remembered as 'chaotic,' but the work went on: 'Japanese raids sometimes took place while I was under water, which was often the safest place to be.' Incidentally, he had no qualifications as a diver, but was persuaded to give it a try by the famous 'Johnno' Johnstone, who had been brought to Darwin to try to enter the submarine *I-124*. Well known for his exploits recovering gold from the sunken *Niagara* off New Zealand, Johnstone would have been well qualified to enter the *I-124*, but due to a number of factors his team was prevented from diving on the submarine.[19]

It was while working on *Port Mar* as a diver, on one of his breaks, that Purves was told he was to join *HMAS Deloraine* on a temporary basis. This corvette had just achieved local fame in sinking the *I-124*, the first Japanese submarine to be destroyed by the RAN. On 20 January that year (a month before the attacks of 19 February) *I-124* and her three sister boats had attacked a convoy outside the harbour. Failing to sink their prey, the submarines became the target of the local corvettes, and on the afternoon of the 20th the *I-124* had made the mistake of attempting to sink a modern anti-submarine vessel. *Deloraine* charged down the track of the sighted torpedo and commenced depth charging the Japanese boat until she surfaced and was depth-charged at point blank range.[20] It was this loss and the failure of the minelaying to neutralise Darwin that caused the attacks of a month later by carrier-based aircraft.

The combat proved too much for the engineer of the corvette, Lieutenant Ken Graham, and he was despatched to hospital with a nervous breakdown. Purves took his place, '…for some weeks, on a number of missions,' as he put it. It was perhaps later in Darwin – Purves is not specific about the time – that he suffered a number of small injuries as a result of '…my being a bit late diving into a trench during a Japanese bombing raid.' The catalogue of wounds was comprehensive: Purves had been 'temporarily blinded,' his right foot had been crushed and pieces of shrapnel had been lodged in his right leg, one piece behind his knee. Removed from Darwin by flying boat for sick leave in May 1942, some consolation was gained by a brief reunion in Bombala NSW with his wife and their twins.

Purves admitted later that he suffered from his wounds for the rest of his active career, and indeed later that year when he was given a medical examination it was enough for the American doctor to certify him unfit for active service. However, in his own words, he 'suppressed' this, and continued service.[21]

The American doctor was necessary

by then because Purves had voyaged across the Pacific on a secret mission – to carry uranium to America for the Manhattan Project. He had received puzzling orders on his convalescent leave; so puzzling that Purves queried the telegram.[22] But they were certain enough: he was to travel to Albury in civilian clothes and board a train that would be held until his arrival. The train travelled to Melbourne, and there Purves and others in a specially picked crew were given unusual clothes – at the tailors Buckley and Nunn's – with radiation measuring devices sewn into the clothing. They were escorted to the 'Overlander' train which ran overnight to Adelaide. There they boarded a diesel-engined ship, flying the neutral Swedish flag and with a crew of Swedes already on board.

The Australians were to accompany a special cargo, the nature of which was unknown to the Swedes. Destined for the Manhattan Project, it was uranium 'yellowcake', disguised as wool bales. In the event of an attempt to stop and search by enemy personnel Purves was to destroy the vessel by running the diesel engines at top speed with their lubricating oil turned off – the resultant explosion sinking the ship. Fortunately the voyage passed without incident. The uranium was delivered to San Francisco, and the rest is history. In the New Year's List of 1965, Purves was accorded the honour of Ordinary Officer in the Order of the British Empire (the OBE) – an award he viewed with some surprise – and he presumed then it was belated recognition for this secret voyage. The citation simply states: 'For Distinguished Service'.

On 23 June 1942, while he was away, the Commonwealth of Australia awarded Purves his certificate of Competency as a First Class Engineer.[23] While in America he was able to do some more diving, first in connection with the salvage of the *Tucker*, and then on the wreck of the *Normandie* in the Hudson River.[24] He saw some voyages with the USN on the eastern seaboard, rescuing survivors of torpedoed ships. The memory of these times traumatised him to the extent that he would dream of them occasionally for the rest of his life.[25]

Upon returning to Australia, Purves served as an Engineer Officer of the cruiser *HMAS Australia*, from 23 March to 28 August 1943, attached to Task Force 74 as part of the US Seventh Fleet. The force was made up of three cruisers: *Australia*, *Hobart* and USS *Phoenix*, and five destroyers.[26] The ships firstly were placed on 'stand-by' for some months inside the Great Barrier Reef. On 29 June the Task Force was deployed to the Coral Sea to search for the enemy but was withdrawn after a short time. On 20 July while operating to the west of the New Hebrides *Australia* was leading *Hobart* at a distance of some 600 yards and three destroyers operating an anti-submarine screen. At 1845 *Hobart* was hit by a torpedo on her port side. The torpedo, fired by Commander Tagami in the submarine *I-GO11*, had actually been fired at *Australia* but had missed.

Hobart lost all electrical power and began to list to port. Most of the damage was in the wardroom area, and seven officers and one rating had been killed. No further action took place, and *Hobart* was escorted to Espiritu Santo by two of the destroyers. The RAN's cruiser strength was now down to two from the six with which it had commenced the war. *Hobart* took 18 months to repair.

Australia returned to Sydney and Purves posted off the ship. Captain Farncomb signed his Certificate with the comment '…he has conducted himself to my entire satisfaction'.[27] However, his Personal Report, which gave more detail, carried some negative comments:

> This officer carried out his duties with zeal and enthusiasm, but lacks the attribute of being able to command a body of men. He recently completed a short diving course in with a United States salvage crew and produced some very good information on shallow water diving and underwater cutting. His behaviour has been excellent and his fault of fraternising too much with subordinate officers has been checked. If his power of command were stronger I would have no hesitation in strongly recommending him…

A 'half-yearly promotion' report near that time – of 15 July 1943 – sheds more light on this situation:

> …He is contented in his Service life but prior to joining this ship he apparently made a habit of fraternising with subordinates (Warrant Officers). This habit has now been checked and some good may come of it.

Naval protocol still – and did so even more in 1943 – separates social occasions into three ranks: officers, senior sailors, and junior sailors. Although inter-mess functions operated then, and do so now, they are governed by invitation and expectation. It would appear Purves was flouting the convention enough to draw attention. The comments on 'power of command' were bolstered in their strength by the medium numerical ratings Purves often received around this time. In later years this was to change however, with a distinctive upward trend.

It is worth noting here that Purves had changed his eating and drinking habits around this time too. In one of his son's words he had possessed the 'silhouette of a modern tennis star' when he married, but he had always had a liking for sugary things and he

Rear Admiral Frederick William Purves, CBE, RAN

began to indulge it. He was also able to consume alcohol, which he did so in moderation, usually in the form of beer. In later years his liking for sweet things were to cause him to put on weight, and in his retirement diabetes would make an appearance.[28]

Purves's next appointment – from 29 August 1943 to 7 February 1944 – saw him return to America as Engineer Officer of *HMAS Reserve*. A new fleet tug built in Texas, she displace 800 tons and mounted a 4" gun and four machine guns.[29] This ship was brought back to Australia, although not without incident: some members of the largely civilian ship's company, drunk on Christmas Day, refused to sail, and threats were made with some of the disaffected members entering the engine room to damage the engines. Purves drove them out with drawn pistol, and had an equally curt response to a union official who later reproached him in Australia over the matter.[30]

He was posted to another fleet tug – *Sprightly* – as Temporary Engineer Officer on 24 January 1944. This small ship was also built in Texas and similarly armed to *Reserve*. Another small ship appointment followed: to *Koopa* on 17 July 1944. This converted river steamer was used as a training ship, repair ship and depot vessel for Fairmile motor launches used on patrol duties in Australian and Papua New Guinea waters. On 30 September Purves was promoted to Lieutenant Commander.

On 21 May, 1945 Purves was posted as Engineer Officer of the PNG shore establishment *HMAS Madang*. The base's primary purpose was to serve as a depot for the many Allied ships which had participated in the attacks on the Japanese positions in Papua New Guinea. Fairmile launches, freighters, landing ships, and other small warships utilised the busy establishment. The slipway was without a winch, and Purves 'acquired' a British tank to serve this purpose. Post-war it was noted that he was still liable for the 'purchase' of the tank, but this accounting anomaly soon disappeared.[31] Purves posted out on 21 July with a month of well-deserved leave.

He was next posted to the *Sydney* shore establishment *Penguin* for duty at the Qantas Refitting Shops from 21 August 1945. However, much of the duty was at Alexishafen – north of Madang – for maintenance of Fairmile launches and other small ships.[32] This was followed by a change in jobs under the command of the same establishment; on 1 April 1946, Purves became the Officer in Charge of the Care and Maintenance party at Port Stephens. He was posted to the Mornington Peninsula training establishment *Cerberus* from 10 September 1946, and effective a month and a half after that transferred to Permanent Service.

Ron Osborn, later a Commander in the Navy, remembers meeting the Purves family at the RAN College, then located at *Cerberus*. Invited to tea, he recalls: 'Fred at that time was still wearing the 'chain gang' stripes of an RANR Engineer Officer. The Purves family were most kind to us and it was I think our first break from the daily grind at the college.[33]

In 1948 Purves returned to sea on board *HMAS Australia* as the Senior Engineer Officer. His Personal Report commented that given his lack of experience in steam engineering he had done very well, and also noted 'Not very keen on games except rifle shooting'. His numerical scores were all 'fives' with a 'six' for 'Personal Qualities'. Max Reed, (later Rear Admiral) then the Senior Watchkeeper in the ship, remembers Purves's first instructions: 'I'm very knowledgeable about diesels but not too hot about steam turbines – so I'll leave it to you. If you want any help let me know, but remember to keep me informed of what is going on'. Reed thought though, that 'his knowledge…wasn't as minuscule as he made out'. This attitude of 'get on with the job but keep me informed… inspired a great respect for the man'.[34] Petty Officer Colin Price remembers meeting Purves as a 'young Engineer Lt. Cmdr.' when he was requested to make up on a lathe a 'lead screw and half nut'. 'I succeeded in producing a good job, and he was that pleased that the next day he presented me with a pint bottle of Johnny Walker Whisky'. Naturally enough, Price remembered the officer's face, and met up with him again on an appointment to *HMAS Nirimba*.[35]

Some overseas training in London was necessary; for a year and a half Purves was attached to the RN Aircraft Repair Yard at Donibristle in Fife, Great Britain, accompanied by his family.[36] There he was attached in turn to every section of the repair yard, and went to sea in various aircraft carriers. The

HMAS Hobart showing damage inflicted by Japanese torpedo attack in 1943 US Navy Historical Centre

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report of the Captain in charge of the Yard to the RAN commented that he was a 'most able, conscientious and knowledgeable officer' and concluded with the words 'I…most strongly recommend his immediate promotion.'[37]

Purves was promoted to Commander while in Britain – he and his wife celebrated with champagne and a short visit to Paris. They sailed from Tilbury, with Purves's next appointment to *Penguin* with effect of 25 January 1951. Later that year, on 5 October, he was posted to the Port Melbourne shore establishment *Lonsdale* as Engineer Overseer at the Williamstown Naval Dockyard. From 25 January 1952 to 18 December 1953 he served in Navy Office in Melbourne. His Certificate at the end of that time noted: 'A most loyal and hard working officer and an excellent practical engineer. With more experience of administration he should do well in the higher ranks of the Service.'

The boys of Purves's new family had been growing fast through the war, and after a short time living in Katoomba, he settled them with their mother Lilian on a six-acre property at Dural.[38] There Purves designed his own house in a style he had seen in America, supervised the building, and named the residence *Fairmile* after the Navy fast attack vessels he had so often repaired at Alexishafen. Although the house remained in the family for many years after that, it was often left by the family as Purves's appointments took them afar and abroad: Robert Purves remembered in later years attending 12 different schools: nine in Australia and three in Britain.

The next appointment was to the naval air station *HMAS Nirimba* on 21 December 1953. Purves served here for a year to 30 September 1954. One incident that took place there demonstrates his sense of fun – and dedication. He met up with Colin Price, then Chief Instructor at the School of Aircraft Maintenance. Price was on his motor bike, and met Purves by chance at the guard house when returning from a country tour. The Commander requested a ride on the motor bike back to the wardroom, with Price to drive the car, but this wasn't possible, as the motorcyclist did not have a car licence. Purves then suggested Price report to him at the Wardroom each time he was on duty where driving lessons duly took place until Price was able to sit for a licence.[39]

Bruce Ziegler, later a Commander, remembers meeting Purves in the '50s. He described him as a 'Brilliant Engineer', and 'Popular'. Purves called Ziegler to his office one day and announced that Ziegler had been promoted a Commander in *HMAS Vampire*. He added: 'You will need a Brass Hat.[2]Take mine – and if it fits you take my chair and I will go to *Vampire*'. The handing over of Purves personal headwear was a pleasant way of being told of a promotion.[40]

One senior officer notes that perhaps Purves was a little out of his depth in the field of aircraft engineering as opposed to that of ships. 'In my opinion (he) never really appreciated the philosophical differences of approach to the branch of engineering compared to the marine engineering on which he had cut his teeth.'[41] Nevertheless his Personal Report on leaving saw Purves awarded a most positive set of scores.

2 The promotion to Commander sees the recipient assume a gold-laced cap, traditionally known as a 'Brass Hat'. Purves was giving Zeigler a gold-laced cap to wear immediately.

Manunda with rescue boat in foreground (Darwin Military Museum)

After a stint as Staff Officer in Navy Office (1 Oct 1954 to 24 Jan 1955) Purves was appointed to sea once more. From 25 January 1955 he served as Engineer Officer of *HMAS Sydney* – the aircraft carrier – to 7 February 1956, with Captain WH Harrington noting that he performed in '…a capable and energetic manner'. This contrasted with the somewhat grievous comments of Captain GC Oldham on 5 July of the previous year in his Personal Report when he wrote:

> Good moral standard – not particularly cheerful but at least he sticks to the job with determination when things are going wrong. His weakest point is his general bearing: he dresses adequately; but his figure – short, thick and roundish – combined with a pleasant but by no means commanding personality renders it improbable that other attributes however well marked, will result in a high assessment for Leadership.

His son, Robert Purves, later noted that such comments were probably accurate and justified: indeed Purves himself often remarked that he was 'just a rough old engineer'. He sometimes resented a little others of privileged background flaunting their learning: on one occasion he came home fuming because his RN Commanding Officer had asked him to find out what the 'cacophony' outside his office was all

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about, and Purves – having no Greek – was acutely embarrassed not to know the meaning of the word.[42].

Time as an Engineer Officer for the air station at Nowra, New South Wales, *HMAS Albatross*, followed from 1 May 1956. His Certificate there on to 14 January 1957 noted that Purves was: 'A trustworthy and capable senior officer who is handling a big task with zeal and enthusiasm.'

Athol Rose recalled him at this time when 'we were all overworked with seven air squadrons operating' – his own department had five officers, for example, instead of the billeted 13.[43] Purves was able to get 'maximum cooperation for his staff and other departments.' Rose remembers one Herculean effort of getting a Fairey Firefly engine changed overnight, which Purves achieved through '…good relationships with other departments… and good leadership.' On a personal note, Rose recalls Purves's love of classical music and his efforts to get others to appreciate it through the loan of records to anyone expressing an interest.

On the negative side however, some thought that Purves appealed more to the sailors than to officers. One senior officer later was of the opinion he: '…undoubtedly impressed senior technical ratings with whom he could empathise easily, but engineer officers, at least on the aircraft side, were not so impressed.' [44] This is perhaps not surprising given that he was a marine, not an aeronautical, engineer.

His promotion to Captain took effect on 4 July 1957, when he was appointed to the air base *HMAS Albatross* as Air Engineer Officer. As Fleet Engineer Officer, serving in the aircraft carrier *HMAS Melbourne*, Purves served from 26 July 1957 until 9 July 1959. His Certificate noted: 'A very efficient, reliable and conscientious officer' and 'I have great confidence in him.' Ron Osborn remembers an incident which sums up Purves's love of engineering:

> …on my posting to *Quickmatch* I recall a visit to Lieutenant Harry Rouse, the ship's Engineer Officer. Fred was greeted at the brow by our Captain Andrew Robertson and invited up to his cabin for a cuppa. Fred – rolled white overalls tucked under his arm – replied 'No thanks Andrew. I'll just get on with the job with Harry.'[45]

This attitude of wanting to get down to work quickly is borne out by the Personal Report of 19 January 1959: 'He itches to do any job himself and has self disciplined himself to resist this great temptation.'

On 3 January 1961 Captain Purves was appointed to the apprentice training establishment *Nirimba* in command. The year was one of tragedy otherwise – his son William, by then a 20-year old engineer, died in a residential fire at Wollongong.[46] Bruce Ziegler, who was Officer of the Day of *Nirimba* at the time, recalls meeting Purves '…near his quarters…when he, against a flood of tears, told me of the news he had received.'[47]

The tragic start to the decade might have well seen Purves brought to despair, but he continued on with characteristic fortitude, and it was indeed now that the Navy's confidence in him was to be justified even more than ever. Malcolm Baird, who knew him well, sums it up as being at attitude where 'practical perception dominated.'[48] The sixties was to be a time of great change in the Royal Australian Navy. British domination in all things was to give way to looking further afield for ship and weapons designs. Baird recalls that Purves had 'a major part to play' in the design, construction and entry into service of an escort maintenance ship design, which eventually culminated in *HMAS Stalwart*. Baird, who was a destroyer captain, noted that because of Purves's input, one could always be assured of the best of things when operating with that support ship in the future.

It was around this time that his old acquaintance Colin Price was 'paying off' from the Navy after 20 years of service. Price recalls:

> One day Captain (E) F. Purves sent for me and questioned me regarding my future prospects. I told him I did not have a job to go to. He then asked me what sort of employment I wanted. When I replied, he picked up the phone and rang Melbourne and arranged an interview with the Director of AID (Aircraft Inspection Directorate) which was part of the Department of Defence and with whom I was to be employed for the next 20 years…I have letters addressed to me and written by Admiral Purves which I have kept as treasured keepsakes. They are written on official Navy Office note paper and are simply signed Fred Purves. What a man. What a friend.[49]

As Rear Admiral Neil McDonald remembers, Purves was '…one who could talk to anyone with the greatest of ease. He understood the feelings of the many who were not in authority.'[50] The Price incident is an illustration of his trait of getting straight to the problem and fixing it. Rear Admiral Max Reed thought:

> As far as 'leadership' goes he always 'led by example.' Never one to say 'Well go away and fix it' he would sit down and discuss the problem with you be it mechanical or whether it related to some personnel problem. He had a good grasp of human behaviour…[51]

Purves returned to *Lonsdale* from 12 November 1962, as Director of

The ceremonial beginning of HMAS Ovens' first hull section, with Rear Admiral Purves representing the Navy (Courtesy Robert Purves)

(Williamstown) Dockyard and Fleet Maintenance. Meanwhile his wife Lilian had continued nursing, as she had through the 50s and would continue to do so in the 1960s, only giving up her profession when later promotions to flag rank for her husband demanded more of her time too.

From 28 February 1963 Purves served as the Deputy Chief of Technical Services and Assistant Naval Attache in Britain.[52] Although this was a diplomatic position, his engineering role prevailed, with frequent visits to Germany to check on machinery being manufactured at Friedrichshafen by the Zahnradfabrik factory, for the RAN's *Oberon* class submarines. This was certainly appreciated by his superiors. 'His great practical ability and long experience have been of immeasurable value to the RAN…he has achieved the admiration and respect of all at Navy Office' were comments in his Certificate of 16 November 1964. His Report bore that out, with a choice of phrases including: 'Extremely hardworking'; 'entirely forthright'; and 'extremely popular'.

From 6 January 1965 Purves was posted to *HMAS Cerberus II*, as Chief Staff Officer (Technical) to 15 December of that year.[3] He was noted on his Certificate as conducting himself '…in an outstanding manner. He is an exceptional senior technical officer.' However, in some ways he probably had trouble fitting in. One senior officer was of the opinion: 'He had little time for naval protocol, had a poor opinion of seaman officers and was more comfortable with a spanner in his hand than walking the corridors of naval power.'[53] Certainly the Personal Report – as opposed to the Certificate – was not kind. Commodore JM Ramsay wrote many positive comments, but also rated his 'Suitability for promotion' as 'Slight' and commented:

> He seems to me to possess all the professional attributes to qualify him for promotion to fill the post of Chief of Naval Technical Services, but I hesitate in assessing his chances at more than slight because his appearance, manner of speech and general bearing do not fit in with my idea of an Admiral.[54]

On 25 January 1966, while in Kent, Britain, Captain Purves attended the 164th Celebration of the Greenock Burns Club, to toast the memory of the great poet. The event, complete with

3 This was a convention in posting: Dr Sam Bateman, a retired RAN Commodore, advises: 'RAN personnel in the UK in the 50s and 60s used to be posted to HMAS Cerberus II.' (Cerberus II was only active from 1917 to 1921.)

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pipers, dancers, musical celebrations and recitations, must have been a memorable event – Purves kept the program for many years afterwards. The appointment was full of similar social events, such as the New Zealand High Commission's Cocktail Party, events which were much more than social occasions; the term from later years of 'networking' is perhaps a better description of their true purpose.[55]

On 19 May 1966 Purves was notified of his impending appointment – to succeed Rear Admiral FL George – as Third Naval Member of the Naval Board with promotion to Rear Admiral from 14 March 1967. The position also carried the title of 'Chief of the Naval Technical Services'.[56] The new responsibilities saw travel arranged for the beginning of the following year to the United States – part of the Royal Australian Navy's change in focus from British platforms to American ships. Again, notes Malcolm Baird, Purves was:

> …legendary in his practical perceptions of work being done for Australia….FP's down-to-earth manner, his practical approach, his single-minded application of fundamental principles, and his Australian irreverence for pomp, marked him as a leader who was willingly followed because he was a thorough professional and never lost sight of the aim.[57]

Despite a swing to acquiring some American vessels, the RAN remained committed to several British designs, amongst them the excellent *Oberon* class diesel-electric submarines. Ron Osborn is of the opinion: '…to the best of my knowledge he looked after the RAN's interest with his usual expertise.[58]

Once in Britain, on 17 June 1966, Purves officiated for the Navy in a ceremony to place the first hull section for *HMAS Ovens*. On 29 November 1966 he attended the launch of *HMAS Otway*, one of the six *Oberon* class submarines being built in Britain for the RAN.[59] His expertise in diesel engines was certainly brought to the fore in these years, as well as in the design of the engines for the new *Attack* class patrol boats being brought into service. As Malcolm Baird again points out, in these areas and more, Purves showed: '…an endless capacity to improve a design that it might better suit Australia's unique circumstances.'

Purves celebrated his promotion to Rear Admiral the following year with a cocktail party on 13 March 1967, and a dinner the following day, in his new flag-rank capacity.[60] Both were attended by a distinguished group: the latter event by Vice Admiral Sir Alan McNicholl and his wife, and by no fewer than three Rear Admirals, including the notable Vice Admiral VAT Smith. The Minister for the Navy – the Honourable Don Chipp, then Minister for the Navy, was also in attendance with his wife.

Purves's first letter in his capacity as Rear Admiral, on new headed notepaper, was to his wife, '…as you are mainly responsible for my reaching this rank.' With her he also attended one of his first functions in the new position – the launching of one of the RAN's fleet of *Attack* class patrol boats – *HMAS Bayonet*.[61] Unusually, the new vessel was not slipped down into the water however, but rather lowered by crane at the Evans Deakin shipyard, Brisbane.[62]

Socialising in high ranks was a feature of the new position, with the reality of the situation being that such events were unique opportunities to get to know overseas politicians, defence officials or foreign officers, and thus open doors to conducting the business of Australia's defence, trade and international relations. At this time the Purves family sold the Dural property to purchase a house in Deakin, ACT.[63]

The Purves coat of arms

On 8 June 1968 he was promoted a Commander in the Military Division of the Most Excellent Order of the British Empire – the CBE.[64] On 14 March 1969 Rear Admiral Purves was officially 'transferred to shore' for placement on the Emergency List of the Reserve. In a letter dated the previous day, the Naval Board noted their appreciation for his 'distinguished services' over 29 years. They wrote:

> In all the many appointments you have held, you have demonstrated the highest standards of technical expertise as well as judgement, integrity and loyalty. In addition your cheerful nature and keen sense of humour have made you a delightful messmate and colleague.[65]

Similar accolades followed from the Minister for Shipping and Transport, Ian Sinclair, and various other politicians and officers who had served with Purves.

The Admiral and his wife undertook a programme of travel to the USA and Britain lasting several months later that year. Lilian Purves was continuing

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to rise in her nursing career, and eventually became the Director of Nursing at Morling Lodge, Red Hill.[66] She managed finances, administration and fitted in some nursing too, enjoying hard work as much as her husband always did. In 1985 Lilian was awarded the OAM – the Medal in the Order of Australia – for her services to nursing.[67]

Offers of further employment came in quantity for Admiral Purves, including approaches from the Indonesian government, private enterprise and indeed the Royal Australian Navy as well.[68] Purves became a member of the 'Retired Senior Officers' Symposium', and made many valuable contributions, especially in his specialised field of technical requirements.[69]

The 'Purves Adjustable Pipe-Hose Coupling' was manufactured by Flowline Couplings of Sydney during this time, and met with some success – it was a coupling designed to allow different sized ship hoses to be mated together.[70] It was a Fred Purves design. The Admiral also became involved in Osmarine Australia, supervising the construction of *MV Bass Shore*, an oil rig tender.[71]

In 1971 he accepted an offer of a position as consultant to Kinhill, a marine services organisation which ranged over management services, naval architecture and port and harbour facilities.[72] Some of this involved advisory work to Indonesian companies.[73] In the mid-1970s Purves was diagnosed with 'hypertensive cardio-vascular disease'. This is basically a heart disease, with '….altered function of the heart muscle, and lessened ability to pump blood'.[74] It can lead to heart failure. Some of this condition might be traced back to previous work in the defence forces. In any case, Purves's condition was fully covered by the naval service. Unfortunately, this was the start of many years of medical problems. Through October 1985 to September 1986 Purves had both legs amputated, and consequently faced confinement to a wheelchair for the rest of his life. Nevertheless, he remained actively interested in many things. In 1990 he celebrated his golden wedding anniversary with wife Lilian, the celebration seeing the cake cut with the Admiral's sword, and the party being graced by no fewer than six admirals.[75]

In 1995 the English College of Heralds in London, on Royal Authority and under the Seals of Garter, Clarenceaux, and Norroy and Ulster, granted arms to Fred Purves. The principal element in the grant is, appropriately enough, the heraldic beast known as a 'Sea-Dog', with two of them dominating the shield 'combatant reguardant' – in other words, in fighting posture but looking back over their shoulders. Robert Purves notes that this is a deliberate allusion to Fred's having to guard his back not only when fighting the Japanese in the jungles of New Guinea, but also – much later – when he was fighting for the Navy in the political jungle of Canberra. The shield is surmounted by a helmet, upon which sits a Naval Crown (traditionally allowed only to officers of flag rank), and from which emerges a half Sea-Dog holding a double headed spanner in its right paw. This spanner is an allusion to Fred's love of engineering. The Latin motto might be translated as 'Strength and Gentlemanly Attributes in Equal Qualities.'[76]

In his last years the Admiral was cared for largely by his son Robert, after his wife, who had been his chief carer, had a heart attack and stroke in 1994. The Admiral became slowly blind, so could no longer read, a source of some depression to him.[77] In 1996 he was visited by old friend Colin Price, with whom he had often worked over the years. As Purves's son Robert notes, Price was '…very upset to see my father so reduced and sick'. Price handed the Admiral a copy of his own manuscript 'A Tiffy's Odyssey' describing Price's 20 years of eventful service. On the fly leaf Price wrote:

> For my greatly respected and admired Rear Admiral. I live today in comfort thanks to the help you gave to me during my naval career. I shall never forget you and thank you with all my heart. During my civilian life I made a determined effort to maintain the standards you would expect of me.

Rear Admiral Purves died on January 11, 1997 at the age of 84, and the Royal Australian Navy gave him, in his son's words, a 'splendid ceremonial farewell in Canberra'. From Port Hedland in Western Australia the guided missile frigate *HMAS Adelaide* took his remains to sea for the last time on 12 May 1997, and his ashes were scattered to the ocean he loved so much.

How can we summarise Purves's leadership characteristics, given the comments of others through his career? Especially considering the disadvantage of his permanent Navy career – starting without attending the RAN College and as a Reservist – Purves was more than competitive in the promotion stakes. He surely ascended the heights. However, his main achievement is in engineering achievement: supervising the best acquisition of platforms for the Navy and cementing the relatively new force as capable of managing its own maintenance and repair work.

It seems a measure of the rationale behind his promotions that he was outstanding in his branch. Purves was singled out by the Navy as the quintessential engineer who was also an officer capable of carrying the

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responsibilities of Flag rank.

There are many testimonies to Purves' ability to inspire others. He is an example to those who did not attend the Naval College, and who started from comparatively humble beginnings, that they too can achieve distinction.

He was an officer who possessed a considerable degree of empathy. All of his life, Purves was willing to join in with others' work, which must surely have led his sailors to respect him and to imitate his enthusiasm and attention to detail. He must have been a great example to engineers especially.

We might label him an average communicator, but let us recognise that Purves was an excellent adviser in the field of his beloved engineering, and when necessary, he was also an excellent man-manager who understood his people. In terms of the physical, Purves cannot be said to look the part of the movie-version naval officer. But in terms of acting the part of a leader, he did well. He also had the gift of directness, in that he went straight to the job at hand without delay – an attribute that illustrates moral courage.

Never one to hold back, it was due to Purves's willingness to move forward that he achieved so much. In summary, an extremely capable engineer, a competent leader, and a master of his craft. A role-model for all engineers and for those members of armed forces who work within logistical areas.

Dr Tom Lewis OAM, has served in a variety of PNF and Reserve roles within the Navy. He led US forces on deployment in Baghdad in 2006. He is now the Director of Darwin Military Museum.

(Endnotes)

1 Personal details on Purves's life are generally drawn from material supplied by his son, Robert Purves.

2 Indenture paper. Robert Purves Collection (hereafter known as RPC).

3 Telephone interview with Robert Purves – son of the Admiral – 28 March 2002.

4 Certificate of Service. (RPC)

5 Reference from the Adelaide Steamship Company, 28 February 1939. (RPC)

6 Application for Examination as an Engineer. (RPC)

7 Various copies as supplied by Robert Purves to the author.

8 Frederick William Purves 1930s photograph album. (RAN College Historical Collection)

9 Rose, Athol, Commander RAN (Rtd.) Letter to the author, November 2001.

10 Letter to the author from son Robert Purves, 4 May, 2001.

11 Canberra Times newspaper article. 'Wartime romance goes for gold.' April 1990. (RPC)

12 Straczek, Josef. The Royal Australian Navy: Ships, Aircraft and Shore Establishments. Sydney: Navy Public Affairs, 1996.

13 Newspaper – unknown title. Year also unknown, but contextual reference to 1990. 'Wartime romance goes for gold.' (RPC)

14 Letters to the author, March-May, 1996. (Letters penned for his father by son Robert Purves with his observations also added)

15 Letters from Purves to the author, March-May, 1996.

16 Alan Powell in The Shadow's Edge gives opinions from both sides. See also Rupert Goodman's Hospital Ships. Brisbane: Boolarong Publications, 1992.

17 Rayner, Robert. The Army and the Defence of Darwin Fortress. NSW: Rudder Press, 1995. (p. 239)

18 Letters to the author, March-May, 1996.

19 See this author's Sensuikan I-124, or its reprint Darwin's Submarine I-124, Avonmore Books, 2011.

20 See this author's Sensuikan I-124, or its reprint Darwin's Submarine I-124, Avonmore Books, 2011.

21 Letters to the author, March-May, 1996

22 The sources for this are somewhat vague, but this is unsurprising, given the nature of the mission. The story derives from accounts as relayed by RADM Purves in later life to RADM Max Reed, AO, RAN (Rtd.), and Robert Purves. On Purves's Confidential Report for 21 May 1942 the Occasion for Report is filled in with 'Discharged South Category X'. This term is unknown to the writer, and has not been seen on other WWII reports, up to and including the 'Most Secret' used then for the highest levels of security. It may be that the writer was not given a reason for Purves's discharge south so simply used 'X' as an unknown quantity.

23 Original document (RPC)

24 Letters to the author, March-May, 1996.

25 Cited in letters to the author from Robert Purves.

26 Payne, MA. HMAS Australia. Sydney: Naval Historical Society of Australia, 1988. (118)

27 Officer's Certificate (original) from the collection of Robert Purves, as are all other Certificates cited.

28 Purves, Robert. Letter of 11 February 2002.

29 Straczek, Josef. The Royal Australian Navy: Ships, Aircraft and Shore Establishments. Sydney: Navy Public Affairs, 1996.

30 Drawn from three of the RPC letters.

31 Drawn from two of the RPC letters.

32 As noted on Personal Report of 21 March 1946.

33 Osborn, Ron, Commander, RAN (Rtd.). Email to the author, December 2001.

34 Reed, Max, Rear Admiral, AO, RAN (Rtd.) Letter of 11 December 2001.

35 Price, Colin C. RAN member. Manuscript: 'A Tiffy's Odyssey: being the recollections of a Royal Australian Naval Artificer 1941-1961.' December 1995. (In the author's possession.)

36 Conversation with Robert Purves, 10 December 2001.

37 Foster, WG, Captain, RN. Superintendent of the RN Aircraft Repair Yard, Denibristle, Fife. 21 September 1950.

38 Purves, Robert. Letter to the author, 9 October.

39 Price (pp. 26-27)

40 Ziegler, Bruce M, Commander RAN (Rtd.) Letter to the author, 28 February 2002.

41 Letter to the author from RAN officer, November 2001. The officer wished to remain anonymous. His position and experience were such that his comments were deemed worthy of retention.

42 Letter to the author from Robert Purves, May 2003.

43 Rose, Athol, Commander RAN (rtd.) Letter to the author, November 2001.

44 Letter to the author from anonymous RAN officer previously cited in this chapter.

45 Osborn, Ron, Commander, RAN (Rtd.). Email to the author, December 2001.

46 Newspaper – unknown title. 'Wartime romance goes for gold.' Year also unknown, but contextual reference to 1990. (RPC)

47 Ziegler, Bruce M, Commander RAN (Rtd.) Letter to the author, 28 February 2002.

48 Baird, Malcolm, RAN officer (rtd.) Letter to the author, 5 November 2001.

49 Price, Colin C. RAN member. Manuscript: 'A Tiffy's Odyssey.'

50 McDonald, Neil, Rear- Admiral, RAN (Rtd.) Letter to the author, November 2001.

51 Reed, Max, Rear Admiral, AO, RAN (Rtd.) Letter of 11 December 2001.

52 Purves, Robert. Letter. February 2002.

53 Letter to the author from anonymous RAN officer previously cited in this chapter.

54 15 December 1965.

55 New Zealand High Commission. Invitation to Cocktail Party. 22 March 1966. Robert Purves Collection.

56 Department of the Navy. Letter to Captain FW Purves, 28 June 1966. Robert Purves Collection.

57 Baird. Letter to the author.

58 Osborn, Ron, Commander, RAN (Rtd.). Email to the author, December 2001.

59 Official program. (RPC)

60 Handwritten guest lists. (RPC)

61 Purves, Robert. Letter. 2002.

62 Newspaper article in the RPC collection.

63 Purves, Robert. Letter to the author, 9 October.

64 Original Citation. (RPC)

65 Letter from the Naval Board dated 13 March 1969. (RPC)

66 Newspaper – unknown title. 'Wartime romance goes for gold.' Year also unknown, but contextual reference to 1990. (RPC)

67 Purves, Robert. Letter. 2002.

68 Landau, Sam. Secretary to the Navy. 9 April 1969. (RPC)

69 Leach, DW, Vice Admiral, RAN. Letter. 9 April 1985 (RPC)

70 Brochure, undated. (RPC)

71 Purves, Robert. Letter. 2002.

72 Kinhill Pty. Ltd. Letter of appointment, 17 August 1971. (RPC)

73 Various letters of advice through Kinhill in relation to Indonesian consultations.

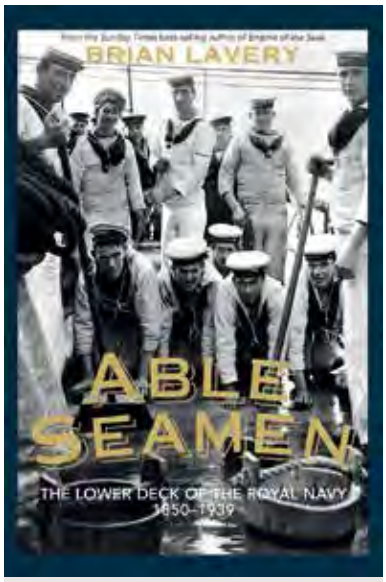
74 Encyclopedia Britannica, CD-ROM version, 1997.

75 Newspaper – unknown title. 'Wartime romance goes for gold.' Year also unknown, but contextual reference to 1990. (RPC)

76 Letters to the author from Robert Purves, 2002.

77 Letter to the author from Robert Purves, 1996.

Book Reviews



ABLE SEAMEN: THE LOWER DECK OF THE ROYAL NAVY 1850-1939

By Brian Lavery

ISBN 978-1-84486-140-8
Conway: www.conwaymaritime.com; 318 pages plus glossary & index

Reviewed by Commander David Hobbs MBE RN (Ret'd)

This is the second volume in a series of three devoted to the evolution of the Royal Navy's 'lower deck' and covers the period from the widespread introduction of steam propulsion after 1850 to the outbreak of the Second World War in 1939. The first volume had covered the period from 875 to 1850.

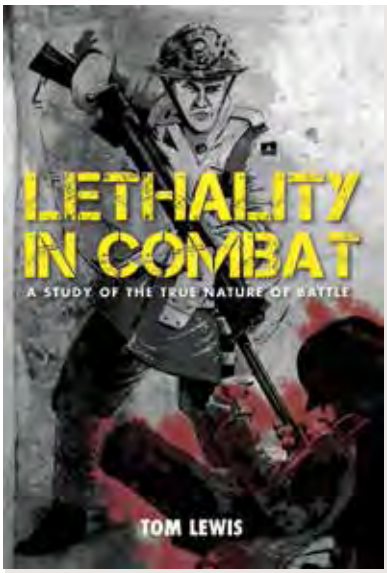
Brian Lavery has brought together a wealth of detail from a variety of sources to analyse a period of great technical change in a Navy that had ships stationed throughout the British Empire. Significantly Volume 1 covered nearly a thousand years but Volume 2 covers a mere 89. It explains the introduction of uniform, global conflict, gunboat diplomacy, aviation, submarines, WRNS and the Invergordon Mutiny as well as the training required for the new technical ratings, the evolution of new branches, rating structures and life in various types of warship.

Although the book is divided conventionally into chapters, these are further sub-divided into specialised sections which explain topics such as the role of the gunlayer, signals and telegraphy, the RN in an Imperial Age, Reservists and the Royal Naval Division. This makes it easy to find the examples quoted and over a hundred other specialised subjects, making this work an ideal research tool. The 38 photographs are well chosen and the captions are carefully written to complement the main text.

Although Lavery does not cover the Royal Australian Navy as a separate entity, his extensive coverage of the Royal Navy from which it evolved and drew its early standards and practises is impressive. Except for the absence of the Rum Ration in the RAN, there would have been little practical difference between life in His Majesty's Australian Ships and those described in this book.

Able Seamen can be read conventionally from cover to cover, dipped into to read topics of interest or used for researching the human elements that underpinned the sweeping technological changes that took place in the era covered. Besides being a fascinating read, it deserves a place in any naval historian's library.

It is always a pleasure to read a book by an author who is clearly an expert in his field and Brian Lavery has an established a reputation with an eye for detail and a sympathetic understanding of his subject matter. This book will enhance that reputation and I thoroughly recommend it.



LETHALITY IN COMBAT: A STUDY OF THE TRUE NATURE OF BATTLE

By Tom Lewis

Big Sky Publications, 2012

Reviewed by Dr Peter Williams

In 1999 an Australian Special Air Service soldier in East Timor was charged with misconduct. After a skirmish with pro-Indonesian militia he had kicked an enemy corpse. Australian newspapers were critical of the soldier's behaviour but the-then Foreign Minister of East Timor, Jose Ramos Horta, thought it wrong to charge the soldier. The soldier was eventually found not guilty but the case, which many of us will remember, is a good example of the problems dealt with in Tom Lewis's book, *Lethality in Combat*.

Lewis, significantly a veteran of the Iraq War, serving in Baghdad, examines the gap between how soldiers, sailors and airmen are expected to behave in war, and how they **do** behave. A wide range of examples are dealt with including taking prisoners, revenge killing on the battlefield, killing wounded enemy, and targeting civilians. Lewis concludes that combatants do not behave as they are supposed to according to the laws of war and, more importantly, there is not much we can do about modifying their behaviour in battle.

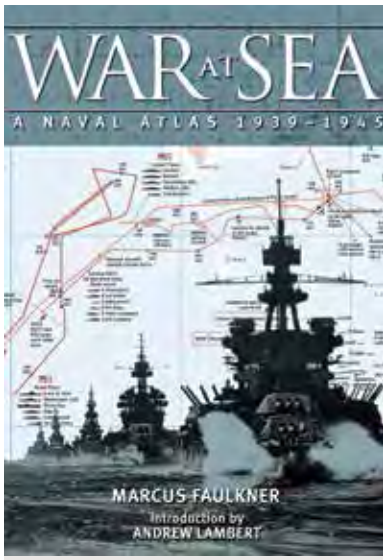
Nor should we try, controversially argues the author. If we want our men and women to win battles, then we must not penalise them when they behave in ways which would be unacceptable in civil society. One example Lewis gives is when prisoners are killed during a battle when no one can be spared from the fighting to guard them. Unguarded

prisoners may still be a threat to those who have captured them so the killing of the prisoners, proposes Lewis, may amount to simple necessity and should not always be considered a crime.

Lewis supports his position by amassing a large body of evidence from personal accounts drawn from the Boer War – including that notorious scoundrel, Breaker Morant – to Afghanistan. He builds a solid argument that what we should do is adapt our rules (from the Geneva Conventions down to the rules of engagement each nation issues to its armed forces) to accommodate reality.

Lewis's ideas, and his examples, are powerful and confronting. He urges readers to suspend their personal horror of 'the true nature of combat' and to pragmatically assess the need for changes in the conventions and rules of warfare. Importantly, he does not suggest that there should be no rules. Rather his position is that the Geneva Protocols, for instance, are often breached and will continue to be breached because of what humans do, and will continue to do, in battle. It is illogical to punish them for these transgressions. The solution is to revise the conventions, taking into account what really happens in combat.

I would have liked to see more detailed discussion of the precise changes to the rules that Dr Lewis has in mind. This is a quibble; the book should indeed be widely read. Dr Lewis has taken a confronting position on a highly emotional topic and proposes a solution some will find unpalatable. Those who, on the basis of this review, think they would disagree with Lewis are especially encouraged to read the book. Highly recommended.



WAR AT SEA: A NAVAL ATLAS 1939-1945

By Marcus Faulkner

Cartography by Peter Wilkinson
Introduction by Andrew Lambert

Seaforth Publishing, UK
ISBN 978-1-84832-047-5

267 pages of coloured maps and battle plans. £50 recommended price

Reviewed by Commander David Hobbs MBE RN (Ret'd)

After I opened the packaging in which my review copy arrived, it only took me a few minutes to realise that this is an important book. The Publisher's letter which accompanied it described it as 'unsurpassed' and 'unique' and it fully justifies both those adjectives; I would add a third, 'outstanding'. Wary that I might put ANI members off by praising a book that might contain flaws on second or third inspection, however, I have studied it carefully several times and have found each to be even more fascinating and absorbing. If ever there was a book that literally illustrates the fundamental importance of sea power to every aspect of the strategy and campaigns of the Second World War, this is it.

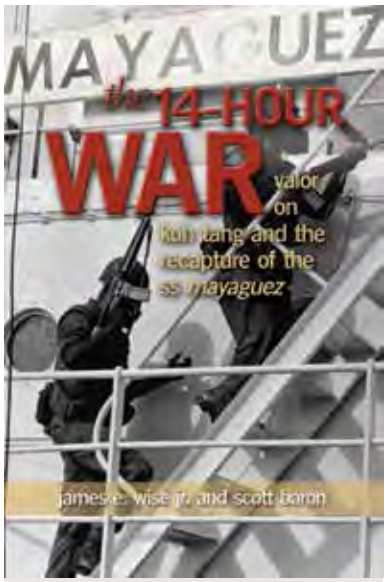
Marcus Faulkner is a Teaching Fellow in the Department of war Studies at King's College in London and this is his first book. Andrew Lambert is the Laughton Professor of Naval History in the Department of War Studies at King's College; he has lectured in Australia and needs no introduction to ANI members. Peter Wilkinson has over 30 years cartographic experience, running his own studio whose clients included Oxford Cartographic, Longmans and Harper Collins.

The maps and battle plans are all in colour and use standardised symbols for the ships, aircraft and military formations that took part in the events portrayed. The relevant information is drawn from a vast quantity of official and academic sources and the Bibliography runs to three pages. The book is well indexed. Events are laid out in date order and the first maps show how the belligerent navies were deployed in 1939; the navies of the British Commonwealth being by far the largest cohesive force at the time. For each year of the conflict the scene is set with a world map showing where and when the events that follow occurred. Battle plans have an inset map showing, geographically, where the action took place and all maps have brief but succinct descriptions of what happened.

Battles, convoys that sustained the allied nations, troop movements, air strikes, amphibious assaults and raids, bombardments, evacuations and many other facets of the war that relied on sea control are clearly shown and explained bringing a clarity to many that has previously been absent. For instance Operation 'PAMPHLET' the convoy that brought the 9th Australian Division back from the Middle East to Australia and the passage of the 'X'-craft and their subsequent attack on the *Tirpitz* in Kaa Fjord each have a page. Campaigns begin with the German attack on Poland in September 1939, and end with the American and British carrier strikes against the Japanese mainland in August 1945.

This important book not only stands on its own as a significant reference work but is an ideal complement to G Hermon Gill's history of the RAN between 1939 and 1945; S W Roskill's *War At Sea* and the Admiralty Naval Staff Histories that are becoming available through the Sea Power Centre-Australia website. I believe that it is worth its high 'price-tag' and will be a most important addition to the book collection of anyone with an interest in naval history. I recommend it highly.

Book Reviews



THE 14-HOUR WAR: VALOR ON KOH TANG AND THE RECAPTURE OF THE SS MAYAGUEZ

By James E. Wise Jr and Scott Baron

Annapolis Md.: Naval Institute Press, 2011. 297pp Hardcover. ISBN 9781591 149743.

Reviewed by Ian Pfennigwerth

Mayaguez – an odd name and the principal pawn in a game of power politics played out right at the end of the Vietnam War in the Gulf of Thailand. Late on 12 May 1975, just a month after the USA had evacuated its embassy in Phnom Penh and three weeks after the much-broadcast footage of its staff being lifted off the roof of the of the US Embassy in Saigon, Khmer Rouge forces intercepted the US-flagged SS *Mayaguez* off the Cambodian coast. Without diplomatic representation in the region the US Government was unable to seek an explanation for this action and, fearful of further humiliation, elected to regard the incident as an act of piracy. This was deemed to require a military response. Mild Australian interest might have been piqued by the fact that one of the ships sent to the container ship's assistance was USS *Harold E. Holt*, but the seizure and the US response were big news in Washington DC, where I was stationed.

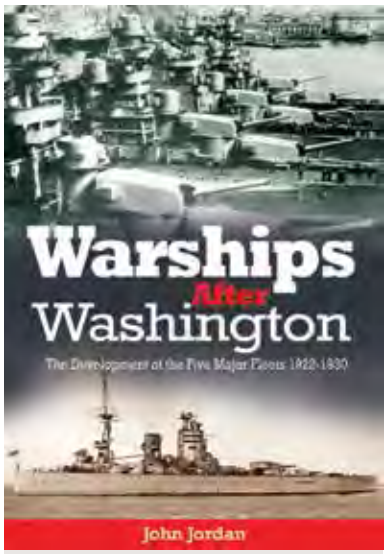
By the time surveillance assets could be deployed to the region the following day, the US government had ascertained that the ship was now anchored off the small island of Koh Tang 27 miles west of Kompong Som and on the 14th that the crew had been taken from the ship, presumably to the island. What intelligence could be mustered on the island and its possible defences was scant: an army observation aircraft had to fly at height over Koh Tang and take photos using a handheld camera. Dubious intelligence from a Cambodian Navy defector suggested that an assaulting force might expect resistance from fishermen and pirates.

The first solution offered was to fly US Air Police from Thailand to the island to retrieve the *Mayaguez* crewman, and this operation was underway before cooler heads prevailed. Efforts were now bent to produce out of the hat a force of Marines flown in from Japan which would land on the island from US Air Force helicopters to recover the crewmen while a second detachment seized the ship. Air Force and Navy aircraft would fly surveillance and interdiction missions, the scene of action commander would be in an EC-130 above the operation area to coordinate activities, and the USN would provide a destroyer and the frigate *Holt*. The Navy has also sailed the carrier *Coral Sea* to the area.

The necessity to act quickly and decisively came from political considerations: readers will recognise that the operation now involved three forces under different command chains converging from three separate areas on a poorly understood target and with operational planning changing from moment to moment in the presence of almost no intelligence of any quality. As Wise and Baron observe, almost everything that could go wrong did. Not to steal the authors' thunder, the *Mayaguez* crewmen were not on Koh Tang and the island had been thoroughly and carefully fortified by the Cambodians to defend it from an anticipated Vietnamese assault.

Wise and Baron provide a measured and tested overview of the events of that day and of its aftermath, but the key to understanding what it was like for the airman, seamen and marines doing the fighting is the series of interviews given by participants which follows this account. To say that enormous gallantry was displayed, especially by the Air Force helicopter aircrew and the marines, is to understate the ferocity of the battle and the odds against a successful outcome. As it was, the US lost 41 dead and many others were wounded. The authors give no estimates of Cambodian casualties but they must have been considerable in the light of the volume of ordnance delivered onto the island, on Cambodian water craft, and on port and military facilities onshore. The trigger for this carnage, *Mayaguez*, was found to be unguarded and her crewmen were returned by the Cambodians unharmed. Towed clear of Koh Tang by *Holt*, three hours later she resumed her passage, with a vicious war raging in her wake.

I recommend this book to both the general reader and to those who might study it in more detail and draw lessons of relevance to the ADF from it. As an observation, what honour the US retrieved from Koh Tang was entirely due to the courage, resourcefulness and determination of the men on the spot, backed by thorough training and impressive leadership. Those were the things that didn't go wrong, and from which the servicemen involved can take great pride.



WARSHIPS AFTER WASHINGTON: THE DEVELOPMENT OF THE FIVE MAJOR FLEETS 1922-30

By John Jordan

London: Seaforth, ,30.00; 338 pages

Review by Norman Friedman

This is a comparative study of the ships the five major navies built during the period between the Washington and London treaties: battleships (mainly as modified), carriers, cruisers, destroyers, and submarines (lighter types do not count). Mr. Jordan's goal, he writes, is to bridge the gap between professional historians (who presumably emphasize policy issues) and warship specialists, who he feels have dismissed the interwar arms control treaties too lightly and have not appreciated the political and social forces which caused them in the first place. It is not clear who those specialists are. Jordan may really be thinking of enthusiasts, who tend to dismiss both arms control and fiscal limitations on navies as somehow illegitimate. Surely most serious writers on the history of warships are more sophisticated.

The good thing about Jordan's approach is that it forces the reader to understand how different navies approached more or less similar technical problems. The bad thing is that, under the guise of being innovative, Jordan looks at most ships as replies to other ships (it is not clear why he thinks this is an original idea). What seems more interesting is how often the action-reaction idea is demonstrably wrong (for example, Jordan is wrong to associate the World War I British K class submarines with erroneous reports of fast new U-boats). Ships are designed in reaction to circumstances; likely opponent ships are only part of the story. Perhaps Jordan's most interesting comments explain Italian thinking. Unfortunately the footnotes give no idea of where the key information originated, so the reader cannot know whether it is authoritative. That is a more general problem with a work of synthesis like this one.

Jordan seems somewhat naive when it comes to national policy. He writes that 'admirals' broke up the 1927 Geneva conference, and that they were therefore deliberately excluded from the 1930 London conference (Admiral Jellicoe got in by heading the New Zealand delegation) – but he does not realize why. It was *US* admirals who broke up the conference, which had been called by the *US* President. In effect they were telling the President that he could not limit USA cruiser construction until they had enough cruisers to fight the Pacific war they envisaged. It should not be a great surprise that the next conference went smoothly – Congress had recently authorized the desired cruiser force. Probably admirals were excluded from Western delegations to the 1930 conference because it would have been embarrassing to admit that one particular major power's admirals had wrecked the previous one.

Jordan gives an interesting account of horse-trading at Washington, based on the published proceedings of the conference, but he has missed much of the real meat. For example, the United States forced the Japanese to accept the 5:5:3 (rather than 10:10:7) ratio of strength on the basis of decrypts of messages to and from the Japanese delegation. When that fact came out about 1929, in a book by the chief US code-breaker of the time, it had devastating effects in Japan, greatly strengthening the Japanese anti-treaty party. This is a well-known story, not something buried in obscure archives. If Mr. Jordan never encountered it, how much else did he miss about what happened in Washington in 1921? It seems odd that Mr. Jordan has not, apparently, consulted the extensive literature about the treaties, most of which was written to examine their lessons for Cold War arms control (the conclusions tended to be depressing).

The reader gets only a limited sense of different navies' priorities (the Italians are probably best served). Perhaps the most bizarre feature of the naval scene of the 1920s was that both the Royal Navy and the US Navy envisaged the same enemy – Japan – but there seems to have been no discussion at all of possible unified action. Each navy used supposed enmity by the other as a means of convincing its government to maintain it. Once the Washington Treaty had cut the Japanese to 60% of the Western navies there was a real risk that governments focused on economy would cut their own navies to the same level. How can we know about US and British priorities? If you look through the official (internal) naval papers of the period, whenever a new ship is being discussed (in the British case, through the late 1930s), you find some version of 'how does this proposal work in the war against Japan?' Mr. Jordan points to a Committee on Imperial Defense paper describing France as the key threat, but he seems unaware that the services did not see things in a unified way, and that the Royal Air Force and the British Army could not have justified any great strength on the basis of a Far Eastern threat. France was in effect a proxy for a possible revived Germany, just as the United States was the Royal Navy's proxy to justify what was needed to deal with Japan.

Mr. Jordan explains French and Italian thinking in terms of World War I battle fleet tactics. However, it seems likely that both the French and the Italians looked back at the hit-and-run battles both in the Adriatic and near the Channel (the ones fought by the Harwich Force and the Dover Patrol). That was the gist of a 1920 French naval staff paper explaining the logic of the super-destroyers. It is located in the French archives at Vincennes. It is odd that the only French policy history Mr. Jordan cites was published in 1941, hardly a good time for the French to discuss or disclose their

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internal debates in a candid way. A lot has been published since about 1960, and there is considerable archival material.

Much of the story is simply missing from this book. Navies are a lot more than ships.

For example, the US Navy invested heavily in seaplanes as a way of building a large naval air arm despite having few carriers. Japan seems to have done the same thing. Seaplanes could be based in its Mandated islands even without much preparation (which was blocked by the anti-fortification clause). The French had bases surrounding the Mediterranean, and they had both seaplanes and naval land planes. On the other hand, the Royal Air Force had no great interest in supporting the fleet (it advertised its seaplanes as alternatives to ships), and the Italian air arm seems to have had similar ideas. If you want to understand the impact of the Washington Treaty, you have to think about such issues. Mr. Jordan does mention US thinking about a fleet train, but not the seaplane issue (except in connection with the French seaplane carrier *Commandant Teste*).

When he writes about attempts to control submarine construction, Mr. Jordan seems unaware that one perceived lesson of World War I was the *failure* of submarine warfare against shipping. It was widely accepted, at least in the United States and probably also elsewhere, that unrestricted submarine warfare would tend to bring neutrals into a war, with possibly devastating consequences. That was a widespread reading of how and why the United States was drawn into World War I. USA officers were well aware that Japan was vulnerable to submarine attack, but they feared sinking neutral (British) merchant ships and bringing Britain, more or less a Japanese ally in American minds, into a US-Japanese war, with crushing results.

Australian readers are not well served. The interwar Royal Australian Navy was largely shaped by the outcomes of the Washington and London treaties, but Mr. Jordan seems not to understand the approach of the Royal and Empire navies to Pacific strategy. He has, for example, accepted the widely-published view that the dissolution of the Anglo-Japanese alliance, due to American and Canadian pressure, left the British concerned with possible Japanese attacks on the empire in Asia. In fact the report of Admiral Jellicoe's Empire tour (1919-20), which was intended to shape future Empire defense programs, rather (perhaps too) bluntly painted Japan as the only likely future enemy, based on Japanese action during World War I. Jellicoe was the one who pointed out that in wartime a fleet would have to be based in the East. Because there was no local infrastructure to support it, the fleet had to be based somewhere else, and it would take some time to reach its base, in effect the Scapa Flow of the East. Something had to be done to tie down the Imperial Japanese Navy until the fleet arrived. Rear Admiral Dreyer, Jellicoe's aide during the Empire cruise, came up with the idea that raiding Japanese sea lines of communication might do the trick, based on the enormous influence the German raider Emden had exerted until *HMAS Sydney* sank her. The County class cruisers were conceived with this end in mind. There was a reason that the interwar Royal Navy China Fleet always included a squadron of them. In 1929 the Admiralty wanted to go a step further and station its battlecruisers in the East, as an even more forceful reminder to the Japanese not to take chances. That turned out to be unaffordable, and in the 1930s other possibilities, such as torpedo bombers and submarines, seem to have taken center stage. However, Dreyer's idea probably explains why *HMS Prince of Wales* and *HMS Repulse* were sent East in 1941. The Dreyer material is in the Public Record Office in London, but it is not reflected in the works Mr. Jordan consulted.

This book well illustrates the weakness of a work of synthesis undertaken without, it appears, any reference to primary sources. The author is at the mercy of those other authors he cites, and he cannot be sure of their own prejudices and failings (relying on compendiums for some data is particularly dangerous, as there is no hint of sources or of editorial impact on the original writing). The result is sometimes weird. We are told, as though it was a specially French idea, that French torpedo craft were designed to attack enemy capital ships – as though destroyers in other navies were not (although Mr. Jordan makes much of Japanese torpedo armament). That is because the French accounts of French destroyers and super-destroyers make that point explicitly. Others make it much less explicitly, but it would be foolish to ignore. Comparative studies are interesting because they show how alike various navies were by emphasizing how they were *not* alike. That takes a lot more depth than you find here. Primary (archive) sources matter because so much of what has been published is either misleading or just plain wrong. The further from the primary sources the author is, the better the chance that he will get important things entirely wrong. It is not just a matter of particular facts, it is a matter of understanding the flavor of a distant period we only partly understand.

A further serious problem is the unevenness of the existing sources. The Royal Navy and the US Navy are well covered by ship specialists who relied heavily on archival material, with the important exception of British submarines. The situation for other navies is much less satisfactory. For the Japanese, the only ship subject covered in great depth (at least in English) is cruisers, with submarines a distant second. The extensive French literature is much more about technology than about the larger rationale for building ships. The Italian official history covers all types of ship, but tends to avoid policy questions. Some excellent recent Italian naval policy histories did not make it into the bibliography. That readers generally will *not* find major surprises in this book strongly suggests that it is neither particularly insightful or a real addition to the literature. Mr. Jordan certainly writes about what various navies wanted, but on the strength of his bibliography it is not at all clear how much is his conclusions, and how much is derived from solid information.

TEAM SPIRIT: LIFE AND LEADERSHIP ON ONE OF THE WORLD'S TOUGHEST YACHT RACES

By Brendan Hall

Adlard Coles Nautical: London, 2012
ISBN: 978-1-4081-5723-7

Reviewed by Lieutenant Commander Richard Adams, RAN

The Clipper Round the World Yacht Race offers people from all walks of life the chance to face the globe's most challenging conditions. The Clipper is a race, not for professional yachtsmen, but for courageous amateurs. On board, men and women, students, farmers, engineers and executives are equals and crewmates. This is the human challenge and the human diversity, which makes the Clipper such a demanding race and *Team Spirit* such a useful and engaging read.

This book sets out the story of Brendan Hall, describing how he built the high performance team, which won the 2009 / 2010 Clipper Race.

The youngest and least experienced skipper in the field, Brisbane-born Hall steered *Spirit of Australia*, to victory. But in many ways this was the least of his achievements. More than the story of a win, *Team Spirit* is richly the story of Brendan's leadership and his evolution as a leader. Brendan Hall molded a champion crew from a diverse group of mettlesome, adventurous everyday people. Beneath the narrative of the race, the development of this crew is a rich story.

In the book, Brendan describes how he dealt with the complexities of human interaction, helping people to overcome their fears and uncertainties, mediating conflicts, and failures, developing people as sailors and molding people together as a crew. I was fortunate to be able to speak with Brendan, and he amplified this idea, saying that people pose the most complex challenges for any leader; the book should never be judged by the cover.

"Life at sea," said Brendan, "challenges people in different ways, and once people are out of their normal lives and comfort zone, they surprise you in different ways. Some for the better, some for the worse. I reckon people can stay polite and superficial in the interactions with others for about two weeks. They keep quiet in situations for fear of voicing an unpopular opinion or offending somebody. After that time they start to fray around the edges. But equally, the really strong characters start to emerge".

Brendan also reveals how he matured as a leader, and learned first hand the truth in the adage that "the Captain is the ship". He told me that:

My character and my day-to-day behaviour had a subtle, but very powerful effect on the crew. I found that my mood would quickly become the mood of the crew. I would say that on any given day my mood counted for at least 50% of the mood of the crew. I didn't realise it at first, but by the end of the race, I saw how powerful an effect I could have on the crew and the morale of the boat. I had to be more conscious of my demeanour; tone of voice and body language, knowing that the shadow I cast over the crew was great. I needed to be consistent from one day to the next and keep a good command distance between the crew and myself. I had one or two crew whom I felt I could secretly confide in, people who were in positions of leadership in their shore-based lives - their feedback and sometimes guidance was appreciated, particularly in the early stage of the race.

In conversation, Brendan reveals himself to be an intuitive and thoughtful character. His book, an easy and rewarding read, catalogues a story of persistence and human insight. Brendan describes his painstaking effort to understand himself as a leader, and his team as individuals. In accessible engaging prose, he sets out hard-earned lessons, enabling the reader to understand how he encouraged the best from his people. This practical and interesting volume reveals how, as the race unfolds, Brendan Hall became less the skipper of a boat and more the leader of his crew.

In an interesting postscript to *Team Spirit*, Brendan himself has set his sights now on a new challenge, he told me "in stark contrast to the team management of skippering a race boat". His ambition is "to learn something about myself and how I will cope in that situation. I know I will be surprised at what I find, though I don't know if it will be for the better or worse". The challenge: a solo row across the Atlantic, with departure planned in January 2016.

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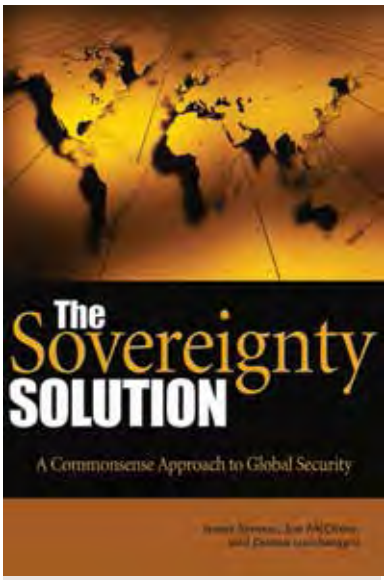

THE SOVEREIGNTY SOLUTION: ARE AMERICAN EXCEPTIONALISM, REALISM AND TOTAL WAR, THE SOLUTION TO AMERICA'S FOREIGN POLICY QUESTIONS?

By Lieutenant Colonels Joe McGraw and Duane Lauchengo, Anna Simons

Publisher: Naval Institute Press

Reviewed by LCDR Michael Paes, RAN

With the recent exit of all US troops from Iraq and the impending exit from Afghanistan, a debate has emerged over the utility of the US armed forces for counterinsurgency and nation building. These same questions were raised after the war in Vietnam, and the failed attempts of nation building in Somalia in the early 1990s.

There are two schools of thought: the internationalist and interventionist school which seeks to reform the armed forces to best engage in these types of operations; and the traditionalists which seek to remove COIN from military doctrine and refocus the armed forces on what they do best; applying overwhelming force against an adversary and being used as instruments of policy against other nation states.

The Sovereignty Solution is part of the corpus of literature which supports the latter. It is authored by two Special Forces US Army Officers, Lieutenant Colonels Joe McGraw and Duane Lauchengo, along with Harvard graduate, Naval Postgraduate School academic and military advisor, Anna Simons. Other members of the Long Term Strategy Seminar conducted at the Naval Postgraduate School in 2006 also contributed to this piece. It is a compilation of ideas on how the US should best conduct its foreign policy in light of what they have seen as failures over the course of their years of service.

This book is a passionate discourse stemming from the frustrations these officers have experienced during operations overseas. It does not recount or make reference to any individual experiences, rather, it provides an analysis of how the government should approach military operations with a view to making a standardised mechanism for the US to deal with those that violate its sovereignty. It sets the strategic imperative as aligning ways, ends and means by avoiding overspend, over sell and over reach.

The Sovereignty Solution divides other states into four categories: partner, struggling state, failed state and adversary; and proposes that the US should react to a violation of its sovereignty depending on the category of the state which was involved in that violation. The crux of this book is summed up when the authors cite, "*don't tread on me* and *to each his own*," as well as John Wayne from the movie *The Shootist*, "I won't be wronged. I won't be insulted. I won't be laid a hand on. I don't do these things to other people, and I require the same from them." It is primarily an opinion piece which will strike a chord with many operators who have been in positions where they wish that they could have used the arsenal at their disposal to achieve their operational objective instead of being stymied by national policy.

To engage with this piece you must accept American exceptionalism as axiomatic. It goes on to advocate a basic realist approach to international relations with a return to the use of war as an instrument of policy. The authors propose that states should be forced to police their populations and adhere to the principles of non-interference. Within this framework, the US must maintain its position as a hegemon with respect to power projection ability and intelligence gathering capability. Most forms of internationalism are rejected along with the legal framework which currently provides guidance for the manner in which nation-states interact. The UN Charter and Geneva Conventions, fundamental tenets which are used on a daily basis, would be rendered irrelevant. Instead the authors believe that the international community should return to just war theory in order to regulate relations.

The authors' logic is premised on the fact that the US maintains an advantage over all other nations in its conventional military forces and that its forces are trained and equipped for industrial warfare against another state. However, US weakness lies in the political and social divisions towards the employment of force. *The Sovereignty Solution* thesis is that the US must use its existing Constitutional framework to strengthen its political institutions in order to unambiguously support its armed forces. The population must also believe that when the decision to go to war is made they must get behind their troops.

To achieve these two objectives, it is proposed that the US should return to issuing declarations of war in accordance with the prescriptions contained in their Constitution. This process incorporates the executive and legislative branch of government, and the people via the latter. The authors believe that following these prescribed mechanisms makes clear to all levels of government and society that the US will be using its armed forces in offensive operations against a designated enemy. It is then proposed that such a decisive declaration will avoid the use of ambiguous resolutions and authorisations about using limited force in limited circumstances, which in turn create uncertainty for military commanders and are open to different interpretations from all sides of politics. Declarations of war also work to avoid incremental applications of force which require constant reach back to the executive and legislative for clarification.

To illustrate this point, the authors highlight the slow and steady escalation of force in Vietnam between the fifties

and sixties as an example of failure. According to this text, a declaration makes it clear that the US will be going to war with another nation state and the armed forces will be used to apply destructive force at their discretion. If each state was forced to replicate this model by means of force then reciprocity would follow.

The book derives from concepts of total war. It revolves around notions of decisive action, avoiding drawn out operations unrelated to the application of overwhelming force. The authors unashamedly avoid nuance. This will appeal to many military and strategic experts who subscribe to the theories of Martin Van Creveld and Edward Luttwak. Politically, despite the authors' assertions of bipartisanship, it is conservative and nationalistic.

However, rather than advocate classical liberal theory of small government which normally attaches itself to such opinions, *The Sovereignty Solution* seeks the US government to play a larger role in shaping the national identity. This is in order to ensure national unity in times of war making so that "we the people" become indivisible and resilient. To this end, it advocates that national service should be mandatory and patriotism should be instilled at all levels. How this is to be achieved is not discussed other than a compulsory service either with the armed forces or other government response agencies. The authors stick to highlighting a problem and a desired end state.

The logic in this book is puzzling at times. For example, in chapter 6, the authors propose that the fact that 10-12 million illegal immigrants are currently able to blend seamlessly with society in the US, highlights that the society is no longer uniquely American. They propose that legitimate immigrant groups have not been sufficiently indoctrinated into the American way of life such that the illegal immigrants would stand out if they attempted to blend into the social fabric. The argument is taken that this causes weakness and division in the population which in turn creates a centre of gravity to exploit in order to divide opinion about war, and in turn pressure the government to limit its commitment to employ force against an adversary state. Through patriotic education, universal familiarity with the armed forces via national service and strict immigration control, the authors are of the view that the public would be transformed into one which would understand their role in war thereby strengthening the trinity of the people, the government and the army.

To understand the strategic approach taken in this piece, it is useful to compare it with *The Utility of Force* by the British General, Sir Rupert Smith, published in 2005. Smith uses historical analysis to follow the development of major conflict from industrial warfare through peoples war to war amongst the people, with the intent of proposing that any employment of force must be done with an understanding of the nature of the conflict and applying force in such a way that it achieves specific objectives within the relevant paradigm. On the other hand, *The Sovereignty Solution* ignores the nature of whatever conflict the US is engaged in and proposes to elevate any employment of force to industrial inter-state war because it is this paradigm in which the US maintains a distinct advantage. So regardless of whether an adversary state is responsible for the death of three US citizens or three thousand, any act which is viewed as a violation of US sovereignty can expect a declaration of war followed by a disproportionate attack from the US. Through the US maintaining its hegemony, the reciprocity of *to each his own* will follow.

This reviewer believes that the opinions put forward in *The Sovereignty Solution* are sometimes over simplified. The authors' contention assumes that the US international footprint is defined by the armed forces and State Department and by using them in a more realist form with isolationist tendencies, other states will reciprocate. Economic interactions and policy which have ensured US supremacy are totally ignored. It does not address the aspect of the US Empire which is based on access to markets, not territory, and that liberal capitalism is essential to retain US military might. Since the inception of the Bretton Woods system the US has tailored many parts of its foreign policy on protecting its commercial interests; this has sometimes required the US to project power outside of the industrial war paradigm.

Liberalism and neo-liberalism are essential ingredients to understanding power in the modern world. To suggest a return to Westphalian realism, a system which has never truly worked either, needs greater exposition. While the book is meant to be an opening for a debate, this reviewer believes that *The Sovereignty Solution* needs to further address balance of power politics, regional interaction, cultural affinities, and the clan and religious power structures which all interact to influence the current international system.

Another area of neglect in this piece is that of international law. The world now interacts through a range of international organisations which rely on a multitude of treaty frameworks. *The Sovereignty Solution* seems to make little room for such regimes. Unilateral, overwhelming and disproportionate use of force without follow on military involvement in occupation raises a multitude of legal and diplomatic issues from the outset. The authors suggest that the US will do its best to limit the suffering of non-combatants, but without an internationally recognised legal framework any assertion of such effort will appear perfunctory at best. The authors' simple assertions regarding just war theory demonstrate an understanding of the *jus ad bellum* principles of just war which are attractive to the warrior.

However, the *jus in bello* principles, which are just as complicated and more out of date then the existing law of armed conflict, are ignored. Who decides what aspects of just war theory from Augustine to Grotius and Erasmus are still relevant today and which are not are brushed over in this text? The book seems to carry on the belief that modern international law is a toothless tiger which hampers rather than assists international relations. While this reviewer agrees that we may never see international law being implemented in the way domestic law is, its utility in creating

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frameworks, influencing practice and enabling international relations requires a more in depth understanding rather than the dismissal it receives in this text.

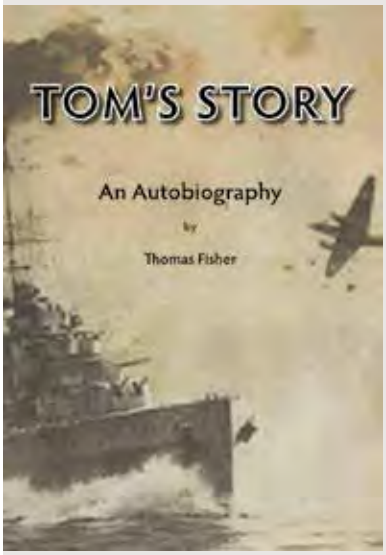
With respect to nation building, regardless of whether one believes in the merits of returning to war as an instrument of policy within a realist state system, the rejection of any form of military assistance in nation building does not seem to address the realities of power vacuums which form when a society is destroyed. For example, the authors believe that once the Taliban was unseated, the US should have protected Afghan borders and let the society rebuild itself without nation building military assistance. How does a country rebuild after war if its borders are quarantined by its conquerors? How does a country rebuild without external military assistance? If the US does not offer it then surely other powers will. How is this in the US interest? None of this is addressed in this book.

Instead, the proposition is put simply that when US sovereignty is violated by an adversary state, the US will "pummel" them. If someone else intervenes, they will be pummelled too. "[T]he only kinetic (armed) mission for US forces abroad would be to get in, break, and get out – not to fix" (p. 128). How regional power structures and allied relationships fit in within this paradigm is ignored. Instead, the theory relies on the idealism that all states would be willing to live under this framework and play their role in preventing non state actors from undermining it. As a corollary, if they are unable to quell non-state actors, that they would seek US assistance to do so.

While this reviewer has highlighted his concerns with this piece, there are some prescient points raised by the authors. They note that people join and get trained in the armed forces in order to kill and destroy. They do not join to engage in Peace Corps activities. To then use a trained soldier to mediate disputes in which they have no involvement, cultural or linguistic background in is ineffective and counterproductive. Furthermore, to attempt to use the weapons and personnel in ways that they have not been produced or trained for is resource intensive without providing the desired outcome. These kinds of arguments are sorely missing from the wider debate. Furthermore, *The Sovereignty Solution* re-centres the international system on the nation state. The nation state remains the fundamental building block of foreign affairs. Transnational identities and non-state actors may now influence society in a variety of ways, however, this is not a new phenomena: the Knights Templar and Hanseatic League operated in a manner akin to multinational corporations and trading blocs operate today. Yet the state remained the guiding force behind social interaction of different societies. Thus, a return to the realist paradigm is necessary to plot a way ahead for the US armed forces.

Finally, this book provides a strong case to make defence planning a stable and fundamental aspect of governance. This will definitely find resonance with armed forces throughout the world who are experiencing budget cuts and force restructures which do not seem to correlate with their national strategies. This is an important debate to have as the role of standing armies in the current era needs analysis. With force employment being able to be applied through land, sea, air, space and cyberspace, how a state develops its doctrine and reconciles its armed forces capability to its fiscal constraints is another issue raised by this work.

This book provides a challenge to the reader. *The Sovereignty Solution* is worth reading if you are interested in the competing ideologies which are vying for influence in the US. The authors represent views which are strongly supported in the military and US society. Their experience cannot be ignored. This is not a textbook for people who are looking to understand US foreign policy afresh. However, when read in the context of the existing literature and experience, which many naval personnel are able to relate to, this piece is informative and challenging. At 143 pages, it is not a difficult tome. It is written in plain English, so readers will not be put off with verbosity, dry or theoretical language. It will be interesting to see how these views in *The Sovereignty Solution* synthesise with the existing US foreign policy in areas of both public and private relations as the United States enters a Presidential electoral campaign.



TOM'S STORY – AN AUTOBIOGRAPHY

By Tom Fisher, OAM

ISBN 9780859055192
Hesperian Press, Western Australia
books@hesperianpress.com
106 pages

Reviewed by Commander Greg Swinden RAN

On 26 October 1941, 20 year old Able Seaman Tom Fisher said good bye to his ship-mates onboard the cruiser *HMAS Sydney* and left the ship that had been his home for 19 months. Three weeks later all his mates were dead in what was the Royal Australian Navy's greatest loss of life. Tom asked himself – why had he been spared? In July 1943 he was serving in the cruiser *HMAS Hobart,* in the South West

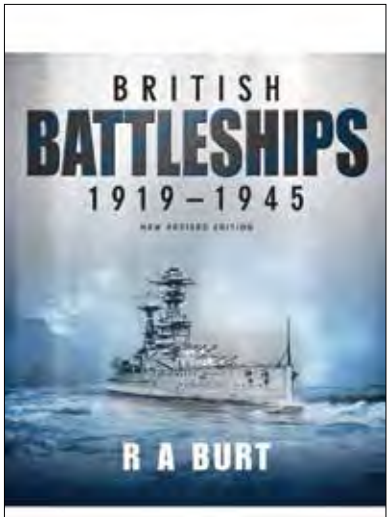
Pacific, when she was torpedoed off the New Hebrides – again he escaped death but this time only by minutes.

Tom Fisher was one of the generation who grew up during the Great Depression, fought and won the Second World War and then built the nation we now live in. What started as a few pages of notes to inform his children of what his life was like during the war grew into his life story – but at the same time it became the story of an entire generation of Australian men and women.

After the war he had difficulties adjusting to civilian life but eventually married, raised a family, and went on to become a senior executive in the Royal Automobile Club of WA as well as a stalwart of the St Vincent de Paul Society. Now aged 91 he has written his autobiography; and pulls no punches in his description of life growing up during the Depression, service in World War II and coping with life after the war. Some would call his difficulties adjusting to civilian live as Post Traumatic Stress Disorder – but people of Tom's era would just tell you to 'Harden Up.'

The book also deals with the loss of *HMAS Sydney* and puts forward a number of views regarding the loss of the ship and calls to account a number of the more outlandish claims made over the years. As someone who was part of the crew, up until only a few weeks before the ship was lost, Tom Fisher's recollections put a new slant on this dramatic story.

Don't be confused by the book's title into thinking this is just another 'Old Salt' telling his story. *Tom's Story* keenly describes a bygone era and is the story of hundreds of thousands of Australians whose work and faith have made Australia the great nation that it is today.



BRITISH BATTLESHIPS 1919-1945

by RA Burt

Seaforth Publishing, 45.00; 432 pp.

Review by Norman Friedman

This is a welcome (and somewhat revised) reprint of a classic. RA Burt began as a collector of naval photographs and then expanded his interest to include what was clearly extensive primary research into the ships themselves. As Burt points out, documentation of refits has generally been lost, so in effect his photographs often *are* the documentation of what was done to ships after completion. This edition of his book, which was originally dated 1919-1939, includes additional photographs from Burt's collection.

Photo reproduction is generally excellent, which means that readers aware of technical details not mentioned in the text or captions can often see them in the photos. For example, this reviewer used another of Burt's battleship volumes (to be reprinted this fall) to find some key gunnery installations on board pre-1914 British battleships. The clarity of the photographs made them obvious. The combination of photographs and excellent drawings makes it obvious that Burt began very much as a student of ship appearance. It in turn should be particularly welcome to modelers – but the book is also of great value to historians who will benefit from Burt's primary-source work.

Both the original and this edition include Burt's numerous drawings, beginning with small-scale drawings to illustrate the evolution of the British dreadnought. Drawings in the endpapers show camouflage schemes. Unfortunately it was impossible to provide fold-outs (as in the original edition), so some of Burt's excellent overall arrangement drawings fall across double pages. The publisher has been careful to leave margins in the middle so that these drawings are fully readable. There are numerous large perspective drawings showing details, particularly of ships as refitted or rebuilt. Drawings also show pre-war experiments (both to improve ships' protection and to test performance, e.g. proper air flow over the bridge). Extensive treatment of battle damage during World War II includes full illustrations. Service careers are described in detail. All classes of capital ships which survived the Washington Treaty are included, which means that there is a full chapter on the *Iron Duke* class (including its design origins) plus extensive but less complete material on the *Centurion* class and the battlecruiser *Tiger*.

The coverage and arrangement of this book may seem slightly odd. Burt groups reconstructions with the classes as built, and this arrangement makes it difficult to grasp ongoing policy (even more oddly, some material on designs executed in the 1920s comes before the dreadnoughts which survived World War I). Burt was also much more interested in how ships performed and were modified than in the logic of their initial design. Thus he shows only limited interest in the unbuilt designs which help elucidate the thinking which resulted in the ships which were built. Similarly, he has limited interest in some of the underlying technology, for example radar, countermeasures, and fire control.

Burt chose to end his book with the *King George V* class, so there is no discussion of the abortive *Lions*, of the various wartime designs, or of *HMS Vanguard*. An extensive section describes early carrier development, presumably because Burt was interested in British capital ships rather than only in battleships. This section naturally leads into discussion of the World War I 'large light cruisers,' which had significant careers mainly as carriers (there is no discussion of their construction or use as 'large light cruisers'). Significant space is devoted to other British carriers, such as *Hermes*, *Eagle*, *Ark Royal* and the armored flight deck ships.

Could this book have been better? Of course; any book can be better. Is it terrific, and well worth the reader's while?

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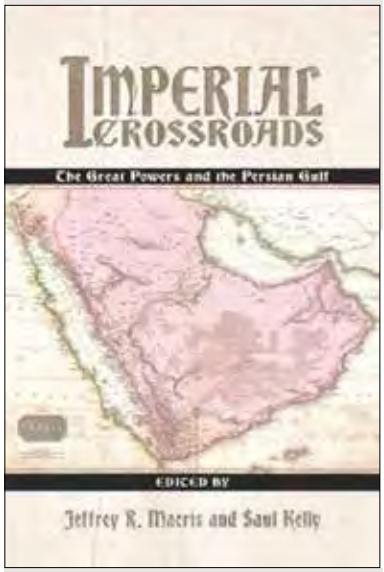
Absolutely. If you find battleships interesting, buy this book. If you are a modeler, you will have to have this book. It won't be the only one you'll buy, but you will not want to miss it. And once you have it, you will want the prequel scheduled for publication this fall. The addition of 70 new photographs, and the superb reproduction of photos and drawings (on better paper) makes this volume worthwhile even if you have the 1993 original.



IMPERIAL CROSSROADS The Great Powers and the Persian Gulf

Naval Institute Press. July 2012
Edited by Jeffrey R Macris and Saul Kelly
ISBN: 978 -1-59114-489-2. 235pp, notes, index.

Reviewed by LCDR Desmond Woods

This new book on the long history and labyrinthine politics of the world's most strategically significant waterway is most timely. The Persian Gulf is not now, and never will be, a global backwater. It is both the strategic fault line and maritime pipeline out of which much of the world's energy has to continue to flow uninterruptedly for the foreseeable future. The 2011 Arab Spring and the ongoing Syrian crisis has once again thrown into sharp relief the fundamental enmity and rival power plays across the Middle East sponsored by the Gulf neighbours Sunni Saudi Arabia and Shia Iran. If this entrenched suspicion and strategic rivalry ever turned into hot war across the Gulf the military, economic and geopolitical consequences could not be confined to the Middle East and would have unknowable consequences for world order. There can be no higher security priority for the 21st Century than the maintenance of peace between these irreconcilable regional superpowers.

Imperial Crossroads provides a careful and well researched analysis of the history of the Gulf and its littoral region. Jeffrey Macris from the US Naval Academy and Saul Kelly from Kings College have provided a compelling and very readable trans Atlantic view of the history of the region. It should be required reading in the State Department and Whitehall at the very least. The publishers make this point clearly when they provide a quote from Admiral Thomas Fargo, USN, Ret, former commander of Naval Central Command and John Shalikashvili, Chair in National Security Studies at the US National Bureau of Asian Research. They write of the book: ***A superb collection explaining clearly why the world's great powers have consistently recognised that their prosperity and security are tied directly to the Persian Gulf. Macris and Kelly have not only woven together past interests but have made the critical connection to South and East Asia which must be understood by present and future policy makers.***

This quote is not publisher's hyperbole. This book showcases the research and analysis of eleven contemporary middle eastern scholars, including Macris and Kelly. The result is a panoramic historical study which reaches back to the era of the trading expeditions sent by the Chinese to the Gulf between 1405 and 1433. The specialist scholars then trace chapter by chapter the strategic and economic logic for the presence of all the European powers that have traded and fought in the Persian Gulf over the last half millennium. The mercantile rationales for the Portuguese, Dutch and British commitment of military, financial and diplomatic resources are outlined in fine detail.

Of particular interest to students of modern regional tensions are the chapters which deal with how and why the UK left the region with 'indecent haste' between 1968 and 1971 after decades of stabilizing influence. The UK Labour Party announced its intention to withdraw in January 1968 and intended to be gone from East of Suez as soon as it could organise its departure. Extraordinarily this was done without the courtesy by HMG of warning Britain's only possible successor in the region, the United States of the UK's intention to depart. The Johnson Administration, mired in war in SE Asia, was shocked by the unilateral announcement, but was determined to avoid taking over the network of security guarantees to the major and minor states which the British had agreed to by treaty and upheld for decades. At this point the USN's presence would have been welcomed as a logical and seamless successor to Pax Britannica. Washington's failed policy was to try to get the UK to reverse or slow down its withdrawal. Later when the US tried to establish its presence this 'intrusion' was resented by the major players in the region.

The exception to Britain's long withdrawal East of Suez was the successful role that the British Army and Royal Marines played in stabilizing Oman. This was done by ensuring that the isolationist and archaic Sultan Said bin Taimur was replaced by his anglophile, Sandhurst educated, son Sultan Qaboos in 1971. This necessary regime change, initiated by Heath's newly elected Conservative government, was followed by the subsequent success of British special forces, loan personnel and intelligence staff, working with local forces to defeat a rapidly growing insurgency in the Dhofar. The role of British officers in collecting and analysing operational intelligence is well covered in a chapter by Clive Jones entitled, ***A Guiding Hand or Controlling Grasp?*** Had the insurgents taken power in Muscat they would have provided an opening for the Soviet Union to expand its influence throughout the region. This less well remembered and hidden episode in the Cold War was, as the author of this chapter points out, 'a close run thing.'

Saul Kelly, in his chapter on Pax Britannica and Britain's role as gamekeeper in the Gulf, makes an inferential link between the weakness of Whitehall position by the late 1960's and both sides of politics preparedness to leave small states unprotected, with the subsequent rise to regional strongman of the 'thief of Baghdad', Saddam Hussein. Saddam's life's experience of the vacillation of the West in the face of Arab demands surely assisted in his evolution into an ambitious bully boy who could not be intimidated into remaining within Iraq's borders. Iraq's invasion of Kuwait of 1990 was partly the result of the ambiguity over Kuwait and appeasement by Washington in 1989-1990. It was all part of the pattern which Saddam had come to expect. Nothing had prepared him for the US led global response initiated by Thatcher and implemented by Bush. Appeasement leads to miscalculation.

This contempt for the capability of the appeasing West had not always been evident by Iraq. When the RN retained strike carriers in the Gulf it was possible for the disputes between the littoral states and those under British protection to be policed from the sea and land grabs deterred. The modern UAE owes its collective existence to the British policy of not allowing Wahhabism from the interior to overwhelm the trucial coast states. The RN protected these micro states for over seventy years. The last example of this balancing policy at work was in June 1961 when the combined capability of the British carriers ***Centaur***, ***Bulwark*** and ***Victorious*** with 42 Commando, Royal Marines, embarked, deterred an imminent Iraqi invasion of Kuwait. Lamentably, under both Labour and Conservative governments, within a decade of this demonstration of the Fleet Air Arm's shaping ability, the RN's carriers were gone, or going, and with them the capability and the will for the UK to continue its constructive role in the Gulf. Decades of investment in building a role for British sea power as the extra factor mediating the volatile political mix had evaporated and baseless and irresponsible optimism triumphed over the prudent and very affordable strategic expenditure necessary to maintain stability in the region. Kelly points out that Britain had long been the respected 'gamekeeper' in the Gulf. The United States eventually became a most 'reluctant constable' determined to arm and enrol local deputies, Iran and Saudi Arabia, to do a job which only an external great sea power can do in this region.

The logical extension of this analysis is that the invasion of Kuwait by Iraq in 1990, and the vastly expensive requirement for its recapture in 1991, was in part at least, the culmination of the precipitate withdrawal of British power combined with the determination of US administrations not to step in to the void left by Whitehall. Washington's failed policy in the 1970's was to rely on Saudi Arabia and the Shah to police the region between them. This was the so called 'twin pillars" policy. The Carter administration's continuing reluctance to play the alpha role that a great power has to undertake sent out all the wrong messages to the neighbourhood. Carter's policies of global de-escalation and détente were the opposite of the policies needed if states large and small were to 'play nicely' particularly at the top of the Gulf. The Iranian 'pillar' shattered and fell when the Shah was exiled by the Islamic Revolutionary Guard who still control the east coast of the Gulf. It was not till the Shah was toppled and the US endured the Teheran hostage crisis that a US Rapid Deployment Force for global response was finally established with the Gulf as a primary focus.

The enduring lesson from the post-imperial 'Whitehall folly' of the early 1970's and the long period pre Reagan before the US realised it had to take over the British role, is well explored and elucidated in several chapters and is a major theme of the book.

The corollary of this is that whatever fiscal strain the USN comes under, with impending defence cuts this decade, the Gulf is one part of the world where the United States with its allies will need to keep a capability for deterrence and immediate intervention. Power vacuums are always dangerous in the Middle East in general and in the Persian Gulf they invoke the law of unintended consequences. With the US now gone from Iraq and departing from Afghanistan we are seeing the enhanced engagement of the US in the Pacific and S E Asia in a rebalancing of USN capability. Despite the coming era of defence austerity the President, Pentagon and State Department should understand that maintaining credibility in the Gulf is non negotiable. History has made clear that the gamekeeper cannot afford to be on leave for even half a decade without the poachers and the pirates taking charge.

This excellent book published by NIP is a multi faceted explanation of why this is true. It could be subtitled, 'why the Gulf cannot be left to police itself.' There is no successor power to the USN capable of keeping order in the Gulf, the Horn of Africa, and the adjacent sea lanes of communication. Australia has been contributing modestly to this USN led maritime law and order mission since Gulf War I, as have many European powers – including the UK. This long deployment may be in part altruistic, but it is also clear-eyed pragmatism on the part of the West. None of the alternatives to the current tense patrolled peace are economically palatable.

The book's final chapters examine the growing Indian and Chinese engagement in, and growing dependence on, Gulf trade and energy. China is a major exporter to Saudi Arabia and a major importer of Iranian oil. Beijing has no interest in seeing either heavily armed state prevail in the region at the expense of the other. But China has not yet either the capability or the intention to reprise the role last played by the Middle Kingdom six centuries ago.

The last word on the utility of this valuable historical and analytical compendium can be left to former First Sea Lord, Admiral Sir Jonathon Band. He writes of it: ***Imperial Crossroads should be essential reading for any military and maritime practitioner in this strategically vital and complicated part of the world. I wish it had been available when I first deployed to the Gulf in 1968.***

Visions from the Vault

HMAS Tarangau, 1974

At sunset on 14 November 1974, before a crowd of distinguished visitors and thousands of Manus Islanders, the Australian White Ensign was lowered for the last time at *HMAS Tarangau*.

The base, which the RAN had taken over in 1949, was recommissioned as the Papua New Guinea Defence Force Patrol Boat Base *Lombrum.* Concurently, the *Attack* class patrol boats *Aitape*, *Lae*, *Madang* and *Samarai,* which formed a backdrop to the ceremony, were decommissioned as HMA Ships and recommissioned as ships of the Maritime Element of the PNG Defence Force. The RAN also handed over another patrol boat, *Ladava*, and two heavy landing craft, *Buna* and *Salamau*.

At the time of the transfer, the members of the PNG Maritime Element came largely from the PNG Division of the RAN, which had developed from 21 recruits in 1951 to 11 officers and 249 sailors in 1974. In his speech at the ceremonies, the Chief of Naval Staff, Vice Admiral HD Stevenson, made special mention of the fact that PNG officers and sailors now manned their own patrol boats: 'You have every reason to be proud of this achievement which has been accomplished because of the inherent ability of your people as seamen, your enthusiasm and the dedication and confidence of the RAN officers and sailors who worked so hard to make this all possible.'

Photograph Courtesy SeaPower Centre.

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

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

Figure 1

Obtaining an account

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

Figure 2

Figure 3

Logging in to your account

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

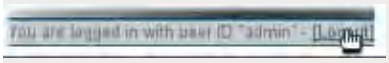


Figure 4

Logging out of your account

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

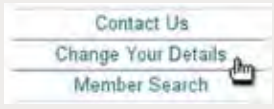


Figure 5

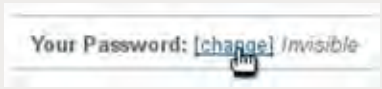


Figure 6

Changing your details

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

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

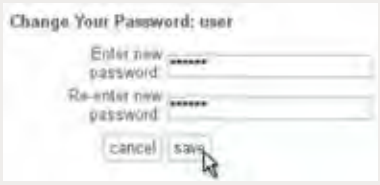


Figure 7

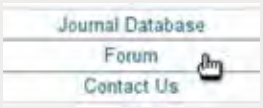


Figure 8

Participating in the forum

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

Figure 9

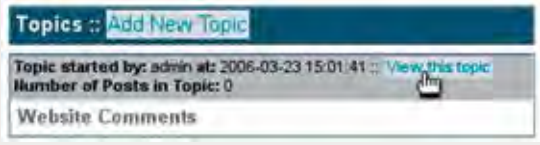


Figure 10

Further questions

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

Thinking of Making a Contribution?

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

Conventions:

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

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

Citations:

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

So:

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

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

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

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