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THE NAVY

The Magazine of the Navy League of Australia

*The Battle of
Trafalgar*

*Trafalgar and
Australia*

*Seapower Ashore and in
The Air, The King Hall
History Conference*

*Battle of Tsushima
Part 2*

Australia's Leading Naval Magazine Since 1938

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The American LHD USS BOXER during the recent Talisman Sabre exercise in Queensland. Nine Australian Army Black Hawk helicopters can be seen on the deck of the LHD. This scene is set to be repeated when the RAN's new LHDs come into service sometime in the next seven years. (RAN)



HMAS WARRAMUNGA showing off her new Harpoon missile launchers just forward of the bridge. (RAN)

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Front cover: HMS VICTORY at Portsmouth July 2005
(Mr Rupert Lamming)

The Navy

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THE RAPIDLY CHANGING WORLD OF MARITIME TRADE – DEVELOPMENTS IN EAST ASIA

Recent articles and comments, including those by Minister for Foreign Affairs, the Hon. Alexander Downer, have focused on the brittle relationship between China and Taiwan. The possibility of conflict between these two protagonists, which could involve the United States, always hovers in the background. The extent to which Australia could become involved remains an ambivalent factor and one which Mr Downer has commented on, specifically as it relates to our association with the US through the ANZUS Treaty.

However, the stabilising factor in the politics of East Asia (North Korea excluded) is the huge growth in maritime trade and the dependence of the world economy on shipping. This growth in trade in the past decade has been quite extraordinary, fuelled in part by China's insatiable demand for energy and raw materials as it strives towards becoming the manufacturing centre of the world.

In addition to the growth in bulk cargoes has been the huge expansion in container traffic. The six biggest container ports in the world are to be found in East Asia – Hong Kong, Singapore, Pusan, Shanghai, Kaoahiang and Shenzhen.

Hong Kong, which is the world's biggest hubbing port,¹ handled 18.5 million containers in 2003. By comparison 2.5 million containers are handled over Australian wharves, the four principal container operations being Melbourne, Botany (Sydney), Fremantle and Brisbane.

The massive growth in container traffic experienced in the past decade is expected to continue. Already 10.7m containers are handled through the Californian ports of San Diego and Long Beach. Against this background it is easy to understand why much of America's manufacturing base is eroding. For example, six textile factories have closed down in the last 12 months.

To meet this expansion in trade and shipping China is planning a new container terminal offshore from Shanghai

which is designed to handle 40 million containers annually and has on order ships capable of carrying 10,000 containers.

This tectonic shift in trading patterns is creating national economies that transcend concepts of national security which hitherto have been the driving force behind national defence policies. As explained by Phillip Bobbit in his acclaimed study of war and peace, nation states are transforming into market states. The complexity of this new paradigm introduces new dimensions to the national security debate which has yet to be addressed in Australia. Such a review is urgent. The cataclysmic outcome of an interruption to world trade either by an act of terrorism or by political miscalculation would have dire economic consequences for all countries with developed economies.

How to prevent such a catastrophe is now the challenge for all nations. Australia could develop the intellectual and political influence to take the lead in this area by moving now to put greater focus on its maritime affairs – which, after all, are its trade and defence lifebloods.

In order to bring these issues into proper focus there is an urgent need for a Parliamentary Inquiry to be established along the lines of the Maritime Policy Inquiry carried out by the Joint Standing Committee on Foreign Affairs Defence and Trade in 2003.

The inquiry, while reviewing progress at the national and international level on all aspects of shipping and port security as well as port infrastructure and seafarer training, should specifically address the need to revitalise Australian coastal shipping and the need for Australian shipping to compete on the international scene. The whole subject should also come under study by both the ANZUS and ASEAN forums.

These important issues, which impact on the prosperity of the Australian nation and its security, must be addressed in a holistic way and, it is suggested, as a matter of urgency. It is to be hoped the Howard Government shares this vision.

By Themistocles

¹ Ports set up to receive goods in containers from smaller ports and then distribute them to distant ports in USA, Europe, etc.



Notice is hereby given that the **ANNUAL GENERAL MEETING**

of

THE NAVY LEAGUE OF AUSTRALIA

will be held at the Brassey Hotel, Belmore Gardens, Barton, ACT

On Friday, 14 October 2005 at 8.00 pm

BUSINESS

1. To confirm the Minutes of the Annual General Meeting held in Canberra on Friday 15 October, 2004
2. To receive the report of the Federal Council, and to consider matters arising
3. To receive the financial statements for the year ended 30 June 2005
4. To elect Office Bearers for the 2005-2006 year as follows:
 - Federal President
 - Federal Vice-President
 - Additional Vice-Presidents (3)

Nominations for these positions are to be lodged with the Honorary Secretary prior to the commencement of the meeting.
5. General Business:
 - To deal with any matter notified in writing to the Honorary Secretary by 4 October, 2005
 - To approve the continuation in office of those members of the Federal Council who have attained 72 years of age, namely John Bird (Vic), Joan Cooper (Tas), Tom Kilburn (Vic) and Andrew Robertson (NSW).

ALL MEMBERS ARE WELCOME TO ATTEND

By order of the Federal Council

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Trafalgar



By Michael Sargeant

A painting depicting a scene from the battle of Trafalgar.

The Battle of Trafalgar, which occurred 200 years ago this year, was one of the most famous naval battles in history. It took place off the south-west coast of Spain on October 21st 1805, but the story of Trafalgar really begins in May 1803, when Vice-Admiral Horatio Lord Nelson was appointed to the command of the Mediterranean fleet, after war resumed between Britain and France.

Nelson's orders on assuming command in his flagship VICTORY, were to blockade the French fleet in Toulon and later, after Spain was pressured into supporting Napoleon, to keep watch on the Spanish fleets in Cartagena and Cadiz as well. Early in 1805 Napoleon ordered the French commander, Vice-Admiral Pierre Villeneuve, to sail from Toulon, pick up what Spanish ships he could from Cadiz and proceed to the West Indies. At the same time Vice-Admiral Ganteaume was to break out of Brest, gather such French and Spanish ships as could escape from Rochfort and Ferrol and rendezvous with Villeneuve off Martinique. The combined fleet would then sail back across the Atlantic and sweeping the Channel fleet aside, achieve control of the Dover Strait for long enough for Napoleon's invasion army to reach the Kent and Sussex shores.

On his second attempt, Villeneuve broke out of Toulon, gave Nelson the slip and reached the West Indies in the middle of May, but unfortunately Ganteaume failed to escape from Brest. Some time later, Nelson discovered that Villeneuve had escaped and followed him to the Caribbean. Having drawn a significant portion of the British fleet away from Europe, Villeneuve received fresh orders to return to Ferrol where Ganteaume was to join him and resume the original strategy. In the event, Ganteaume again failed to escape and Villeneuve scuttled back first to Vigo, having fought an inconclusive action with Calder off Finisterre, and then from Vigo to Ferrol and eventually to Cadiz. Nelson meanwhile returned to

Gibraltar late in July, shortly afterwards joining Cornwallis who was commanding the Channel fleet off Ushant. Nelson then took VICTORY to Spithead and from there proceeded to Merton, his home in Surrey, for three week's leave.

On 13 September 1805 Nelson left Merton for the last time after saying fond farewells to Emma and Horatia, and boarded VICTORY (Captain Thomas Hardy) at Portsmouth on the 14th. VICTORY sailed the following day and Nelson rejoined the Mediterranean fleet off Cadiz on the 28th, taking over from his old friend Vice-Admiral Cuthbert Collingwood, who now became his second-in-command. During the following three weeks, Nelson's fleet was reinforced until it numbered 33, although at the time of Trafalgar six ships were away replenishing water and stores. One of the ships that joined the fleet was his beloved AGAMENON, a 64 gun third rate commanded by another of his old friends, Sir Edward Berry, who had been his flag-captain in VANGUARD at the Nile. Berry had the reputation of having a nose for action and Nelson was heard to remark on his arrival, "Here comes Berry, now we shall have a fight!"

Collingwood had maintained a close watch on Cadiz but with a larger fleet, Nelson adopted a loose blockade, hoping to entice the enemy out. Stationing the fleet 50 miles to the west of Cadiz, he positioned Blackwood's frigates close inshore to keep watch on the enemy fleet and to communicate any movements via a chain of strategically placed 74s, using



An artist's picture of Nelson.

Popham's revolutionary new signalling system. As was his custom, Nelson took every opportunity to confer extensively with his captains, explaining his strategy for breaking the enemy line in two places and bringing on a 'pell-mell' battle. Captains were told that in the absence of instructions they could do no wrong if they laid their ship alongside that of an enemy.

Meanwhile in Cadiz, Villeneuve was trying his best with limited resources. He had 37 ships of the line available to him, although all were undermanned, some so seriously that the crews were taken out of four ships to build up the numbers in the remainder. He was also short of stores. Not the least of Villeneuve's problems lay with his superiors. Napoleon had lost faith in him and had ordered Vice-Admiral Rosily to replace him, but Villeneuve got wind of Rosily's impending arrival and decided to take pre-emptive action by ordering the Combined fleet to sea on October 19th in the hope of giving Nelson the slip again and escaping through the straits of Gibraltar. Nelson however was waiting and the British fleet, now numbering 27 ships-of-the-line, began a series of manoeuvres that were to conceal its strength and intentions until the last minute, at the same time blocking Villeneuve's escape route to the east.

At dawn on the morning of 21 October 1805, the 33 ships of the Combined fleet were sighted in a long and somewhat ragged line some five miles in length, about eleven miles ahead and downwind of the British fleet, heading southeast towards the Straits. The rain and poor visibility that had plagued both fleets for the past day were rapidly clearing; the wind had veered and dropped to a light breeze from north-northwest, and a long, low swell was rolling in from the Atlantic.

Nelson signalled the fleet to form two lines led by VICTORY and Collingwood's flagship, ROYAL

SOVEREIGN, and to 'bear up and sail large'. With the wind on the quarter, the increased speed would allow them to close the enemy more rapidly, but because of the light conditions there was plenty of time for both fleets to prepare for action. Shortly after 0600, Nelson summoned Henry Blackwood and the other frigate captains aboard VICTORY to give them their final orders.

Villeneuve was now experiencing something of a dilemma. Although the Straits were ahead of him, he was aware that Nelson had at least six more ships in the vicinity of Gibraltar and he feared that he might become trapped between the two forces. He was also well inshore, with Cape Trafalgar close under his lee. On the other hand, if he turned back to the north, towards Cadiz, any chance of escape would be gone. Opting for more sea room, at 0800 he ordered the Combined fleet to turn back to the north.

The trap was now set and the British fleet cleared for action, but because of the low speed of approach there was also time for reflection and a certain amount of skylarking – indeed, in the British fleet at least, there was almost a carnival atmosphere. Bands played on the poops of many of the British ships; in VICTORY the band played 'Heart of Oak', 'Rule Britannia' and 'Britons Strike Home'; in TONNANT the band was still playing when she came under enemy fire and only stopped when two bandmen were killed by roundshot!

At about 0930 Blackwood persuaded Nelson that TEMERAIRE and LEVIATHAN, which were both close astern, should be allowed to take the lead of Nelson's line in order to give the flagship more protection, and the necessary orders were given. Blackwood and Hardy then suggested that Nelson should shift his flag to Blackwood's frigate, EURYALUS, but Nelson refused.

By 1100 the fleets were about three miles apart, the British in two divisions with VICTORY's line to the north and upwind of ROYAL SOVEREIGN's. Collingwood's orders were to break the enemy line between the twelfth and fifteenth ship from the rear; Nelson planned to break the line twelve ships from the head of the enemy line, thus cutting off the van which would have to tack to come to the assistance of the beleaguered centre and rear.

Ever since Trafalgar there has been considerable criticism of these tactics, the main objection being that in the light conditions it exposed the leading British ships to prolonged heavy raking broadsides without the ability to return fire. Nevertheless, having given his orders and well aware that he was taking a calculated risk, Nelson would have realised that despite the lack of wind, to change his plan at the last moment would court confusion and possibly greater disaster. Despite the initial disadvantage, the British rate of fire was generally reckoned to be two to three times that of the enemy and Nelson was confident that provided the leading ships could weather the initial approach, British gunnery would carry the day.

He would also have reasoned that French and Spanish gunnery was not particularly accurate and that in their usual fashion they would probably be aiming for the rigging of the British ships in an attempt to halt the advance. As a result they would be using chain and bar shot, which was very effective if it actually hit the rigging but much of it went clear over the mastheads of the British ships. If it hit the hull it did little damage and if it fell short it would not skip and ricochet off the surface as round shot sometimes did; nevertheless, as an anti-personnel weapon it was particularly deadly. Another contributing factor to the lack of accuracy was the fact that

many French and Spanish ships were still using slow matches instead of the flintlocks used by the British. A slow match took time to burn down through the touchhole and ignite the charge, thus making it harder to fire the gun at the desired moment, which was particularly relevant if the ship was rolling; on the other hand, a flintlock produced instantaneous ignition and thus greater accuracy.

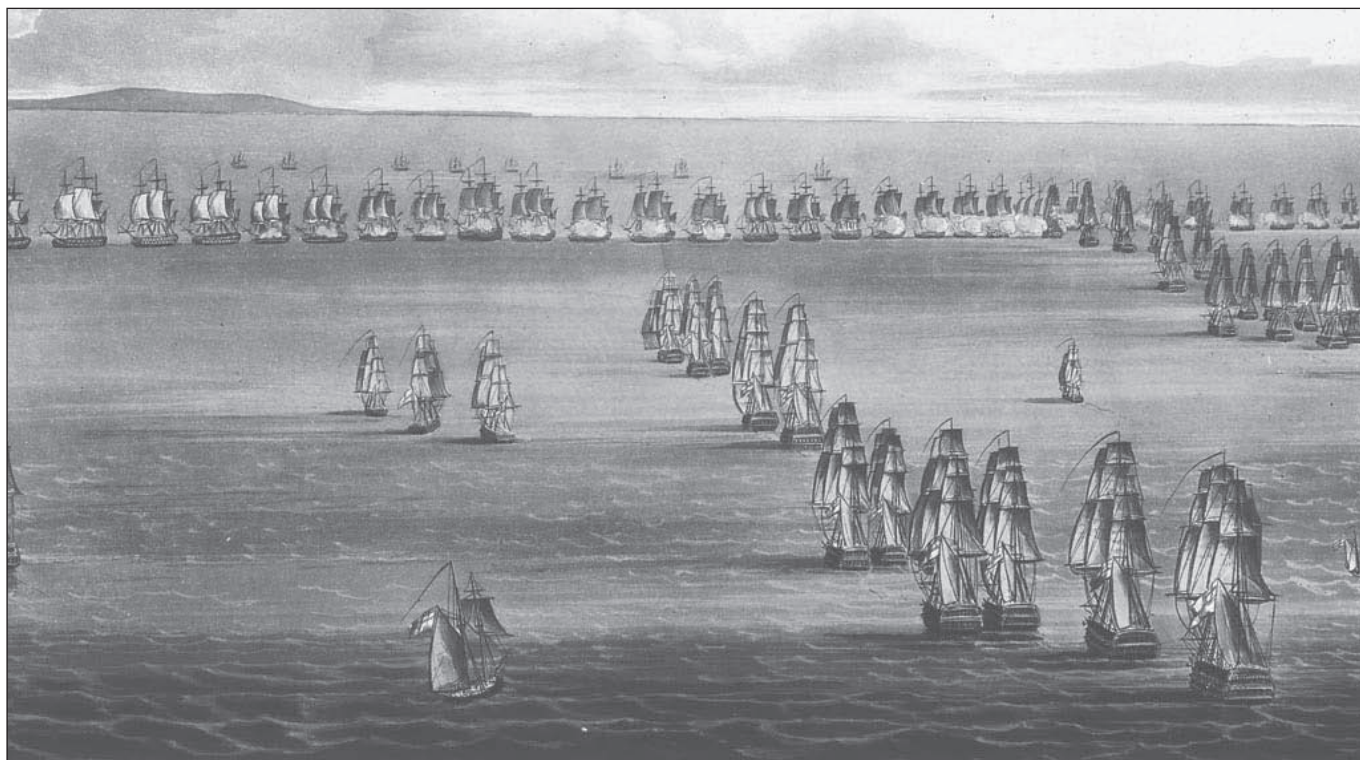
At around 1130, Nelson's famous signal, 'England expects that every man will do his duty' was made. ROYAL SOVEREIGN was the first British ship to come under fire, breaking the enemy line just after noon, pushing through between the Spanish first rate SANTA ANA of 112 guns and the French third rate FOUGEAUX of 74 guns. She was followed about five minutes later by two British 74s, BELLEISLE and MARS, and then by TONNANT, a larger third rate of 80 guns. Meanwhile, Nelson made a feint towards the enemy van to keep Villeneuve guessing as to where he would actually attack and giving Collingwood's division more time to get amongst the enemy's centre and rear. At about this time, Blackwood left VICTORY to return to EURYALUS and as he went over the side, Nelson reportedly said to him, "God bless you Blackwood, I shall never speak to you again."

Shortly afterwards, at about 1220, VICTORY came under fire and almost immediately began to suffer heavy casualties on deck. A flying splinter tore the buckle off one of Hardy's shoes and Nelson remarked that "This is too warm work Hardy, to last long." He had by this time turned VICTORY to starboard, approaching the enemy line at a more acute angle to give his port broadside a better chance of bearing on the opposition. Just after 1230, Hardy made a lunge for the line and broke through between the French flagship BUCENTAURE of 80 guns and the French 74 REDOUTABLE, which was close astern. As she broke the line, VICTORY raked BUCENTAURE's stern with her port broadside, at the same time crashing into REDOUTABLE to starboard with such force that the French ship swung round and became entangled in VICTORY's rigging. As luck would have it, Hardy had managed to place the flagship alongside what was

probably the most efficient and aggressive enemy ship at Trafalgar, commanded by Jean-Jacques Lucas, a captain of outstanding ability and determination, VICTORY quickly became hard pressed as REDOUTABLE maintained a hail of grenade and small arms fire that swept VICTORY's upper deck to murderous effect.

At about 1315, Nelson, who had been pacing the quarterdeck with Hardy and who had just turned aft, was struck on the left shoulder by a musket ball fired from REDOUTABLE's mizzen top. The ball traced a diagonal path down through his chest and left lung, severing his spine and coming to rest in the muscles of his right, lower back. He fell to the deck exclaiming, "They have done for me at last Hardy. My backbone is shot through." As Nelson was carried below to the cockpit he covered his face and decorations with a handkerchief to hide his identity from the men and on arrival in the cockpit he was stripped of his clothes, laid upon a mattress and covered with a sheet. William Beatty, VICTORY's surgeon, made a quick examination and reluctantly concluded that nothing could be done for Nelson other than to make him as comfortable as possible. His chaplain, Dr Scott and the purser, Mr Burke, then remained in attendance, fanning him and administering frequent sips of lemonade and water to quench his raging thirst, the result of the massive internal bleeding.

Meanwhile in REDOUTABLE Lucas was preparing to board VICTORY. He had ordered his lower gun ports closed to prevent a counter attack from VICTORY's lower decks and this caused some confusion in VICTORY. She ceased firing thinking that REDOUTABLE had struck, but shortly afterwards VICTORY resumed firing, each round being accompanied by buckets of water to prevent any chance of fire taking hold due to the proximity of the two ships. Lucas's gamble almost came off and might have succeeded but for the 98 gun three-decker, TEMERAIRE, which had followed VICTORY through the widening gap in the enemy line and now appeared alongside to starboard of REDOUTABLE, on the opposite side to VICTORY. Her upper deck guns swept



Ships forming for the Battle of Trafalgar.

REDOUTABLE's decks with grape and cannister shot, within minutes the tables were turned and REDOUTABLE was herself fighting to avoid capture. VICTORY meanwhile, was maintaining heavy fire with double and treble-shotted rounds, most of which were passing right through REDOUTABLE, and to avoid hitting TEMERAIRE, VICTORY's guns were fully depressed so that she was actually firing down through the bottom of the French ship and slowly turning her into a colander. Resistance was stiff but at about 1430, Lucas struck to TEMERAIRE. By this time TEMERAIRE was also engaging FOUGEAUX, which had managed to escape the clutches of BELLEISLE further to the south, but FOUGEAUX herself also surrendered shortly afterwards.

Meanwhile, on the French flagship, Villeneuve's day was getting progressively worse! VICTORY's raking broadside as she crossed the stern of BUCENTAURE had caused terrible carnage, with scores killed and wounded and several guns dismounted. With little wind to disperse the smoke from thousands of guns and the fires that ensued, Villeneuve could not see what was going on and by this time had completely lost control of the Combined fleet. The British of course suffered from the same impediment, but Nelson had foreseen just such conditions and his standing orders to his captains to lay alongside enemy ships in the absence of instructions, meant that although he no longer had direct control of his fleet, his captains knew exactly what was expected of them. French captains on the other hand, were expected to take their orders from the commander-in-chief; consequently, in the absence of orders from the flag, initiative was usually lacking. Shortly after VICTORY broke the line, Villeneuve had signalled all ships not already in action to join the battle but Dumanoir, who was commanding the van, appeared not to have noticed and it was almost an hour before he began the

laborious process of turning his division around in the light conditions. Unfortunately by that time all was lost on the flagship and shortly after 1400, Villeneuve surrendered BUCENTAURE to Captain Israel Pellew of CONQUEROR.

In VICTORY's cockpit Nelson was calling for Hardy. Several messages were sent and Nelson was becoming quite agitated. "Will no one bring Hardy to me? He must be killed: he is surely destroyed." Hardy however, was busy repelling Lucas's attempt to board VICTORY and it wasn't until about 1430 that he was able to descend to the cockpit to make his report. Nelson asked, "Well Hardy, how goes the battle? How goes the day with us?" Hardy replied that twelve or fourteen of the enemy ships had struck and that several of the enemy van had tacked and were bearing down on VICTORY, but that fresh British ships were at hand and he was confident that there was no real danger. Nelson asked if any British ships had surrendered and was reassured that there was no fear of that.

Nelson then asked Hardy to draw closer saying, "I am a dead man, Hardy. I am going fast: it will be all over with me soon. Pray let my dear Lady Hamilton have my hair, and all other things belonging to me." After Hardy left, Burke and Scott continued to minister to him. It was quite warm in the cockpit and Nelson frequently asked to be fanned, complaining of the noise and commotion with the thunder of VICTORY's guns superimposed on the screams and moans of the wounded and dying. Dr Scott was later to describe the scene in VICTORY's cockpit as resembling nothing so much as a butcher's shambles.

The enemy ships that Hardy had referred to were part of Dumanoir's division. In the absence of orders, several of the van on their own initiative had managed to turn and were now approaching the action. However most of them kept well to leeward of the battle with the exception of the French



"Engaging the enemy more closely"

INTREPIDE and the Spanish NEPTUNO, which made an attempt to come to the aid of their commander-in-chief, who had by now of course, surrendered. Louis Infernet, captain of INTREPIDE, was well aware that he had no hope of success but was determined that INTREPIDE would at least give battle, even if it was to be a futile gesture.

By now, most of Nelson's division was engaged and at around 1530 Hardy again went down to the cockpit to report to his commander-in-chief and to congratulate him on the magnificent victory that was fast becoming apparent. He was certain of fourteen or fifteen enemy ships having surrendered to which Nelson replied, "That is well but I had bargained for twenty." He then added with as much emphasis as he could muster in his weakened state, "Anchor, Hardy, anchor!" Hardy replied, "I suppose My Lord, Admiral Collingwood will now take upon himself the direction of affairs," to which Nelson retorted with some passion, "Not while I live I hope Hardy!"

Nelson sank back onto the bed saying that he felt that he had not much longer to live and begged Hardy not to throw him overboard – it was the British custom to bury their dead at sea. Hardy replied, "Oh no, certainly not." "Then you know what to do" said Nelson, alluding to wishes previously expressed that he should be buried either in his birthplace, Burnham Thorpe or, if the nation saw fit, in St Pauls Cathedral, adding, "take care of poor Lady Hamilton, Hardy, take care of poor Lady Hamilton," – "Now I am satisfied. Thank God I have done my duty." Hardy stood silently for a minute or two and then stooped to kiss Nelson on the forehead. "Who is that?" asked Nelson: "It is Hardy" was the reply. "God Bless you Hardy!"

Hardy returned to the quarter-deck and Nelson asked to be turned onto his right side to ease the pain saying, "I wish I had not left the deck, for I shall soon be gone" and then to his chaplain, Dr Scott, "Doctor, I have not been a great sinner: remember that I leave Lady Hamilton and my daughter Horatia as a legacy to my country; never forget Horatia." He then repeated several times "Thank God I have done my duty" before he lapsed into unconsciousness, the time of death being recorded in VICTORY's logbook by an unknown hand; the entry reads, 'Partial firing continued until 4.30, when a victory having been reported to the Right Honourable Lord Viscount Nelson, K.B. and Commander-in-Chief, he died of his wound.'

By now the battle was all but over. As Nelson breathed his last, Rear-Admiral Dumanoir in his flagship FORMIDABLE together with the three remaining ships of the van, was skirting the windward (western) edge of the battle. He had sailed so far away from the battle before turning that by the time he was in a position to render assistance the battle for the centre was over, and after some rather perfunctory action against MINOTAUR and SPARTIATE, which were at the rear of VICTORY's line, he decided that discretion was the better part of valour and made off to the south in company with the remnants of the enemy van.

Collingwood's division had been in the thick of the battle and British gunnery, as correctly prophesied by Nelson, was a major contributing factor in the ultimate victory. Nevertheless, the first eight ships of Collingwood's line suffered considerable damage and heavy casualties. In addition to BELLEISLE, BELLEROPHON was so hard pressed that at one stage, like VICTORY, she was in danger of being overwhelmed. Her captain had been killed but her first lieutenant rallied the crew and boarders were repelled. The 98 gun second rate

PRINCE was the last of Collingwood's division into action and she engaged the French 74, ACHILLE, which was already heavily disabled and on fire, but ACHILLE refused to surrender and at 1730, when the fire reached her magazine, she exploded, her end signalling the end of the battle.

Apart from the destruction of ACHILLE, nine Spanish and eight French ships were taken, although only four were subsequently carried into Gibraltar as prizes. Estimates of the number killed vary between 3,000 and 5,000 for the French and Spanish and 400 to 500 for the British. Of the fifteen enemy ships that escaped the battle, the four that fled with Dumanoir were subsequently cornered and captured by Sir Richard Strachan in an action that took place a fortnight later off Ferrol.

Other than Nelson, no other British flag-officers died in the action. The French Rear-Admiral Charles Magon was killed and the Spanish commander-in-chief, Admiral Don Frederico Gravina, died four months after the battle as a result of his wounds.

The gale that blew up during the evening of the 21st was to last for almost a week. It was reckoned by some to be the worst they had ever seen and by many, as worse than the battle itself. Although they failed to carry out Nelson's last order to anchor, the British fleet performed miraculous feats of seamanship to keep themselves afloat and to maintain contact with their prizes. Despite heavy damage, not one British ship was lost, although several prizes were wrecked or sunk, but not before herculean efforts were made by the British seamen to rescue as many enemy seamen as they could. Indeed, many British lives were lost in the process and if it could be said that the British fought magnificently, their efforts following the battle were no less valiant. A week after the battle, on the 28th October, Thomas Fremantle in NEPTUNE had the honour of delivering VICTORY, under tow, to Gibraltar.

Victory at Trafalgar gave Britain supreme command of the seas, allowing it to amass the greatest empire that the world has ever seen as well as the enormous wealth that went with it; indeed you could argue that as a result of Trafalgar, Britain achieved a similar position to that now occupied by the United States – a hegemony that was to last for more than a century. And of course, Trafalgar was one of the last and arguably the greatest battle fought under sail.



VICTORY as she is today preserved at Portsmouth in the UK.

Trafalgar and Australia

*By CDRE Harry Adams AM, RAN (Rtd)
Federal Vice-President Navy League of Australia*

The significance of the 200th Anniversary of the Royal Navy's victory under Admiral Lord Nelson at Trafalgar is lost on many Australians. Harry Adams explains why a 'nation girt by sea' should understand its significance.

For most Australians the relevance of the Battle of Trafalgar to Australia may seem at best quaint, for some even bizarre. Indeed, a former Minister of the Crown in 1976 once questioned why the Royal Australian Navy still recognised the anniversary of the battle. Yet for any student of history the victory won by the Royal Navy over a combined fleet of French and Spanish ships off the coast of Spain on 21 October 1805 ushered in 100 years of relative peace in what became known as the "pax Britannica" or the Trafalgar Century. For the British nation, however, it meant that the immediate threat of invasion posed by Napoleon, who had gathered a huge invasion force on the coast of France, had been thwarted: indeed this victory bore out the earlier advice to the British Government attributed to Sir John Jervis, Earl of St Vincent, who said: "I didn't say they cannot come, I only said they cannot come by sea"!

With justification it could be said that the people who benefited most from the Trafalgar Century would have to be those few thousand British colonists who lived on the other side of the world.

In 1805 there were three European settlements in Australia – Port Jackson with a population of less than 15,000, hemmed in by the Blue Mountains, a penal settlement at Newcastle, and Risdon in Tasmania comprising just a few hundred settlers. This despite the fact that the Dutch had discovered the continent 160 years earlier. As well, the French had sponsored three expeditions of discovery in the two decades before 1805 and, as we know, clearly had designs on the country as the site for a colony.

The 25 years of conflict in Europe (1790-1815) had drained and exhausted the European powers leaving Britain as the dominant sea power in the world. Concurrently with the charting of the world's oceans by the Royal Navy's Hydrographic Service, British trade expanded to the extent that, by 1914, 49 per cent of the world's trade was carried in British-registered ships. And because there were no European designs on Australia and New Zealand, Britain was able to extend its settlements around the coast of the Australian continent – Brisbane, Port Essington, Albany, Fremantle, Melbourne and Adelaide – and in New Zealand. These settlements became thriving colonies with their economies based on whaling, gold, wheat and wool. Self-governing colonies from the 1850s, they federated in 1901 to become the Commonwealth

of Australia, a dominion within the British Empire. This remarkably successful Australian story was possible because the Royal Navy reigned supreme on the oceans of the world: it was indeed the Century of Trafalgar which made the Australian Nation possible.

But the cost was huge. While Trafalgar was the defining moment, the determination of the British to blockade the French, to supply Wellington's army in Spain, protect British convoys and mount operations overseas – even as far away as Ambon in present-day Indonesia – made huge demands on the Royal Navy. By 1815 the Royal Navy had 154 warships in commission but had lost 103,000 men in the course of the conflict. This figure would have been much larger and the effectiveness of the Fleet greatly reduced had it not been for the fact that the scourge of scurvy had been beaten by 1795. It is quite appropriate therefore for Australians to salute Lord Nelson for his remarkable achievements as a fighting Admiral and for his great victory at Trafalgar. We should remember too those thousands who died at sea, nor forget that small but determined group of naval surgeons who conquered scurvy and made it all possible.

Uniquely in the world the Australian nation occupies a continental land mass with no land borders, one basic language and a strong democratic tradition. That the Australian people today can be so fortunate can be traced back to that momentous day off the coast of Spain 200 years ago.



An artist's depiction of a French ship burning at the Battle of Trafalgar. With the British victory distant colonial settlements such as that in Australia were free from the threat Napoleon's plans for world domination.

Designer chosen for new AWD

The Federal Government has chosen Gibbs & Cox as the preferred designer for Navy's Air Warfare Destroyers (AWDs) – one of Australia's largest and most complex defence projects worth up to \$6 billion.

Defence Minister Robert Hill said Gibbs & Cox now joins a team made up of ASC Shipbuilder Pty Ltd, who has been selected to build the AWDs, and Raytheon Australia, selected as the Combat System-System Engineer.

Senator Hill said Gibbs & Cox, a United States based company, was chosen through a competitive tender evaluation process that also included German company Blohm + Voss and Spanish company Navantia.

"The selection of Gibbs and Cox as platform designer now completes the team whose responsibility it is to deliver the project," Senator Hill said.

significant shipbuilding projects undertaken in Australia to date, and will provide enormous opportunities for Australian industry.

The Government has provided \$455 million towards the current phase of the project which includes further design work, workforce skilling, initial infrastructure investment and facilities construction.

Senator Hill said the Defence program office would now advise on a location to establish a state-of-the-art AWD System Centre which will house up to 200 personnel working on the development and through life support of the vessels.

The conduct of the evaluation and selection of Gibbs & Cox was reviewed by AWD Program Probity Advisers KMPG and also independently by Sir Laurence Street, both of whom have confirmed that the process was fair and equitable.

Australian shipbuilders will be invited to tender for either or both of two designs:

- the Spanish Navantia ship at approximately 27,000 tonne;
- the French Armaris Mistral ship with additional troop carrying capability at approximately 22,000 tonne.

"Each ship will preferably have the ability to transport up to 1000 personnel, have six helicopter landing spots and provision for a mix of troop lift and armed reconnaissance helicopters. It will also be able to transport up to 150 vehicles including the new M-1A1 Abrams tanks and armoured vehicles," Senator Hill said.

Each ship will also be equipped with medical facilities, including two operating theatres and a hospital ward.

A Request for Tender will be released to the Australian shipbuilding industry in the second quarter of 2006.

The ship builder would be determined once a thorough financial and technical comparison was made between Australian bids and overseas build options.

"The Government's preference is to see the ships built in Australia, however Australian industry will need to demonstrate it can deliver the project at a competitive price," Senator Hill said.

The Government has given first pass approval to the project and committed \$29.8 million towards the Design Development Phase of the project.

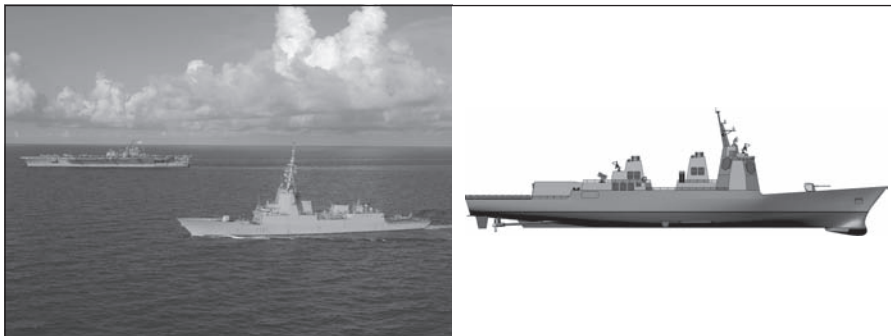
This will enable NAVANTIA and ARMARIS to now work on defining the requirements for the ships incorporating necessary Australian environmental, safety and technical requirements.

The tender documentation will allow bidders to:

- Form teaming arrangements;
- Submit fixed price bids;
- Provide innovative solutions to improve price and schedule, and;
- Bid through life support solutions.

"A lot of work has been done on assessing the two ships and also the capability of ship builders. Both ships are very capable and will be a quantum leap over our current capability," Senator Hill said.

The Spanish ship would have a greater carrying capacity but construction of the first Spanish ship has only just started. In comparison, the



The Spanish Aegis equipped F-100 class frigate ALVARO DE BAZAN with USS THEODORE ROOSEVELT (left) and a computer generated image of the 'international frigate' (right). The F-100 and the Gibbs & Cox 'international frigate' will compete against each other for the RAN's SEA 4000 AWD requirement. (USN)

"The Government made the decision after accepting the recommendation of the Source Selection Board on the basis that Gibbs & Cox offered a superior bid in terms of value for money.

"All three companies presented competitive bids and showed themselves to be very competent naval ship designers. Bids were evaluated against a wide range of criteria.

"The Gibbs & Cox evolved design will now compete with an Australianised version of Spain's existing F100 ship design, and will be further considered by the Government as part of the next phase of the project.

The construction of the Air Warfare Destroyers will be one of the most

First stage of new Amphibs project approved

The Federal Government has approved the first stage of the \$2 billion Amphibious Ships project which will provide Navy with a world class capability to deploy land forces on operations.

Defence Minister Robert Hill said the project will provide Navy with two new amphibious ships to be used on operations such as combat operations, regional disaster relief, humanitarian aid, peacekeeping and peace monitoring, and assistance to policing or military operations.

French ship has slightly less carrying capacity but has been constructed and is undertaking its final tests with the French Navy.

For an Australian build, the contract would be awarded in early 2007 with the in-service date for the first ship being 2012.

Australia and US to develop new radar

Australia and the United States have joined forces in the development of leading edge technology by signing a joint agreement to further develop Australian active phased array radar technology.

Both countries will share the development costs, technical expertise and benefits of the active phased array radar technology which is being developed by ACT electronics company CEA Technologies.

Senator Hill said phased array radar technology has enormous potential to manage high threat environments. The total development cost is estimated to be approximately \$30 million over three years.

"The program represents a significant enhancement to already leading edge technology and will help position Australian industry at the forefront of this field," Senator Hill said.

"This makes radar technology a sound investment for Australian industry with potential for extensive application in the future and significant export opportunity.

"I congratulate CEA Technologies for their ongoing support of this project and thank the Defence Materiel Organisation for the work done to bring about this joint project.

"The program will allow further development of the CEA radar technology for possible use in medium to long range air warfare and ballistic missile defence.

"The technology can also be applied to smaller ships and other Australian Defence Force air surveillance assets.

"It also has potential to be used in a range of US programs including the Littoral Combat Ship and other new ship programs, land and land mobile programs, as well as replacing legacy systems on some US ships.

A bright future for HMAS PLATYPUS

Greg Hunt MP, Parliamentary Secretary with ministerial responsibility for the Sydney Harbour Federation Trust, Teresa Gambaro MP, Parliamentary Secretary to the Minister for Defence, and the Hon Joe Hockey MP, Federal Member for North Sydney have announced the handover of the former HMAS PLATYPUS from the Department of Defence to the Sydney Harbour Federation Trust.

Mr Hunt said the former submarine base at Neutral Bay will be remediated and the community will be consulted on the future uses of the site's buildings and facilities.

"The handover not only paves the way for full decontamination and clean up, but greater public access to the Sydney Harbour foreshore. The Trust is well placed to prepare a comprehensive plan for the site that would ensure its longevity for future generations," Mr Hunt said.

The Commonwealth will clean up, decontaminate and rehabilitate the site. We will do this fully and completely and in cooperation with residents. While full costs are to be determined, the Commonwealth will clean up the site.

Member for North Sydney, Joe Hockey said that the potential to create a magnificent public place at this site is enormous. "The local community and the people of Australia will be the beneficiaries with outcomes such as parklands, pathways and new uses that ensure public access."

Teresa Gambaro, Parliamentary Secretary for Defence, said the transfer of the former naval base to the Sydney Harbour Federation Trust was a creative solution to the debate about its future.

"Defence forces occupied this site from the middle of World War II until the mid 1990s. It served as a base for the Australian Submarine Fleet for almost 30 years. Like many foreshore lands around the harbour, the association of Defence establishments and local communities is strong," Ms Gambaro said.

Dampier to be new patrol boat base

Western Australia's coastal port of Dampier has been selected as the

preferred port for two additional Armidale class patrol boats to operate from as part of the Government's Securing the North West Shelf policy.

Defence Minister Robert Hill visited Dampier for the announcement and said Dampier was chosen based on Navy's operational requirements and the fact it will optimise the maritime surveillance and response capabilities in this strategically vital area of Australia.

"The two additional ships will be forward based in Dampier," Senator Hill said.

This is delivering on the Howard Government's election commitment to buy two additional Armidale class patrol boats to provide dedicated surveillance and monitoring of the North West Shelf.

The patrol boat crews will fly into and out of Dampier to maintain patrol cycles on a rotational basis. Whilst major maintenance requirements will be carried out in Darwin, some maintenance will be conducted in Dampier. The families of crew members will reside in Darwin with the majority of the fleet.

Navy will lead a small team to Dampier and Karratha in the near future to discuss infrastructure and support issues, including the opportunities to use the logistic support of the area's existing commercial and port facilities.

The first of the ADF's 12 new Armidale class patrol boats, HMAS ARMIDALE, has already been delivered to Navy on time and on budget and was commissioned on June 24 in Darwin. The contract process has started to include the additional two vessels in the current contract with Defence Maritime Services and for Austal Ships to build the vessels at its Henderson shipyard in Western Australia.

In order to meet the Government commitment for North West Shelf security, Defence will continue to deploy the Fremantle class patrol boats along with the new Armidale class vessels until the additional two vessels enter into service.

HMAS CANBERRA farewells namesake

Personnel from HMAS CANBERRA said a fond farewell to their ship's namesake city on 23 July as they exercised their Freedom of Entry rite.

Led by the Commanding Officer (CO), HMAS CANBERRA, CMDR Ray Leggatt, the ship's company marched through the city streets with swords drawn, drums beating, band playing and Colour's flying to salute the City of Canberra.

ACT Chief Police Officer, Audrey Fagan APM, momentarily stopped the march as she challenged the rite of the personnel to march, but following the CO producing their Freedom of Entry scroll they were free to pass with swords drawn, bayonets fixed, banners flying and drums beating.

"The ship's company were very happy to be back in Canberra," CMDR Ray Leggatt said.

"It is always a special occasion for the ship's company to conduct the Freedom of Entry and even more so this time as we say farewell to Canberra."

ACT Chief Minister, Mr John Stanhope with Chief of Navy, Vice-Admiral Russ Shalders, took the salute in front of onlooking Canberra residents as a Seahawk and two Squirrel helicopters flew overhead, representing the two types of aircraft used during HMAS CANBERRA's service.

Through its British heritage, the Australian Defence Force has maintained the tradition of accepting the Freedom of Entry to a city or town by its units, as is the case with HMAS CANBERRA and the City of Canberra. In the tradition of the Freedom of Entry being bestowed upon an armed body, it signified the true bonds of friendship and often the expectation that the armed body on whom the honour was bestowed, would assist in the defence of the city or town.

HMAS CANBERRA is scheduled to decommission in November in Western Australia after serving the country for the last 24 years. During this period, the ship has conducted two deployments to the Persian Gulf, in 1992 for Operation Damask and more recently in 2002.



Personnel from HMAS CANBERRA say a fond farewell to their ship's namesake city on 23 July as they exercised their Freedom of Entry rite led by the Commanding Officer, HMAS CANBERRA, CMDR Ray Leggatt.

Tenix delivers ninth ANZAC

The newest recruit to Australia's modern naval fleet and the ninth ANZAC class Frigate to be completed by Tenix Defence was delivered to the Royal Australian Navy at Tenix's Williamstown shipyard in Melbourne.

Tenix Defence CEO Robert Salteri officially handed over TOOWOOMBA to Director General, Major Surface Ships, Commodore Drew McKinnie and Acting Commanding Officer, Lieutenant Commander David McDonald, in front of the ship's company.

Mr Salteri said that the ship had received the thumbs-up from the Navy and exceeded expectations in its sea trials in February and March this year.

"TOOWOOMBA features state-of-the-art weaponry and a range of enhancements unique to Australian vessels," Mr Salteri said.

"Developing the ANZAC ships' technology, electronics and defence systems has been fundamental to ensuring Australia's defence capabilities are maintained in line with international standards.

"TOOWOOMBA is a flexible, capable, cost-effective general purpose vessel that has drawn on the skills and expertise of thousands of local suppliers, sub-contractors and Tenix employees," Mr Salteri said.

The ANZAC Ship Project involves 10 ships, eight for the RAN and two for the Royal New Zealand Navy.

The 17-year fixed price contract, worth \$A7 billion, is the largest and most successful defence project in Australia. It has provided long-term benefits for the economies on both sides of the Tasman, involving 1,300 companies with 73% local industry content, providing 8,000 jobs.

The vessel is named TOOWOOMBA in honour of the original minesweeping corvette that served with distinction in World War II.

The keel of TOOWOOMBA was laid on 26 July 2002 and she was launched on 16 May 2003. The ship is scheduled for commissioning into the RAN in Brisbane in October, and will be based in Perth.

HMS INVINCIBLE decommissions

Following her East-coast tour, during which she visited Southampton, Crombie, London and Durham (mooring in North Shields), HMS INVINCIBLE made her final entry into Portsmouth on Monday 1 August 2005.

The final entry involved flypasts by Harriers, two Lynx, Sea-Kings and a Chinook, as well as music from the Royal Navy Piping Association. On the dockside the Royal Marines Band (RMB) Portsmouth, and many family and friends welcomed INVINCIBLE back to her home port. Onboard, the ship's company lined the sides of the upper deck and VIPs and guests watched from the flight deck. The VIPs included previous Captains of the ship, one of whom was the current Second Sea Lord, Vice-Admiral Burnell-Nugent.

On Tuesday 2 August, INVINCIBLE hosted a Cocktail Party for previous Commanding Officers and ship's company officers and VIPs. This was very well attended with approximately five hundred guests including the Second Sea Lord, and Commander in Chief Fleet, Vice-Admiral Sir Jonathan Band. Ceremonial Sunset concluded the event, performed by the Corp of Drums, RMB Portsmouth.

Wednesday 4 August saw the Decommissioning Parade, held next to the ship on Victory Jetty. It took the form of a Parade, with an inspection, a religious ceremony, ceremonial cutting of the Decommissioning cake, and a Lament followed by a very symbolic Ceremonial Sunset. The Guest of Honour was Admiral of the Fleet Sir Henry Leach, who was the First Sea Lord at the time of the Falklands conflict, the current HMS INVINCIBLE's first battle honour. He and the Commanding Officer, Captain Neil Morissetti, both made speeches, with Sir Henry urging all to go forth to their next posting 'carrying the INVINCIBLE spirit inside them'. The Commander in Chief Fleet was also present. The ceremony was followed by a reception with Champagne and Decommissioning cake.

HMS INVINCIBLE, one of the oldest ships in the fleet, will enter a state of reduced readiness. The decision to rest her from active service a few months earlier than previously planned has been taken on the basis of current



HMS INVINCIBLE early in her career which saw her first use in the Falklands War of 1982. At one stage she was slated to be the new HMAS AUSTRALIA. (John Mortimer)

operational assessments and will allow resources to be re-directed to the Service's greater benefit

With a greatly enhanced capability, strike carrier HMS ILLUSTRIOUS has succeeded her sister-ship HMS INVINCIBLE as Fleet Flagship.

A rededication ceremony, conducted at sea off Portsmouth on 4 August, follows the ship's £120-million refit and months of trials and sea training. Chief guest at the ceremony was the Commander-in-Chief Fleet, Admiral Sir Jonathon Band.

Next year the third of the RN's carriers, HMS ARK ROYAL, is due to return to the fleet after her regeneration and upgrade conducted at Rosyth. When she returns to Portsmouth the Royal Navy will have in service two of the most powerful and capable warships in its history.

US DD(X) team fires Long-Range Land-Attack Projectile

The US DD(X) National Team, led by Northrop Grumman Corporate and Raytheon Company, in partnership with Bath Iron Works, United Defense Industries, Incorporated, and Lockheed Martin, has announced another successful guided flight test of the Long-Range Land-Attack Projectile (LRLAP) for the US Navy's DD(X) Advanced Gun System (AGS). LRLAP is a 155mm GPS-(global positioning system) guided gun-launched projectile capable of precision fire support at ranges up to 83 nautical miles.

The LRLAP Guided Flight-four (GF-04) gun test marked the longest successful guided-projectile test in history. The LRLAP, fired at the San Nicolas Island test facility at the Naval Air Warfare Center, Weapons Division, Pt. Mugu, Calif., (NAWC-WD), flew a guided trajectory to an impact location more than 59 nautical miles down range.

"This important test highlights another successful milestone to develop and field long-range, GPS-precise gun munitions for our fleet," said Navy Rear Adm. Charles Hamilton, the program executive officer for ships. "The success of LRLAP is vital to our efforts to deliver DD(X) to the fleet as planned. Each one of these shots brings us closer to that goal."

United Defense Industries awarded Lockheed Martin Missiles and Fire Control – Orlando, the contract to develop LRLAP for the AGS. The objective of the GF-04 test was to demonstrate controlled, stable flight and manoeuvrability of the tactical 155mm LRLAP through all aerodynamic flight regimes.

"The DD(X) development team, both in the Navy and industry, continues to make major strides to demonstrate critical new capabilities such as LRLAP for DD(X)," according to Navy Capt. Charles Goddard, the DD(X) program manager. "Our rigorous development and test program is focused on using prototype systems to fully evaluate and mature these technologies for DD(X) and other future ships."

"The LRLAP is the longest-range guided projectile in US history," said Navy Capt. James Murdoch, Program Executive Office Integrated Warfare Systems (PEO IWS), 3C. "Its range, accuracy, and lethality will give the DD(X) the capability to support military operations in coastal areas with devastating force and minimal collateral damage."

USS VINCENNES decommissions

USS VINCENNES (CG-49) sailors, past and present, paid tribute to VINCENNES and its 20 years of service to the US Navy during a decommissioning ceremony at Naval Base San Diego June 29 2005.

The guest speaker for the event was the Mayor of Vincennes, Ind. Terry Mooney. During the ceremony, he spoke about how the decommissioning ceremony was a bittersweet moment for him.

"Today is kind of a sombre day for me. We have had a ship carrying the Vincennes name representing us for almost 70 years, and to not have one now feels like we have lost a loved one," Mooney said.

VINCENNES is named after a decisive battle fought at Vincennes during the American Revolution. VINCENNES was commissioned in July 1985 and since then, she has sailed the Persian Gulf, Indian Ocean and Pacific Ocean; operated with countless nations; and represented the United States on many international and domestic shores.

VINCENNES shot to prominence with the accidental downing of an Iranian civilian airliner over the Persian Gulf during a tanker escorting mission at the height of the Iran-Iraq war. At the time VINCENNES had been attacked by a number of small high speed craft from Iran and mistook the Airbus airliner for an Iranian military aircraft, which were also in the area and threatening the ship. It is widely thought that VINCENNES' action in shooting down the airbus was the reason behind the downing of a Pan Am 747 flight over Lockerbie in Scotland a few years later.

Given Sydney's large Muslim population VINCENNES generally docked at Newcastle or Wollongong on her trips to the Australian east coast for fear of protest action.

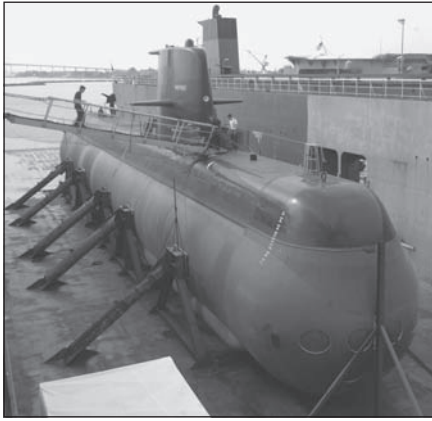


The Ticonderoga class cruiser USS VINCENNES (CG-49). VINCENNES decommissioned at San Diego June 29 2005.

Swedish submarine HMS GOTLAND arrives in San Diego

The Swedish attack submarine HMS GOTLAND arrived at Naval Air Station North Island, Calif., June 27 to begin a one-year bilateral training effort with the US Navy's anti-submarine warfare (ASW) forces.

GOTLAND will play a major role in the Navy's ASW training by being an opposing force (OPFOR) during exercises against carrier and expeditionary strike groups, air patrols and other forces.



The Swedish attack submarine HMS GOTLAND arrived in the US on the back of a heavy lift vessel to begin a one-year bilateral training effort with the US Navy's anti-submarine warfare (ASW) forces. (USN)

"We have been waiting for this day," said Lt. Cmdr. Jan Westas, commanding officer of GOTLAND, which was shipped on a container ship from Sweden while the crew travelled separately. "We have all missed GOTLAND. Everyone is motivated, ready and eager to go to sea and get back to work."

GOTLAND was selected to be the OPFOR because of its unique propulsion system. GOTLAND is the first submarine in the world to operate with an air-independent propulsion (AIP) system.

"The Stirling AIP system allows us to stay submerged at sea for weeks without having to come up to recharge our batteries or snorkel for air," said Lt. Cmdr. Rickard Boberg, GOTLAND's chief engineer. "No other Navy in the world except for Japan uses this system, and they bought it from us. With our low signatures and smaller sonar cross section, it will be a little more challenging for the [other] ships and submarines."

GOTLAND's trip from Sweden to San Diego took about a month. During that time, the crew prepared for its arrival by making logistical arrangements with local contractors for services the submarine requires.

"The time was also used to prepare the crew for operations in San Diego," said Westas. "We also spent some time getting acquainted with the area, enjoying attractions like Sea World and Disneyland."

GOTLAND's crew is proud to be participating in the bilateral training.

"We have done most of our training in the Atlantic and Baltic Oceans with various NATO countries," Westas said.

"So for us to be here representing Europe is an honour."

Sweden is not a member of NATO. Instead, it is part of the Alliances Partnership for Peace program, which is aimed at improving defence cooperation. Through various programs, exchanges and exercises, including Gotland's year-long training effort here, the Partnership for Peace program will help partner countries like Sweden prepare to operate jointly with NATO forces.

Before beginning the yearlong training here, GOTLAND's crew has to complete a lot of work to make the boat ready for sea.

"This is the first time GOTLAND has been in the Pacific, which is very different from the Baltic Ocean," Westas said. GOTLAND was built for operating in the waters around Scandinavia, which has less salt content. "Now that we are in the Pacific, we will have to re-ballast GOTLAND for the Pacific."

The 30-person male and female crew is comprised of 19 officers and 11 conscripts.

"This is a small crew, and we are very happy to have been selected to participate in these exercises," Westas said.

With GOTLAND's arrival, ships, aircraft and their crews in the Pacific will now have more realistic and effective training, Fleet ASW officials said.

Chile buys surplus Type 23s

The Royal Navy Type 23 frigates HMS NORFOLK, MARLBOROUGH and GRAFTON will be joining the Chilean Navy between 2006 and 2008 in an operation involving US\$350 million, following a purchase agreement signed in June in London.

According to Chilean Defence Minister Jaime Ravinet and Chief of the Navy Admiral Rodolfo Codina, US\$225 million is the cost of the three vessels and the rest missiles, refurbishing and training.

Mr. Ravinet also revealed that previously he had contacted his Argentine, Peruvian and Bolivian counterparts to inform them of the Chilean decision and the conclusion of the Navy's renewal plan which now has a 2026 horizon. With the three Royal Navy frigates Chile will have a surface fleet of eight vessels, (four Dutch and four

British) demanding a total disbursement of US\$900 million, considerably less than the original US\$1.3 billion "Trident Plan" estimated for the building of four brand new frigates.

Apparently the negotiations were delayed several months because of internal Chilean affairs and last minute bids from Belgium and Pakistan that were also interested in the Royal Navy frigates. However, the British, reports the Chilean press, kept their word in spite of strong lobbying from Washington in favour of Pakistan.

The extraordinary strong price of copper has helped to swell the Chilean Armed Forces coffers that will also be acquiring Leopard II tanks and F-16 fighter bombers. The Chilean Navy has plans to build two large patrol vessels and an oil tanker over the next 10 years.

It is claimed these projects will be financed with the savings from the running costs of the new surface fleet which consumes six times less fuel and have half the current crew.



HMS GRAFTON. The Royal Navy Type 23 frigates HMS NORFOLK, MARLBOROUGH and GRAFTON will be joining the Chilean Navy between 2006 and 2008. (RN)

Japan buys additional SM-3s

In June the US Defense Security Cooperation Agency notified Congress of a possible Foreign Military Sale to Japan of nine SM-3 Block IA Standard missiles with MK 21 Mod 2 canisters, as well as associated equipment and services. The total value, if all options are exercised, could be as high as US\$387 million.

The Government of Japan has requested a possible sale of nine SM-3 Block IA Standard missiles with MK 21 Mod 2 canisters, Ballistic Missile Defense (BMD) upgrades to one AEGIS Weapon System, AEGIS BMD Vertical Launch System ORDAITs, containers, spare and repair parts, publications, documentation, supply support, US

Government and contractor technical assistance and other related elements of logistics support.

Japan's agreement to provide fuel/logistics to US and allied ships supporting Operation Enduring Freedom and its deployment of an AEGIS destroyer to the Indian Ocean have focused new obligations on the Japan Self Defense Forces (JSDF). The Japan Maritime Self Defense Forces (JMSDF) has four AEGIS destroyers operating with SM-2 missiles at sea; the fifth and sixth AEGIS destroyers are under construction.

Although comparable weapons are not currently deployed in Northeast Asia, the proposed sale of SM-3 missiles and BMD upgrades to the AEGIS Weapon System will not significantly alter the existing military balance in the region as the proposed sale enhances only defensive capabilities. The JMSDF is fully capable of integrating the modified AEGIS Weapon System and SM-3 Block IA into its operational forces and will receive data sufficient to maintain and support the systems.

The AEGIS Weapon System and Standard missiles will be used on JMSDF ships and will provide, in concert with JSDF PAC-3 Patriot missiles, the initial ballistic missile defence for mainland Japan. Japan already has the upgraded AEGIS Weapon System and SM-3 Block IA Standard missiles in its inventory and will have no difficulty absorbing the additional upgraded Weapon System and missiles.

First LPX launched

South Korea has launched a 13,000-ton large-deck landing ship. The amphibious ship, currently known as DOKDO, was set afloat on July 12 in a shipyard in Busan, about 320 kilometres southeast of Seoul.

The vessel, built by South Korea's Hanjin Heavy Industries & Construction Co., is the first of two LPX's the Navy plans to develop by 2010.

The landing ship can carry 700 troops, 10 Black Hawk helicopters, seven amphibious vehicles, six tanks and two small landing boats, the official said.

The 200-metre-long and 31-metre-wide ship can sail at a maximum speed of 28 knots.

It will be deployed to the South

Korean Navy in 2007 after a trial operation.

In separate naval force improvement projects, South Korea plans to build three 7,000-ton-class Aegis-equipped destroyers by 2010 and three 3,000-ton-class submarines by 2007.

In recent years, the South Korean Navy commissioned three 3,000-ton-class destroyers and three 4,000-ton-class vessels with a radar-evading "stealth" function. It also plans to commission a fourth 4,000-ton-class "stealth" vessel next year.

South Korea remains technically in a state of war with North Korea as their 1950-53 Korean War ended in an armistice, not a peace treaty.



The South Korean LPX DOKDO nearing launch.

Successful NSM test

Kongsberg Defense & Aerospace has conducted another successful test firing of the NSM (Naval Strike Missile) in France. The missile followed a sophisticated flight path, featuring a number of sharp turns and height and velocity shifts before striking a target ship.

"Naturally, we are very pleased that the missile hit the target. The firing test has demonstrated important new functions", says Tom Gerhardsen, President of Kongsberg Defense & Aerospace. "This successful test firing reduces project risk even further. The missile will be ready for deployment on the Norwegian Navy's new frigates and missile torpedo boats."

The NSM development contract was signed in 1996, and is a fixed-price contract.

In December 2004, a transition contract was signed with the Armed Forces' Logistics Organisation for preparations and the start-up of production for the NSM. It ensures delivery of the fixed equipment to be deployed on board the first of the new Norwegian Fridtjof Nansen-class frigates. Full implementation of serial

production will not commence until after the formal completion of the development phase. The Storting (Norwegian parliament) must pass a special resolution before serial production can be initiated.

X-Craft successfully completes sea trials

In July the Titan Corporation announced that Littoral Surface Craft – Experimental (X-Craft) – christened SEA FIGHTER (FSF-1) and developed by Titan for the Office of Naval Research – has conducted and successfully completed the sea trials jointly required by the US Navy and the American Bureau of Shipping (ABS).

SEA FIGHTER's sea trials included, in part, extensive certification testing ranging from manoeuvring, cruise performance, and propulsion trials – where the ship achieved a continuous cruising speed in excess of 50 knots – to vibration, sound, and stern ramp operation trials.

"We built SEA FIGHTER to commercial standards," said Gene Ray, Titan's President, Chairman, and CEO. "These successful, independent certifications by the American Bureau of Shipping – one of the world's largest ship classification societies administering rules for high-speed vessel design and construction – underscore SEA FIGHTER's efficient design and advanced hull geometry that allow it to travel with ease at speeds greater than 50 knots."

When operational with the US Navy, this high-speed, experimental aluminium catamaran will be a prime, state-of-the-art resource for testing a variety of technologies that will allow the Navy to operate more effectively in littoral, or near-shore, waters. The 87 metre long, 24 metre beam SEA FIGHTER will be used to evaluate the hydrodynamic performance, structural behaviour, mission flexibility, and propulsion system efficiency of high-speed vessels, as well as serve as a test bed for developmental mission packages.

Using interchangeable, containerised mission modules, SEA FIGHTER – which has an unrefueled range of more than 4,000 nautical miles – can be reconfigured quickly for a variety of missions. SEA FIGHTER is the first vessel that the US Navy has designed

specifically as a sea frame, decoupling hull, mechanical and electrical systems from the mission packages and allowing for a true plug and fight mission module capability. A multi-purpose Stern Ramp will allow SEA FIGHTER to launch and recover manned and unmanned surface and sub-surface vehicles up to the size of an 11 metre Rigid-Hull Inflatable Boat. From its flight deck, SEA FIGHTER FSF-1 will be able to support 24-hour a day operations for up to two MH-60S helicopters.

The keel for the 87 metre-long aluminium catamaran was laid in June 2003, and the ship was christened and launched in early February 2005. The 1600-ton ship (maximum load displacement) was officially delivered to the Navy on July 1, 2005 when its crew of 26 (16 Navy and 10 Coast Guard) began its certification. SEA FIGHTER will be home ported in San Diego,



The Experimental X-Craft, SEA FIGHTER (FSF-1), conducting sea trials. (USN)

California.

UK lifts ban on sale of spares to Argentine Navy

The United Kingdom has lifted the ban on the sale of Rolls-Royce spares to the Argentine Navy, according to reports in the Buenos Aires newspaper, *Ambito Financiero*.

The decision was communicated by Rolls-Royce representatives to Argentine Admiral Jorge Godoy during his recent visit to Britain for the 200th anniversary commemoration of Admiral Nelson's victory at Trafalgar.

The ban on spares has been effective since the 1982 South Atlantic conflict over the Falkland Islands.

Ambito recalls that Britain has been a historical supplier of the Argentine Navy including two destroyers currently in service, HERCULES and SANTISIMA

TRINIDAD, plus helicopters.

The Buenos Aires Daily also points out that according to Sir Lawrence Freedman's book, *"The Official History of the Falklands' Campaign"*, prior to the conflict in 1981, Britain offered Argentina the sale of an aircraft carrier (HMS HERMES) to replace the aging "25 DE MAYO" and Sea Harrier aircraft.

Apparently at the time Buenos Aires British Embassy Naval attaché Captain Julian James Mitchell and his Argentine counterpart in London, Rear Admiral Allara went on a tour of British naval bases. The purpose of the invitation was to convince the Argentines on the purchase but allegedly RADM Allara, who also happened to belong to Naval Intelligence, gathered as much information as possible about the Royal Navy's capability and readiness.

RADM Allara was later named commander of the Argentine Surface Fleet and was responsible for sea actions during the 1982 conflict.

Argentina is not known to have purchased major naval equipment since 1982. On the contrary during the ten years of President Carlos Menem the military budget was drastically and consistently reduced.

However, with the coming of President Kirchner and the economy relatively stabilised, his Defence Minister, Jose Pampuro, has promised to increase the defence budget.

Last February Mr. Pampuro visited the Spanish IZAR shipyards in El Ferrol where he stated Argentina's interest in purchasing five patrol corvettes which were to be jointly built with the Argentine naval industry. IZAR yards have built frigates for the Spanish, Norwegian and United States Navies.

President Kirchner at the time also reopened the Manuel Domecq Garcia yard which at one time was capable of building and repairing conventional submarines.

France has also tempted the Argentine Navy with landing craft which are currently being decommissioned by the French Navy.

Belgium buys two Dutch frigates

The Royal Netherlands Navy will sell its surplus frigates VAN AMSTEL (F-831) and VAN NES (F-833) to

Belgium. Belgian sources have already confirmed the sale, however, the Netherlands DoD still maintains the deal is being negotiated.

This deal is very much welcomed by the Royal Schelde shipyard. Apart from the construction of the LPD JOHAN DE WITT, the shipyard does not have any ships under construction for the RNLN at this time. The RNLN intends to order four small modern corvettes from Royal Schelde, to replace both M-frigates. VAN AMSTEL and VAN NES are to be overhauled at Royal Schelde before being transferred.

US to sell RAN 175 SM-2

The Pentagon has notified the US Congress of a proposed sale to the RAN of up to 175 SM-2 Block IIIA surface-to-air missiles.

The proposed sale, valued at up to AUD\$452 million if all options are exercised, would provide Australia continued anti-aircraft defence capabilities, the notice said. Australia already has SM-1 Standard missiles.

The Pentagon's Defence Security and Cooperation Agency, which oversees foreign arms sales, said Australia requested a possible sale of up to 175 SM-2 missiles, built by Raytheon, up to 30 telemetry missiles and various spare parts.

"It is vital to the US national interest to assist the Royal Australian Navy in modernising its surface combatant fleet so as to maintain a strong and ready self-defence capability and contribute to an acceptable military balance in the area," DSCA said in a statement about the notification.

It said the sale would also help maintain the US Navy's production base and would improve interoperability between US and Australian forces.

DSCA said the other principal contractor would be General Dynamics Corp.

The proposed missile sale follows notification to Congress last week of a proposed sale to Australia of three MK 7 AEGIS shipboard combat weapons systems, a deal valued at up to US\$350 million.

Congress had 30 days to block the

sale, although such action is rare.

Spanish LHD laid down at Navantia

On 20 May, the Spanish company Navantia (formerly IZAR) started construction of the Strategic Projection Ship (LHD), in the Ferrol-Fene shipyard for the Spanish Navy. The ship, the biggest built for the Spanish Navy, will be launched in November 2007 and will be commissioned in December 2008. This LHD is also thought to be the lead contender for the RAN's LHD project.

To the Spanish the ship's missions are to allow the strategic projection of Marines and Army forces and to serve as a support base for embarked aviation forces, as well as humanitarian missions. These missions require a multipurpose ship, the vessel should be able to operate in the above-mentioned missions but not necessarily in a simultaneous mode.

The ship is a mono hull type with the superstructure at starboard side, built in steel, and shall include the spaces needed to transport personnel and materials.

The vessel has a well dock located aft and forward of this is the vehicle and/or cargo spaces. The main accommodation deck (damage control deck) is located above the dock and the heavy vehicles and/or cargo garage. The aircraft hangar is located aft above the main accommodation deck, and forward from

that is arranged the light vehicles and/or cargo garage.

The ship has accommodation capacity for 243 Ship's Crew, 103 General Staff, 172 Flight Embarked Unit, 23 Naval Landing Group, and 902 Embarked Forces.

The Strategic Transport Ship has the following particulars:

Length Overall 230.82 m

Length Between Perpendiculars 205.70 m

Molded Beam 32 m

Beam Waterline 29.50 m

Depth to Flight Deck 27.50 m

Depth to Damage Control Deck 17 m

Full Load Displacement 27.500 t

First Type 45 bow section sets sail

VT Shipbuilding's 1,000 tonne bow section for the first-of-class Royal Navy Type 45 destroyer HMS DARING set sail from Portsmouth to Glasgow during June.

The steel structure was transported on the barge VT *WOOLSTON*, having left a canalling lock in the Naval Base after being hooked up to an ocean-going tug for the tow to BAE's Scotstoun yard.

The voyage via the English Channel and Irish Sea took five days. The bow, some 50 metres in length and nearly



Two of the PLA-N (People's Liberation Army- Navy) new Type 52C destroyers during fitting out.

The Type 52 is a modified version of the Luhai destroyer with some superstructure shaping to reduce the ship's radar cross section. The ships are also fitted with a phased array radar system mounted around the superstructure much like an American Arleigh Burke class destroyer. Whether

China has the associated combat system to match the phased array radar technology is still in question. Although some commentators are calling these ships 'China's Aegis destroyers'. The ships are said to be fitted with a new HQ-9 anti-aircraft missile system in a vertical launcher. Fitted just forward of the bridge is a 30mm close in weapon system for anti-ship missile defence.

Observations

By Geoff Evans

SHIPBUILDING A PROBLEM FOR SMALL NAVIES

An article and follow-up correspondence in recent issues of the United States Naval Institute's journal *PROCEEDINGS* concerning naval shipbuilding in that country has some relevance to Australia and other countries with relatively small Navies who, for reasons ranging from national pride to security issues, wish to build their own major warships.

It is well known that national armed forces have become more and more costly to equip and maintain: Not only has equipment become more expensive with unceasing advances in technology, but the people needed to operate and maintain the equipment are hard to find (and to retain when found) and must be recompensed and provided with appropriate facilities and a 'lifestyle' earlier generations of sailors, soldiers and airmen could only dream about.

The author of the *PROCEEDINGS* article, Captain David H Lewis USN, on the staff of the Commander Naval Surface Forces, San Diego, California, maintains that ship price changes outpace inflation, that the Navy is unable to articulate a shipbuilding strategy acceptable to Congress and that over the past decade *"...the industry consolidated from six independent, largely undercapitalised companies down to two large, well capitalised, diversified corporations both of which are quite profitable"*. In subsequent comment by Rear Admiral Stuart F Plant USN (Rtd) it is stated that Northrop Grumman Newport News and General Dynamics Electric Boat are the only two companies capable of building capital ships for the USN and that they co-operate rather than compete for contracts.

Captain Lewis maintains that shipbuilding prices are controlled, by two major factors – combat capability and economics – and that the latter has become the major factor in ship affordability issues. As examples he quotes the budgeted cost of a competitively awarded Aegis cruiser in 1985 as USD\$884 million and a similarly awarded Aegis destroyer, incorporating many combat capability improvements, at USD\$918 million in 2001 – an increase of only 4% over 16 years, well below the rate of inflation. In comparison, a competitively awarded nuclear-powered attack submarine budgeted at USD\$638 million in 1987 had risen to USD\$2.5 billion in 2005 for a cartel-built nuclear submarine, an increase of nearly 300% in 18 years.

The cyclical and capital-intensive nature of shipbuilding are discussed in the article, together with various ways in which the industry can operate today:

- Full competition. Many suppliers, many customers; price and quality, innovation and cost control maximised. The situation existing in the commercial shipbuilding industry today.
- Limited competition. Two or three suppliers for one customer, the latter driving innovation and cost control. The situation prevailing in America until recently.

- Monopoly/Cartel. One company dominating the industry and able to set prices and control production. If protected by government it becomes a national monopoly: Submarine, aircraft carrier, amphibious shipbuilding today.
- Regulated. Government may establish a regulated monopoly; in return for a guaranteed customer base lower profits and a higher degree of customer involvement are accepted. A situation similar to utilities.
- Publicly owned. Profit and marketing issues eliminated. Public financing of capital improvements may occur; permitting better innovation and price control than in a monopoly or regulated industry, but possibly less than in a competitive industry.

The Aegis-equipped American cruisers and destroyers were built under the 'limited competition' model but given the present trend towards monopoly/cartel shipbuilding and ever-increasing costs, inevitably influencing the size and quality of the USN, the author concludes that limited competition for both surface ships and submarines is the best solution of the problem.

America's industrial strength and the size of its Navy make it hard to relate naval shipbuilding in that country to shipbuilding in Australia, or indeed any other country. Nevertheless increasing costs provide some common ground and in this regard, to look at the Opportunity for competition in the local industry.

Australia has quite a large number of shipyards that have built and/or are building ships for naval purposes over the years, but only four could be considered relevant at the present time to the RAN's current requirements:

- Tenix Defence – currently completing an order for 10 Anzac class frigates for the RAN and the RIIZN at the Williamstown Dockyard in Victoria. The only 'Yard' at this time with the facilities to build major surface combatants such as frigates and destroyers.
- Australian Submarine Corporation (South Australia) has built and is maintaining six Collins class submarines but at present lacks facilities required to build surface combatants.
- Incat in Tasmania and Austal in WA. – have built and are building high-speed aluminium multi-hull vessels for commercial purposes and for the United States Navy (see *THE NAVY* April-June 2005 issue p20).

It therefore appears that so far as surface combatants and submarines are concerned, there is no prospect of real (economically sound) competition in the local shipbuilding industry other than in the sub-contracting area. The recent 'competition' to build three air warfare destroyers (AWDs) for the RAN was somewhat unreal in the sense that although the Aegis weapon system, a very expensive item in the overall cost, had been chosen, the design of the ship into which it was to be fitted had not been decided and in any event, only one Yard (Tenix) had the facilities to build on hand – and was not selected.

With regard to Defence's requirement for two large amphibious ships, although Australia has built quite large merchant ships in the past, including the former RAN training ship JERVIS BAY, converted from the roll-on/roll-off merchant ship *AUSTRALIAN TRADER* which was built at the State Dockyard in Newcastle, a one-off order now for only two ships may cause some problems: In this respect it is possible Incat and Austal could be considered as competitors, depending on experience gained by the United States Navy and more importantly, whether or not aluminium multi-hull vessels would meet Defence/RAN requirements.

Given the fact that the process for building the AWDs locally has already commenced, it is probably too late to suggest other, less costly, ways of acquiring such ships for the RAN. In the distant past it was customary to select a (usually tried) Royal Navy ship or design, to modify as necessary for Australian conditions and build in either the government's Williamstown Dockyard or the privately owned Cockatoo yard. In the more recent past, apart from the Anzacs, combatants have been acquired 'off-the-shelf' from American yards or built locally to an American design. The FFG-7 frigates and Perth class destroyers were successful acquisitions.

Australia's main problem as a naval shipbuilder is, and always has been, lack of continuity in orders for ships, making it difficult if not impossible for shipbuilders to hold a highly trained workforce together. If costs are to be kept within bounds in future it would seem Captain Lewis' "regulated" private shipbuilder is the model for relatively small Navy countries such as Australia.

While the Navy could no doubt plan its requirements a sufficiently long way ahead, enough to provide the shipbuilder with reasonable continuity of work, could the gaze of governments stretch the same distance?

GIFT WILL BENEFIT CADETS

A generous gift to the Navy League by Mr John Strang to honour his father, the late Donald John George Strang, AO, has enabled the League, among other events marking the 200th Anniversary of the Battle of Trafalgar, to establish an essay competition for Australian Navy Cadets: The winning cadet will receive \$1,000 and the cadet's Unit a further \$1,000.

The Strang name is well known in shipping circles, both in Australia and overseas. The original firm of stevedores bearing the Strang name was established by John's grandfather, Captain Francis Strang in 1928 and now known as the Strang-Tradex Group, has been managed by successive generations of the family ever since.

John Strang's father had a diverse range of interests apart from business, including the Australia-Polish Chamber of Commerce of which he was the Foundation President, the Latrobe University Council, the Victorian Rugby Union and the Australian Institute of Political Science, in all of which he held office.

Honorary public service is clearly a family tradition and John is a member of a number of organisations including the Australia-Russia and NIS Business Council of which he is President, the Global Foundation, the Australia-New Zealand Business Council (past Chairman) and the Australia-Papua New Guinea Business Council; he is also a member of the Navy League's Federal Advisory Council.

The Navy League and the Australian Navy Cadets, once known as the Australian Sea Cadet Corps, have been well served by its members over the years; long may the spirit of service without pursuit of reward, continue.



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The Battle of Tsushima, Part 2

By Ian Johnson

By 0500hrs on 27 May, the voyage of the damned by 60 pre-dreadnought warships of the Tsarist Russian Navy was nearly over. After nine months and 18,000 miles from St Petersburg the Russian Baltic Fleet entered Tsugaru Strait. The Imperial Japanese Navy had been waiting for them since 9 October 1905.

Ian Johnson concludes the story of the voyage of the damned.

Unlike the Russian fleet, Imperial Japanese Navy crews had been well trained and equipped by the Royal Navy since the late 1860's. By the late 1890's Japan began to design and build its own warships and have a professional officer corps as the backbone of the Imperial Japanese Navy.

By the time Vice Admiral Zinovy Petrovich Rozhdestvensky arrived with the Russian Baltic Fleet (re-named the Second Pacific Squadron) in the waters between Korea and Japan the reasons it was sent no longer existed. Under the command of Admiral Togo Heihachiro, who had masterminded the naval strategy, the Imperial Japanese Navy had broken the will and combat capability of Russian forces on the land and seas around Korea.

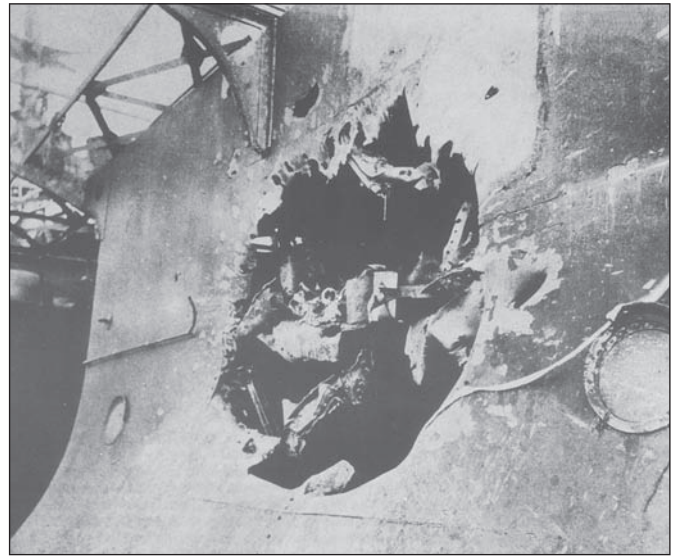
Admiral Togo had been trained by the Royal Navy in the 1870's and had risen through ranks. As captain of the cruiser NANIWA in July 1894, Togo fired the first shots in the Sino-Japanese war. Later that year Togo was involved in the Battle of the Yalu River in September resulting in the first Japanese naval victory.

On the morning of 27 May Admiral Togo held all the advantages. His modern warships, well-drilled and disciplined crews, were the equal of the Royal Navy that had taught them. Thanks to solid intelligence Togo had the Japanese fleet in a favourable position to engage the Russians no matter what passage they took. Togo had also been reading press reports on the progress of the Russian Baltic Fleet as it sailed towards him.

In Tsugaru Strait at 0500hrs onboard the battleship ORYOL, lookouts spotted smoke through the mist on the horizon. With less than 70 nautical miles between them and Vladivostok a small ray of hope had existed within the Russian Fleet that they might make it. As the sun rose on the waters of Tsugaru Strait, the last ray of hope disappeared. The smoke was from the Japanese cruiser SHINANO MARU, which sent a signal to Admiral Togo onboard his flagship MIKASA, then anchored in Chinhae Bay, on the south west coast of Korea, informing them of the first sighting of the Russian fleet. Togo sent more cruisers to shadow the Russians and then informed Naval Command in Tokyo *"The Russian Fleet has been sighted. I am going to attack it and annihilate it."*

The crews of the Russian fleet learned quickly that they had been spotted. Onboard SUVOROFF, the fleet flagship, Admiral Rozhdestvensky was informed but decided not to send the fleet's faster cruisers after the SHINANO MARU to sink her. This error in judgement sealed the fate for Rozhdestvensky and his fleet as at first SHINANO MARU, then other Japanese cruisers, would shadow the fleet, sending reports back to Admiral Togo via wireless, the first naval battle to have this innovation.

For the rest of the morning both fleets closed on Tsugaru



A 6ft square hole in the side of the Russian battleship OREL.

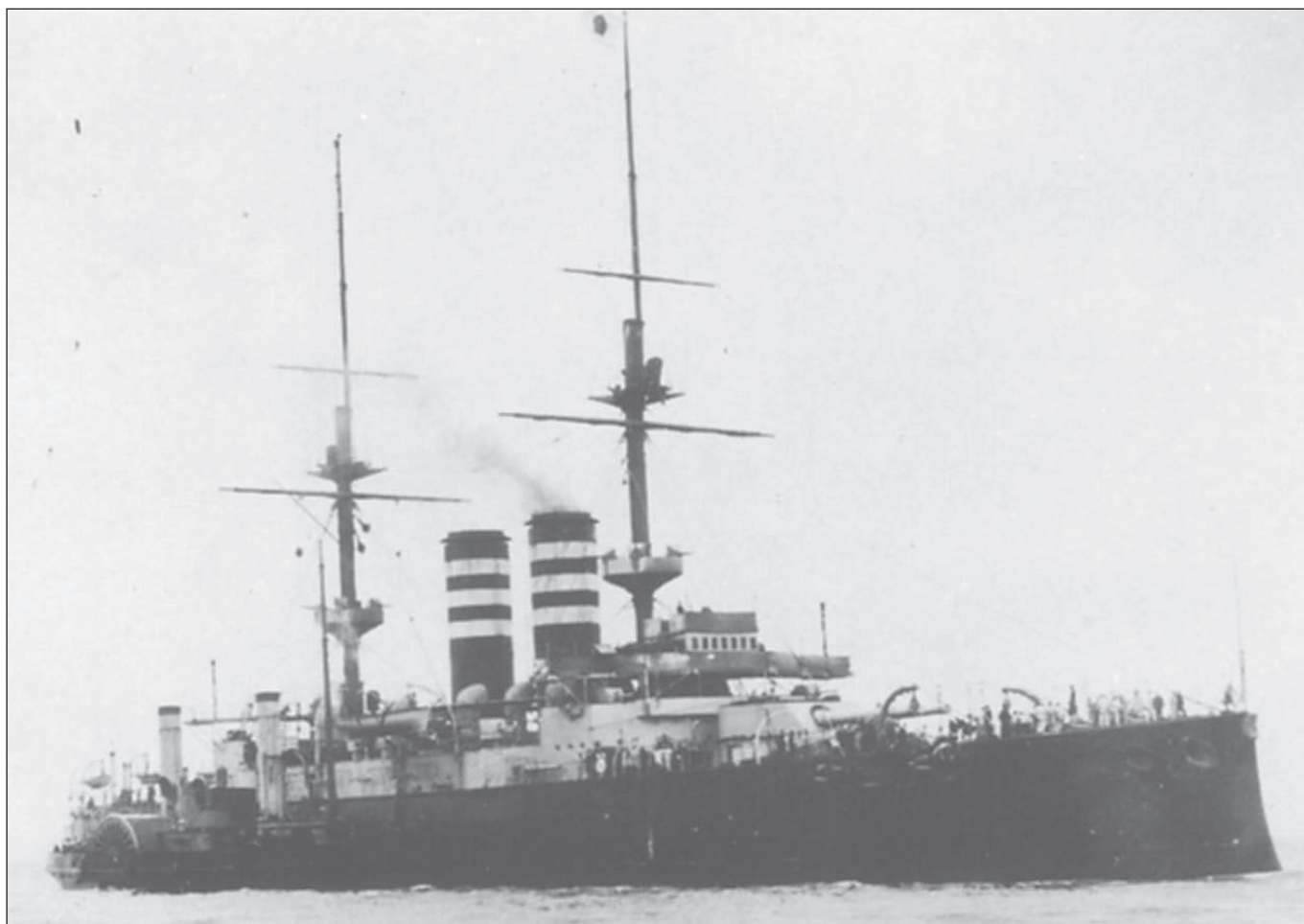
The enemy 8in or 12in shell entered the ship near the starboard midship gun and exploded inside the ship.

Strait. The mood onboard the Russian ship was of depression, tempers fraying, and confusion. The confusion stemmed from the lack of action taken against the Japanese cruisers that were continuing to report their movements. Just after 1000hrs a 6-inch round was fired from the ORYOL, barely missing one of the shadowing cruisers. The Japanese returned fire with range finding shells that on striking water set off black smoke. Other Russian ships began to open fire until a signal from Admiral Rozhdestvensky onboard SUVOROFF; *"Ammunition not to be wasted."* Russian gunfire stopped and the Japanese cruisers, knowing they were outnumbered, backed off into mist that was still present around the strait.

The Russian fleet was in two columns. The starboard column was lead by the flagship SUVOROFF, with her three new sister battleships, the ALEXANDER III, BORODINO, and ORYOL behind her. The port column closer to the Japanese fleet was lead by the older battleship OSLYABYA that contained many of the older ships of the fleet.

MIKASA led the Japanese Fleet in single line towards the battleship OSLYABYA and the port column that was sighted at 1339hrs. Thanks to regular wireless reports Togo knew that the port column had the weaker ships and ordered the fleet to increase speed. At 1355hrs a signal flag flew from MIKASA. Echoing Admiral Horatio Nelson at the Battle of Trafalgar nearly 100 years before, the 'Z' flag went up MIKASA's mast with a message to Togo's ships; *"The fate of the Empire depends on this battle. Let every man do his utmost."*

By this time the Russian fleet was at battle stations and the ships in loose formation trying to stay together. At 1400hrs



The Japanese Flagship MIKASA. Regarded as one of the best battleships of her time.

the MIKASA began to conduct a U turn, reversing course and sailing parallel to the Russians. The rest of the Japanese fleet followed in a manoeuvre lasting fifteen minutes. During these fifteen minutes the Russian fleet opened fire. Shells tore into the Japanese cruisers YAKUMO and ASAMA, whose steering gear was badly damaged, forcing her out of line. To Admiral Rozhdestvensky it seemed that his fleet had won a crucial advantage, but it began to disappear as the older vessels trailing at the end of the Russian columns fell behind as the newer lead ships sped on.

While Rozhdestvensky was working on his next move the Japanese turn was completed. Now both fleets were parallel to each other. The high risk Togo took by executing the manoeuvre now paid off. The battle could be fought on Togo's terms, ensuring that the battle would not turn into a general chase. Togo's lead ships could now rain salvo after salvo on the greatest threat to his fleet, the SUVOROFF and her three modern sister battleships.

The MIKASA opened fire with her 12-inch guns, hitting SUVOROFF. More salvos from the FUJI, SHIKISHIMA, ASAHI, KASUGA, and NISIN followed, their heavy calibre armour piercing rounds slamming into the flagship's conning tower and severing communications with the rest of the fleet. Fire blazed out of control as smoke and flame belched from her decks. Within minutes SUVOROFF's engines were damaged, and the ship was quickly losing speed as chaos reigned fires continued out of control and masses of wounded or dying men lay as they fell. MIKASA's opening salvos also wounded Admiral Rozhdestvensky and many on the bridge.

During this time Admiral Togo ordered MIKASA to turn broadside to the Russians. Shortly after Togo and his fleet

'crossed the T' of the Russian fleet. This manoeuvre, the hope of most commanders, allowed Togo and his ships to be broadside to the lead ships of the Russian fleet. Now Japanese gun batteries were trained starboard and the volume of fire against the lead ships increased dramatically. Togo was confident enough with the state of battle that he entered in MIKASA's log at 1435hrs; *"The results of the battle have already been decided."*

OSLYABYA became the target of six Japanese cruisers, her bow hit, her main armament of four 10-inch guns and eleven 6-inch guns destroyed, and the hull on her port side holed in numerous places. Astern of SUVOROFF, ALEXANDER III, BORODINO and ORYOL were now exchanging salvos. Japanese armour piercing shells were causing maximum damage to these modern Russian battleships. Older Russian warships were torn apart and began sinking.

By 1445hrs the situation onboard SUVOROFF had worsened. Fire was nearing the power magazines and to the bridge where SUVOROFF's Captain was injured and Admiral Rozhdestvensky had been hit a second time. Damage to the steering finally forced the flagship out of the column. The ship slowly moved out of control eastwards finding itself between both fleets.

At 1500hrs Togo manoeuvred his fleet by reversing course and recrossing the 'T'. It became clear that every minute the Russian guns fired 500 pounds (227 kilograms) of shells; the Japanese could fire up to 7500 pounds (3.5 tons) and with greater accuracy. The Russian fleet also began to change course in the hope of lessening the firestorm of Japanese salvos that was causing terrible damage to ships and men.

The Russian fleet was in chaos. At 1505hrs OSLYABYA turned turtle and sank a short time later, becoming the first Russian battleship to be lost. With Rozhdestvensky out of action, command of the fleet went over to Rear Admiral Nebogatoff onboard NICHOLAS I. The only meeting between Rozhdestvensky and Nebogatoff on 8 May convinced Rozhdestvensky to issue Order 243 on 24 May, instructing that in the event of the lead ship being out of action, command would go to the next ship in line. With SUVOROFF in sinking, Order 243 meant that the ALEXANDER III, not Nebogatoff on NICHOLAS I, which was further down the battle line, was now in charge of a fleet barely in control. When the ALEXANDER III was mortally damaged the BORODINO took command. Nebogatoff was cut off from commanding the remains of the fleet, and the situation was worsening by the minute as the older cruisers, destroyers, and transports left behind by the battleships had caught up with Nebogatoff and were now in range of Japanese ships and their accurate gunfire.

By 1530hrs both fleets had increased their separation when a fog bank, exacerbated by the gunsmoke of both fleets, began to affect the battle. The roar of the guns slackened off as the fog and smoke encompassed a wide area. By 1600hrs both fleets had lost sight of each other, and an eerie calm had settled over the sea lasting two hours.

Onboard ORYOL, a similar situation was playing out on most ships of the Russian fleet. Japanese shells had wreaked havoc, with two 12-inch guns out of action, damage to ORYOL's engines, and the medical staff was pushed beyond their abilities. Sailors were throwing burning wreckage overboard as the battleship began to list. Then a ship was spotted, thought to be Japanese, and was fired on. Much to their growing horror, the crew of the ORYOL realised they had fired on the burning SUVOROFF.

By 1800hrs both fleets were moving clear from the smoke and fog and battle resumed. Leading the shattered Russian line BORODINO was now the target for the lead Japanese battleships. As the Russians desperately tried to reorganise, the Japanese fleet began to close for the kill.

South of the fleet onboard the wounded SUVOROFF all hope had vanished. The pride of the Tsarist Navy was finished. The wounded Rozhdestvensky was transferred to the destroyer BUINYI, which had come alongside SUVOROFF to unload the Admiral and many wounded sailors. By 1900hrs SUVOROFF was a wreck from armour-piercing shells. Shortly after Japanese torpedo boats conducted a mass attack with multiple hits on the Russian flagship. SUVOROFF rolled on her side and sank with great loss of life. A short distance away ALEXANDER III sank at the same time.

Shortly after local sunset Admiral Togo signalled his battleships to withdraw. For the Japanese it seemed like the gods were with them as a parting salvo from the FUJI hit the BORODINO. Eyewitness accounts state that at impact BORODINO immediately burst into flame. Her boilers then exploded with a deafening roar. The damage was too much for BORODINO, which finally capsized and sank at 1930hrs. Only the ORYOL remained, with only her starboard gun batteries operational.

Onboard NICHOLAS I Admiral Nebogatoff finally took command of a shattered fleet when the destroyer BUINYI approached and signalled the unconscious Admiral Rozhdestvensky's last order "*Carry on to Vladivostok.*"

NICHOLAS I masthead signalled Nebogatoff's orders, "*Follow me. Course N. 23° E.*" As the fleet began to follow the order a new terror appeared on the horizon. The torpedo boats were beginning their attacks and lasting throughout the night.

The NICHOLAS I turned to port as the first wave of torpedo boats closed rapidly. But at a time where the surviving battleships needed protection, nearly all the Russian cruisers inexplicably headed south at high speed. Only the cruiser ZUMRUD remained and she was ordered to steam near NICHOLAS I. Shortly after a signal light sent the following message "*Speed 13 knots. Put about. Course N. 23° E.*" In a moderate sea the Russian fleet began to follow the NICHOLAS I via a lighted stern lantern. While the lead ships after NICHOLAS I darkened ship, those that followed used their search lights, making them easy targets for Japanese torpedo attacks.

The Japanese torpedo boat attacks were conducting attack runs that stunned the Russians as at times they closed to within 20 yards of the Russian ships before launching their torpedos. Two Torpedo Boats were lost, one of them after ramming a Russian cruiser. Several Russian cruisers and destroyers were sunk throughout the night.

As dawn broke it was all over. Japanese cruisers and battleships surrounded a shattered Russian fleet. Onboard NICHOLAS I, the Admiral and his staff began to discuss surrender. By 0900hrs on 28 May the decision had been reached. Admiral Nebogatoff ordered the signal flags "XGE" the international code flag for "we surrender", to be raised.

Onboard MIKASA Admiral Togo was stunned and confused at the 'We surrender' signal. No Japanese officer would ever make such a signal. Togo thought the signal was a Russian ploy, and stating "*Never fear a strong enemy, and never despise a weak one,*" he ordered the MIKASA to open fire on the NICHOLAS I, then ordered the rest of his fleet to fire in the helpless Russian ships.

Near hysteria gripped the crew onboard NICHOLAS I as they tried everything to convince the Japanese to cease-fire. Nebogatoff ordered the NICHOLAS I to stop its engines, also that the ship's guns not reply as Japanese salvos rained down on them. With nearly all the Russian ships now flying white bed sheets as surrender flags, and all were motionless in the water Togo ordered the fleet to cease-fire.

One Russian ship attempted to escape. The cruiser IZUMRUD flew a surrender flag but as time past the cruiser's Captain, Baron Fresen, changed his mind. With IZUMRUD sustaining little damage during the battle the cruiser put on a burst of speed. By the time the Japanese began to react IZUMRUD was beyond their reach. The crews on the remaining Russian ships cheered as they realised that IZUMRUD made good her escape.

As Japanese prize crews began to board the Russian ships' crew were finishing off the work of destroying vital documents. Onboard NICHOLAS I Admiral Nebogatoff informed his staff that he alone would accept the blame for the surrender. By 1200hrs on 28 May the Russian Second Pacific Squadron, formally the Russian Baltic Fleet, had surrendered. Admiral Nebogatoff returned to the NICHOLAS I and sent the signal to the rest of the fleet as prize crews began to board the surviving Russian ships. Admiral Togo was later to recall that the Russian decision to surrender was "*utterly beyond our expectations*".

As the prize crews secured the captured Russian ships, they were escorted to the Japanese port of Sasebo. On 29 May the

badly damaged ORYOL began to list at 4°. Togo ordered the battleship ASAHI and the cruiser ASAMA to escort the ORYOL to the closer port of Shimonoseki. The cause of the list was the scuttles had been opened to try and sink the ship, but the prize crews managed to close them.

The destroyers GROZNYI and BRAVYI and the ALMAZ limped into Vladivostock several days afterwards. The cruiser IZUMRUD, which had escaped the Japanese fleet, unknowingly rushed passed Vladivostock and found itself two days later one hundred and eighty miles north in the Bay of St. Vladimir before Baron Fresen realised his mistake. With fear of Japanese pursuit still fresh and night falling, IZUMRUD ran aground off Cape Orekhoff. After several attempts to free the cruiser, Fresen scuttled the IZUMRUD to avoid possible capture. Fresen and his crew then began the long and cold walk south to Vladivostock.

Still unconscious, Admiral Rozhdestvensky was again transferred from the BUINYI to the destroyer BEDOVYI, where the Admiral remained as the Japanese destroyer SAZANAMI arrived and escorted BEDOVYI to Sasebo, arriving on 29 May 1905. BEDOVYI anchored near the only remaining Russian flagship, the captured and moderately damaged NICHOLAS I. Once in Japan the Russian crews became prisoners of war.

Aftermath

The end of the Russian-Japanese war came with the Treaty of Portsmouth, brokered by American President Theodore Roosevelt (and winning him the 1906 Nobel Peace Prize) signed on 5 September 1905, but it was not until early 1906 that the first Russian prisoners set foot in their homeland.

The first naval battle of the 1900's showed the world the devastation that modern armour-piercing shells could inflict on both man and ship. It also proved the worth of wireless in controlling the battle. Admiral Togo was impressed, and innovated with its use. Togo wrote about the wireless advantage, *"Though a heavy mist covered the seas and visibility was only five miles, the enemy's disposition was as clear to us, forty or fifty miles away, as if we had seen it with our own eyes."*



The American built Japanese cruiser CHITOSE.

All the Russian Navy had to show after nine months, 18,000 miles, mutinies, poor support and training, was the loss of all of their battleships, four of eight cruisers, seven of nine destroyers, as well as 4,830 officers and men dead, with over 10,000 wounded or captured. Their once proud battle fleet no longer existed. Of the sixty Russian warships that entered Tsugaru Strait on 27 May 1905 only three made it to Vladivostock, the rest were sunk, captured or interned.

For many Russians, the disaster at Tsushima needed a scapegoat. Admiral Nebogatoff and several of his officers were investigated on their roles during the battle. Nebogatoff was court-martialled by the Navy for ordering the surrender and sentenced to death. Tsar Nicholas II intervened and commuted the death sentence on Nebogatoff to 10 years imprisonment.

Admiral Rozhdestvensky was taken to a military hospital where he awoke and was told of the surrender. As the weeks slipped by in hospital, Rozhdestvensky slowly recovered. His spirit was as shattered as the fleet he had commanded. A visit in hospital by Admiral Togo only increased his depression. On returning to Russia a hearing cleared Rozhdestvensky of any blame for the conduct of the battle, but also dismissed him from the Navy. Rozhdestvensky saw the dismissal as equal punishment to the 10 years being served by Nebogatoff. From then on life no longer mattered to Rozhdestvensky. Within three years he was dead, a sad, shattered, and embittered man.

The surviving Russian crews were now prisoners of war and moved to a camp outside Kumamoto. For eight months the crews waited for the end of the war and their return home. By the time of the October Revolution of 1917 many sailors had joined 'Workers Soviets' that were rising up in Russia. Mutinies throughout the fleet were common.

Japanese losses at the Battle of Tsushima came to 117 men, with less than a thousand wounded, and two torpedo boats sunk. It took time to intern the many captured ships and sailors in camps. While MIKASA was conducting these tasks at Sasebo on the night of 11 September 1905, drunken sailors spilt alcohol into the ship's bilges, and tried to burn the alcohol off, causing an explosion and sending MIKASA to the bottom of Sasebo Harbour killing 580 of its crew. Admiral Togo had departed his flagship only hours before.

On 21 October 1905 Admiral Togo returned with his fleet to Tokyo on the 100th anniversary of Nelson's victory at Trafalgar. On 23 October Emperor Meiji reviewed the Imperial Japanese Navy onboard ASAMA. Admiral Togo Heihachiro was publicly honoured by the Emperor and hailed as the greatest sea warrior Japan had ever known. Togo became known as the 'Japanese Nelson'. Historically, in strategic terms Togo's victory is second only to Trafalgar. In maximum destruction of the enemy only Nelson's victory at the battle of The Nile in 1798 or Rear Admiral Oldendorf at Surigao Strait in 1944 are as comparable.

By late 1906 MIKASA was salvaged from Sasebo Harbour and back in service. Later MIKASA was made a memorial at Yokohama, similar to Admiral Nelson's HMS VICTORY. It survived the bombing campaign of the Second World War and is the only battleship preserved outside the United States.

Admiral Togo Heihachiro was honoured over the world and revered by his people. He remained influential in Japan's naval affairs before he died quietly in Tokyo on 30 May 1934, a quiet man who served for the glory of his Emperor and country.

Sea Power Ashore and in the Air

The King Hall Naval Conference Proceedings

*By RADM Andrew Robertson, AO, DSC, RAN (Rtd)
Federal Vice-President, Navy League of Australia*

The fourth in the series of biennial King Hall Naval History Conferences was held on 21 and 22 July 2005 at the National Convention Centre in Canberra. Here, Navy League of Australia Federal Vice-President RADM Andrew Robertson, presents a 'conference proceedings' for readers of *THE NAVY*.

The RAN's King Hall conference series organised by the Sea Power Centre Australia, and supported by the University of NSW, the Australian Defence Force Academy and sponsors, has been growing in prestige and interest as experts from around the western world come together to encourage and promote greater understanding and analysis of naval history.

This year some 240 attendees were treated to many stimulating sessions. Australian speakers came from the Sea Power Centre, the University of NSW, the Australian War Memorial, the Australian Defence College, the RAAF, the Naval Historical Society, the Fleet Air Arm Association, and independent researchers. Overseas lecturers were from the US Naval War College, the US Naval Historical Centre, the UK Naval Historical Branch, the Royal Naval Fleet Air Arm Museum, the Canadian Armed Forces, King's College London, and George Washington University.

Vice Admiral Russ Shalders AO CSC, the recently appointed Chief of Navy, opened the conference. He considered that it was appropriate as a maritime nation to recall great sea battles since we must always be prepared to defend our interests on, over, or under, and in, the open ocean. But at the same time we must also keep in mind that what happens at sea is inextricably linked with events ashore. Sea power is really

only relevant to the extent that it influences events elsewhere.

While each Service is well able to provide various capabilities to cover each of the Defence environments, it is only the Navy which routinely operates across the length, breadth and depth of our interests. Now, and into the future, as the ADF will be required to project power from the sea, through the air, and onto the land, Navy's unique capabilities will play a key enabling role.

From New Zealand in 1860, through to the great conflicts of the twentieth century, Australian sailors were routinely employed on a myriad of tasks ashore. Most importantly, sailors could rapidly self-deploy to the scene of conflict with skills sufficient to cope with almost any eventuality. They took their logistic tail with them – and were ready to operate on arrival.

Professor Lambert of King's College London gave a most thought-provoking keynote address based on the overall theme that while strategy will always be subject to influences beyond their control, armed forces are better equipped if they develop a clear understanding of the principles upon which the application of power are based, rather than simply responding to the latest issue to hit the headlines. Education was the key. We need to reconsider how we use history. It has always been written to address current agendas, but good historians recognize this and correct the bias. We must remember that history is both a record and a process, and that the process is the more important of the two.

He considered that, for all their fascination, Trafalgar, Tsushima and Midway are far less relevant to us than the way in which these landmarks of the naval operation art were translated into war winning strategies.

Expeditionary Warfare was now centre stage, because the main strategic/political issues facing 'western' nations after 1989 are terrorism, rogue states, failed states, the weapons of mass destruction, resource dependency, and population movement.

The rapid growth in world seaborne trade meant that the western world, whether defined by geography or culture, cannot ignore what is happening beyond its borders.

The West cannot function without global trade, and if that global trade is to continue the West must be prepared to



Professor Andrew Lambert of King's College London giving the Keynote Address. (RAN)



(From L to R) Dr Gary Weir, Head of Contemporary History Branch, US Naval Historical Centre; Mr Mark Schweikert, independent researcher; and Captain Chris Page RN, Head UK Historical Branch during the question and answer session on the last day. (RAN)

intervene to deter aggression, stabilize allies and defeat enemies.

Navies have never been more important, because their ability to impact on the land has never been in greater demand. The European Union, noting the new expeditionary assets in France, Spain, Italy, the Netherlands, and Great Britain together with the naval aviation platforms being acquired by Britain and France, will shortly have a significant expeditionary capability.

Without air control, expeditionary warfare is no more than an interesting idea. The key to expeditionary warfare is the aircraft carrier. The power that can be deployed today from the sea, including cruise missiles and air strikes, is far greater than in the past and the strike range of sea-based assets is measured in thousands of miles. Nowhere on earth is now safe from maritime power projection.

Professor Lambert considered that other than the Chinese Navy there is no other navy of any consequence that is not linked to the USN. The Chinese Navy does not possess the weapons, electronics, and operational capability to engage the US Navy, and lacks the logistics and integrated air cover for open ocean warfare. Its real significance is to remind the United States that its current unquestioned maritime preponderance may not last forever, and that naval combat capabilities like strategic ASW and anti-surface warfare should not be ignored. For the present, western nations can afford to concentrate on Expeditionary Warfare.

The nature of 21st century naval force will shift from single-role assets to those built with flexibility in mind, from small naval platforms to large, inter-operable assets that can sustain inter-service forces afloat or those operating ashore. Western states cannot afford the cost, let alone the confusion of allowing each service to operate a distinct, divergent strategic model.

Any current front line defence asset that cannot be deployed effectively at a distance, or perform a vital role in supporting such a deployment, needs to be re-assessed.

The Professor also examined the most successful British expeditionary strategy of the 19th century which consolidated the power of the British Empire, and after outlining some of the teachings of such strategists as Mahan, Corbett, Henderson and particularly Colomb, went on to consider the change in British strategy before WWI when European continental considerations took priority.

Dedicated coastal vessels were developed for the Crimean War, which was a good example of Expeditionary Warfare in

which Anglo-French armies were never more than a day's march from the sea, drew their supplies and reinforcements from the sea and were invariably attacking fortified naval bases. And yet the story of the Charge of the Light Brigade and Nursing is repeated down to the present day.

Unfortunately British expeditionary doctrine was passed down by word of mouth and direct experience and remained entirely unwritten before the 20th century, being largely forgotten after decades of peace following the Crimean War. The failure to study nineteenth century experience systematically and to reduce it to a clear doctrine deprived the Army and Navy of the practical insights and ideas necessary to make a success of the first major amphibious operation of WWI – Gallipoli.

Professor Lambert concluded his presentation with a warning that although for the foreseeable future most western nations will require mobile, deployable and sustainable expeditionary forces, expeditionary warfare is not a universal panacea. There may be times when alternatives are preferable and we should not rush into an overly restricted vision of the future.

The first major theme covered in the conference was the maritime aspects of the Gallipoli campaign including naval gunfire support with its successes and limitations, and the activities of the famous Royal Naval Division (whose members included the future General Freyberg VC of WWII and later NZ Governor-General fame; Rupert Brooke, the poet; and the highly decorated son of the then British Prime Minister, Mr Asquith). Of particular interest to many was the development of naval aviation during the campaign, including aerial reconnaissance and mapping, long-range bombing and the first ever torpedo attacks on shipping by aircraft.

The second theme was Sea Power Ashore covering naval power projection on land, including examples of Weihaiwei, North Africa, Normandy, the SW Pacific 1942-5, Okinawa, German operations in Europe, the USN in China 1945-7, the Shanghai blockade, and Somalia.

Not well-known were the very successful Japanese naval and ground operations against the Chinese fleet at Weihaiwei in 1894. These were outlined by Dr Sarah Paine of the US Naval War College. European nations suddenly realized the growing and most efficient capability of the Japanese in both areas, whereas before that campaign all Asian countries were considered to be ineffective militarily.

Rear Admiral Mark Bonser AO, CSC, the Commander of the Australian Defence College gave a thoughtful address at the



Mr Mark Schweikert spoke about the influence on Argentine and UK operations the RN's Type 42 destroyer had during the Falklands War of 1982. (RAN)

Conference Dinner on “Sea Power Ashore and in the Air”. The dinner was held at the Australian War Memorial in the emotive area of the displays of the HMAS SYDNEY/SMS EMDEN action of WWI and the Japanese submarine attack on Sydney Harbour in WWII. Both impressive displays were activated, to the great pleasure of diners.

The subjects on the following day included dissertations on Australian naval aviation in the Korean and Vietnam wars; recent joint coalition maritime events; the RAAF maritime experience in WWII; and cold war SSBN/SSN operations particularly in the strategically important Arctic.

One aspect of particular interest was the run-down state of the RAAF post WWI and the evident inadequate preparedness for its maritime roles in the early 1930s. As World WarII approached much effort was devoted to improving preparedness but weapons and some aircraft remained unsuitable for anti-submarine warfare and the RAAF met with little success in Australian waters. Post WWII the capability of the air force for this most important function has been maintained at a high level.

Mr Mark Schweikert, an independent researcher and former Editor of *THE NAVY*, gave an interesting talk on the Falklands War, concentrating on the role of the Type 42 destroyer. These shot down eight aircraft, and, by the threat posed by their Sea Dart missiles, were instrumental in limiting the use to the Argentinians of the Port Stanley airfield and the higher altitudes. The Argentinians lost 117 aircraft to Sea Harriers, missiles, guns and Special Forces raids during the war.

The conference concluded with an interesting presentation by the King’s College representative, Dr Andrew Dorman, on the challenges to medium navies in the post Cold War world concerning projecting sea power ashore and in the air.

Commodore James Goldrick AM CSC summed up the deliberations, the conference being closed by Captain Richard McMillan, of the RAN Sea Power Centre.

There seems now to be growing interest in maritime history and warfare in various universities, particularly

overseas. It is to be hoped that our own universities and academic/defence/media authorities take an increasing interest, not only as we are an exposed maritime nation, but also in view of the demonstrated willingness of recent Governments to take part in expeditionary warfare, sometimes far from our own shores, and the desirability of national understanding of maritime affairs.

One was also left with the strong impression that the days of the most flexible of warships – the aircraft carrier – along with air capable amphibious transport vessels are far from over. The intended construction of two 60,000 tonne aircraft carriers in Britain, French interest in new vessels, the Indian acquisition of a Russian carrier, and continued USN carrier construction seem to underline this contention. Under construction also by a number of European countries and the USA are various designs of air-capable large amphibious transport vessels which have proven their worth in recent operations. Australia’s announced intention to acquire two such vessels will give the ADF great flexibility in many deployment situations whether in warlike operations or for relief in natural catastrophes such as the recent tsunami in Indonesia.

Following the principles of the importance of flexibility outlined by Professor Lambert, it is to be hoped that consideration will be given to including some aircraft of the STOVL (Short Take Off Vertical Landing) version in the projected F-35 buy for the RAAF. This would enable this force to operate from small airfields or ship platforms and make these aircraft more relevant to expeditionary warfare.

The RAN Sea Power Centre is clearly performing a most important national task in the examination of maritime history relevant to the nation and in analysing the role and influence of maritime strategy and power.



The RN Type 42 destroyer HMS EXETER during the Falklands War of 1982. The audience of the King Hall conference heard how despite the limitations suffered by the Type 42’s Sea Dart area air defence system its mere presence forced the Argentine’s to operate at low level thus forcing them into the killing zones of more weapons and producing inaccurate bombing and bomb arming times. (RN)

HATCH, MATCH & DISPATCH

HATCH HMAS ARMIDALE COMMISSIONED AT DARWIN

Following the official Naming Ceremony of Nuship ARMIDALE held at the Austal shipyard on 21 January the first of the Royal Australian Navy's 14 Armidale Class Patrol Boats has completed all trials to be officially commissioned in a ceremony held in Darwin on 24 June.

The centuries-old traditional naval ceremony marks the introduction into service of a ship as a unit of the RAN. At the moment of breaking the commissioning pennant, HMAS ARMIDALE became the responsibility of the Commanding Officer, Lieutenant Commander Andrew Maher, who, together with the Officers and Ship's Company, have the duty of making and keeping her ready for any service required by Australia. The distinction of a RAN ship in commission, other than the Australian White Ensign, is a flag or pennant at the masthead. The modern RAN commissioning pennant is the red St. George Cross at the hoist with a white fly.

Guest of Honour, Ms Jana Stone, attended the commissioning ceremony for the 56-metre all-aluminium monohull. Ms Stone, who also attended the Naming Ceremony, participated on this occasion as the Commissioning Lady in what will be a life-long association with HMAS ARMIDALE. She is the eldest daughter of Ordinary Seaman Donald Lawson who served on the original HMAS ARMIDALE, a Bathurst Class corvette, during World War II.

At the ceremony senior figures from the Government, Navy, Defence and industry were on hand to witness the event including, Minister of Defence, The Hon. Senator Robert Hill; Chief of Navy, Vice Admiral Chris Ritchie AO RAN; Acting Maritime Commander, Commodore Peter Lockwood and Chief of Airforce, Air Marshall A.G. Houston AO AFC.

Following commissioning as an operational ship HMAS ARMIDALE underwent crew evaluation before commencing operational patrols to protect Australia's borders.

Based in the ports of Darwin, Dampier and Cairns, the Armidale Class fleet will operate within Australia's Marine Jurisdictional Zones and on the high seas in latitudes not exceeding 50 degrees, primarily carrying out surveillance, interception, investigation, apprehension and the escort to port of vessels suspected of illegal fisheries, quarantine, customs or immigration offences.

Austal's Executive Chairman, John Rothwell AO, commented on the success of the project to date.

"Whilst it was initially pleasing to meet the time and budget objectives upon the launch of this vessel it is even more satisfying for Austal to have now, not only exceeded key aspects of the contract performance requirements, but also the expectations of those involved with her operation," he said.

Commenting on behalf of Navy, Defence Minister, Robert Hill said, "The Armidale Class have more modern systems and will be able to operate for longer at sea than the current Fremantle Class patrol boats and, have a longer range of some 3,000 nautical miles. The new patrol boats will be multi-crewed resulting in benefits from an overall higher usage of the boats and a more coherent training and respite regime for Navy personnel."

The first of the Armidale Class Patrol Boats arrived in Darwin on May 10 2005 where it completed the final stage of its mission trial. Following yard trials the Mission Trial is the final activity in the trials program. This saw the vessel sailing from Austal's shipyard in Henderson, Western Australia on 22 April, initially undertaking a passage into the Southern Ocean to test the ship and procedures in cold and rough sea conditions before sailing north.

Initially during yard trials it became evident that HMAS ARMIDALE's performance was greater than that specified in the contract. Testament to Austal's commercial focus and scrupulous attention to detail during the build the vessel was able to deliver a speed margin of 2 knots above that specified.

Whilst the additional speed is welcome it is how this translates into real life operation that is more beneficial. The more practical applications are a greater weight margin over future vessel upgrades and the increase in range and engine life that can be attained due to the reduction in loads at normal cruising speed.

In addition to speed, the sea keeping of the vessel was shown to be excellent in the large seas experienced during the mission trial in southern waters. At all headings the Commanding Officer, Lieutenant Commander John Navin was able to maintain steady control.

In the words of one sailor they were all impressed by the ride steaming at 12 knots into 3-5m head seas at latitude 38 degrees south but after HMAS ARMIDALE turned and it became 12 knots with a following sea, he said "If we were on a Fremantle Class in these conditions we would be hove to without a doubt!"

With an unmanned engine room, large galley and shared cabins with private ensembles, habitability and amenities are also proving to be above expectation for the crew who anticipate being at sea for 21 day missions when in service.

The 56.8-metre high-performance monohull has been purpose-designed to provide the optimal solution to the RAN's operational requirements in an extremely affordable manner. Austal's design draws on the expertise gained through producing over 90 advanced, purpose-built vessels including the Bay Class patrol boats for the Australian Customs Service.

The hard-chine, semi-planing hull minimizes resistance and was conceived to provide superior seakeeping performance. Like the vessel's superstructure the hull will be constructed from aluminium, which results in a lighter, more easily driven platform that also requires less maintenance, particularly ship husbandry tasks such as the application and maintenance of anti-corrosion surface coatings.



NUSHIP ARMIDALE becoming HMAS ARMIDALE in Darwin. (RAN)

Detailed comparisons between equivalent steel and aluminium hulls established that there is only a minor difference in overall construction cost between the two alternatives. However, the aluminium patrol boat offers major savings in operating and through-life support costs. Tank testing and calculations showed that the aluminium vessel achieved the same performance with less power, resulting in a reduction in fuel consumption of over 20 per cent. This equates to around 1.8 million litres of fuel per year for a 12 boat fleet.

The new boats have been designed to operate without re-supply for up to six weeks but are equipped for replenishment at sea. This includes transferring personnel and light cargo between the boat and helicopters and provision for refuelling from a supply vessel. The onboard fuel capacity provides a steaming range in excess of 3,000 nautical miles, which is a 20 per cent increase over the RAN's existing patrol vessels.

Situated in the midship region to reduce the effects of vessel pitching, the bridge has also been located as low as possible to minimize the lateral motions that will be experienced. Based around proven commercial solutions, the bridge arrangement allows for all round vision from the control station. In addition to a command position and two navigating helm stations, the bridge features dedicated consoles for engineering, communications and weapons plus bridge wing stations.

To reduce the vertical accelerations associated with pitching, the accommodation has been located as far aft as practical and incorporates a number of innovative features that maximize its functionality and habitability. These include a dedicated boarding party room, storage facilities all located on the main deck for ease of access, an austere laundry and a self-contained galley with all refrigerated storage located within the space.

The vessels have been designed to operate with a complement of 29, comprising seven officers, four senior sailors and 18 junior sailors. The accommodation will exceed the requirements for personal and communal space in all cabins and mess/recreation spaces, as well as providing the flexibility to cater for mixed gender crews at all ranks.

Incorporating improvements made as a result of in-service experience on the Bay Class vessels, each of the modular cabins will have an en-suite bathroom comprising a toilet, shower and hand basin.

Each rank will have its own combined mess/recreation area, all featuring a combination of lounge and individual seating, tables, tea and coffee making facilities, refrigerator, entertainment equipment and bookcases. The Officers' Wardroom will double as a medical treatment area.

In addition to their important civil roles, the patrol boats will enhance the RAN's capacity to protect harbours and coastal shipping during times of conflict. Their primary weapon system is the Rafael Typhoon MK-25, which will be fitted with a marinized 25mm Bushmaster cannon. Two 12.7mm machine guns will also be fitted.

The HMAS ARMIDALE Crest and Motto

The tower on a mount as depicted in the badge design is taken from the Crest of the Coat of Arms of the City of Armidale, New South Wales. It represents the Armidale Castle in the Isle of Skye after which the Australian City of Armidale was named in 1839.

The motto 'Stand Firm' symbolizes the strength and stature of both the city of Armidale and the ship HMAS ARMIDALE.

Project Background

The Prime Contractor, Defence Maritime Services, teamed with Austal to win the 'output specified' contract to provide and support through their service lives a fleet of patrol boats to replace the aging Fremantle Class, which have patrolled Australia's maritime zones for nearly the past quarter century. The contract was signed in December 2003. Austal is responsible for the design and construction of the 12 Armidale class vessels. DMS is managing the overall project requirements, including establishment of a fleet management organisation that will provide integrated maintenance, logistic and crew-training support to the vessels throughout their operational lives.

Construction of ARMIDALE commenced in May last year and it was launched on January 5. Construction of the second and third boats in the class is well advanced.

The 14 patrol boats will be delivered at regular intervals over the next two-and-a-half years. These will operate out of Dampier and be specifically tasked with patrolling the waters around offshore oil and gas facilities in the northwest of Western Australia.

ARMIDALE is a venerable name in the RAN. HMAS ARMIDALE (I) (1942) was a Bathurst Class Corvette sunk by enemy action on 1 December 1942 during operations to reinforce guerrilla forces operating in Timor and to evacuate Dutch troops and Portuguese civilians.

PRINCIPAL PARTICULARS

Length Overall:	56.8 metres
Length Waterline:	52.1 metres
Beam Molded:	9.7 metres
Hull Depth Molded:	5.0 metres
Hull Draft (max):	2.7 metres
Fuel:	66,000 litres
Fresh water:	10,000 litres (plus 6200 litres/day water making capacity)

MACHINERY

Main engines:	2 x MTU 16V 4000 M70; 2320kW at 2000 rpm each
Gearboxes:	2 x ZF 7550 A
Propellers:	2 x fixed pitch, counter-rotating
Generators:	2 x Caterpillar 3406C; 220kW each
Bow thruster:	19.5kN thrust

PERFORMANCE

Maximum speed:	>25 knots
Loiter speed:	4 to 10 knots continuous
Range:	3,000 nautical miles at cruising speed
Towing capability:	up to 12 vessels and 300 tonnes total displacement

MANNING

Officers:	7 (incl. Commanding Officer)
Senior Sailors:	4
Junior Sailors:	18
Total complement:	29

ACCOMMODATION

Officers:	Single berth CO cabin, 3 x 2 berth cabins
Senior Sailors:	2 x 2 berth cabins
Junior Sailors:	1 x 2 berth cabins, 4 x 4 berth cabins
Austere accommodation:	20 berths

ARMAMENT

Primary weapon:	25mm Rafael Typhoon MK 25 stabilized naval gun
Secondary weapons:	2 x 12.7mm M2HB machine guns

COMMUNICATIONS AND SENSORS

Communication system:	CEA Integrated Ships Communications System (CEA-ISCS)
Direction finding system:	CEA WARRLOCK

OTHER EQUIPMENT

Sea boats:	2 x 7.24m RIBS with diesel/waterjet propulsion
Motion control system:	Seastate, comprising 2 x active fins amidships and 2 x active transom flaps. Bilge keels also fitted.

SURVEY

Classification:	Det Norske Veritas +1A1 HSLC Patrol EO NAUT NV Crane (aus)
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DISPATCH

FIRST FREMANTLE DECOMMISSIONS

Royal Australian Navy's first Fremantle Class Patrol Boat, HMAS CESSNOCK, was decommissioned in her homeport of Darwin on June 23 after providing 22 years of valuable service to the Navy.

Commanding Officer HMAS CESSNOCK, Lieutenant Commander Tony Powell said, "After 22 years and over half a million miles HMAS CESSNOCK will be sadly missed by her ship's company, both past and present, but always remembered with pride."

During the ceremony, the ship's Australian White Ensign was lowered for the last time and handed to the ship's Commanding Officer.

In addition to her role in patrolling Australia's northern waters, CESSNOCK has contributed to a number of operations with the most recent being Operation ANODE, the Australian Defence Force (ADF) contribution to the Australian-led Regional Assistance Mission to the Solomon Islands (RAMSI), in December 2003 – January 2004.

HMAS CESSNOCK has also participated with distinction in local and international exercises such as KANGAROO, KAKADU, STARDEX and PENGUIN involving Forces from New Zealand, UK, Singapore, Malaysia, Indonesia, Philippines and Papua New Guinea.

Attending the event were veterans from the first Royal Australian Navy ship to bear the name CESSNOCK, a Bathurst-class corvette, which saw active service in World War II in the Mediterranean and Pacific. Also in attendance was the Northern Territory Administrator, Mr Ted Egan, AO and Acting Maritime Commander Commodore Peter Lockwood, DSC, CSC.



HMAS CESSNOCK at sea during her 22 years of service. (John Mortimer)

PRODUCT REVIEW

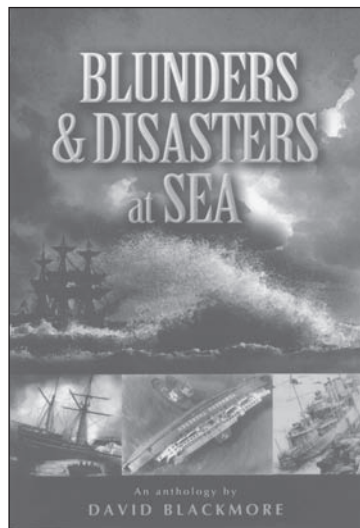
BLUNDERS & DISASTERS AT SEA

An anthology by David Blackmore

Peribo Books, 58 Beaumont Road, Mt. Kuring-Gai, NSW

Cost: \$75.00

Reviewed by Vic Jeffery



This book can be best described as a superb collection of some ninety-nine well-researched and concise short stories of tragedy at sea over the centuries.

Published in December 2004 by Pen & Sword Maritime of 47 Church Street, Barnsley, South Yorkshire, England, this 246-page book is divided into eight parts and 19 appendices.

Part 1 titled *Antiquity and the Classic Epoch: 1176BCE – March, 549*, commences with the first entry covering an ambush in the Nile Delta, followed by Part 2 covering *The Medieval & Renaissance Ages: November 1084 – May, 1678*. The following chapters run through to today.

Illustrated with 34 black & white photographs, this most entertaining book has certainly expanded my vast maritime knowledge and the supporting appendices and notes supporting this ready reference are in my humble opinion, an absolute treasure trove.

The recovery of the *MARY ROSE*, theories about the USS MAINE explosion, questions about the SS *LUSITANIA*, and salvaging the Russian submarine KURSK are but a few of the entries.

Certainly a book crammed with information on ships of all types and one, which I found difficult to put down. I wonder how many people would know that the United States Navy used the capsized French liner *NORMANDIE* as a wartime training ground for over 2,500 divers, who removed 10,000 tons of rubble and broken glass, and sealed over 2,000 underwater openings, or that 'Friendly fire' was responsible for killing 90% of all Allied POWs lost at sea during World War Two?

In the Epilogue reasons for causes of some of the tragedies have resulted from gales, fog, ice and other natural cause, or just plain bad luck. All too often, however, catastrophe has been due to human factors including navigational error, faulty design, timidity, complacency, inflexibility, bad timing, misinterpretation of orders, procrastination, incompetence, the list goes on, with the last sentence in the book sums it all up with the quote: "Moreover, Nature still has, and probably always will have, power beyond human control and technology."

Most highly recommended.

THE CATALPA EXPEDITION

By Z.W. Pease

Soft Cover. 134 pages.

Published by Hesperian Press

Available at www.hesperian.com

Or at PO Box 317 Victoria Park WA 6979

Ph (08) 9362 5955

Cost \$22.00 +pp

Reviewed by Ian Johnson

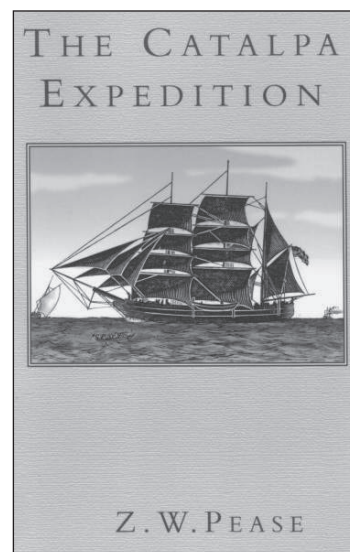
In 1876 Irish patriots sailed from the east coast of America to participate in the prison breakout of six of their brethren from Fremantle Goal. They succeeded, and caused a diplomatic incident between the United States and the United Kingdom.

While there are many accounts of this event, *The Catalpa Expedition*, when first published in 1897, was the first and only account from the Captain of the ship that pulled off the escape, the converted Boston Whaler *CATALPA*. The ship's year and a half voyage halfway around the world to unknown waters on the off chance that the prisoners had managed to escape, and their evasion of the British fleet to return home to the United States is the stuff of seafaring legend.

The Catalpa Expedition has it all, from the jailing of six Fenians for planning revolution against the British Crown, the tense political situation between the USA and the UK, to the dramatic encounter on the high seas off Western Australia with the steamer *GEORGETTE* and the British Army after the prisoners escaped.

Yet it is more than just a prison breakout. It is a story of seamanship, of honour and duty on both sides. Of Captain George Anthony's mission given to him by the Irish Patriot Society 'The Clan-na-Gael' to ensure their escape and his steadfastness in keeping his 'guests' onboard in the face of British intimidation.

Reprinted in 2004, *The Catalpa Expedition* is as gripping a sea story today as it was over 100 years ago, and the best part is that it is all true!



THE ROYAL FLEET AUXILIARY: A CENTURY OF SERVICE

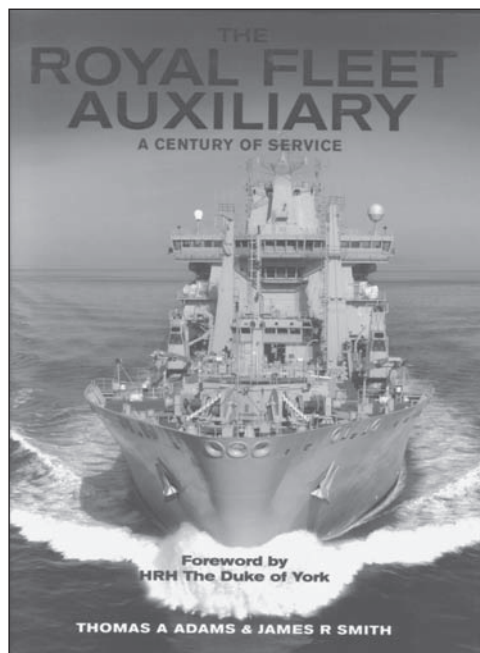
By Thomas A. Adams and James R. Smith

Published by Chatham Publishing

Reviewed by Joe Straczek

The phrase the 'silent service' is often associated with the Navy. If a similar phrase were to be associated with the Royal Fleet Auxiliary it would have to be the 'invisible service'. For 100 years the ships and personnel of the Royal Fleet Auxiliary have served alongside the Royal Navy providing the essential logistic support. Yet their presence and role is seldom acknowledged or recognised. *The Royal Fleet Auxiliary: A Century of Service* helps to address this imbalance.

The introduction to the book provided a general history on



the establishment and development of the RFA. Whilst the main body of *The Royal Fleet Auxiliary: A Century of Service* is a chronological history of the Royal Fleet Auxiliary in the style of *The Royal Australian Navy: Day by Day*. It presents the history and achievements of this important organisation in a daily log format. Supporting the daily entries are almost 200 photographs and a number of vignettes. The vignettes provide additional information on such things as ship classes, Chinese seamen employed by the RFA and convoys or actions involving RFA ships.

Appendices at the end of the book provide additional information on losses and casualties, medals and battle honours, flags, ship colour schemes, badges and a pennant number list.

The Australian ships Fleet Auxiliaries TIDE AUSTRAL, subsequently commissioned as HMAS SUPPLY and RAFA KURUMBA are both mentioned in the book's chronological section.

At 200 pages the book, like the ships of the RFA, is fully loaded and a valuable asset. *The Royal Fleet Auxiliary: A Century of Service* is a worthwhile and important addition to the historiography of the Royal Navy.

FLIP SIDE WAR

By Ean McDonald

Soft Cover. 169 pages.

Published by Hesperian Press

Available at www.hesperian.com

Or at PO Box 317 Victoria Park WA 6979

Ph (08) 9362 5955

Cost \$30.00 +pp

Reviewed by Ian Johnson

As many veterans of the Second World War begin their retirement, it is satisfying that they do so leaving their recollections on that dark time in our history, whether it be serious or funny. *Flip Side War* is one book that does both.

Ean McDonald begins his story at his call up at Fremantle into the RAN at the outbreak of the war in Europe, to his postings on HMAS SYDNEY and action in the

Mediterranean, the six ships of the "Scrap Iron Flotilla" (possibly the only man in the RAN to have served on all six) and the sinking of HMAS WATERHEN. From there Mr McDonald served on HMAS PERTH and disembarked prior to her final mission, to Officer's School and the RAN Hydrographical branch where he served on the corvette HMAS SHEPPARTON until after the war, becoming the first Allied ship into Rabaul since the Japanese occupation. Mr McDonald's experiences on life, the Royal Australian Navy, serving with among others, Captain 'Hec' Waller, officer training, and other matters make *Flip Side War* interesting for the reader, as well as snippets about life on the homefront.

Flip Side War is very well written, and the photographs (all Mr McDonald's) are in print for the first time since the end of the war. The photo's of HMAS SYDNEY and PERTH, as well as of a wounded WATERHEN are remarkable and rare.

Flip Side War has enthralled High School students at Kalamunda High School in Western Australia. The students enjoyed both the serious and lighter side of Mr McDonald's experiences. His personal, often humorous view on events, makes this a great book, and easy to read.

I greatly enjoyed this book, and with limited copies of *Flip Side War* available, get your copy fast. You will not be disappointed!

TEN DAYS TO VICTORY

ABC Documentary

DVD available from ABC Shops,

ABC Centres, ABC Online www.abcshop.com.au

\$29.95.

ABC Video & Roadshow Entertainment

Narrated by Ralph Fiennes, *10 Days to Victory* combines large scale, dramatic reconstructions with traditional documentary storytelling techniques to create a day-to-day account of the last days of Fascist Europe.

The 110-minute program, available on DVD, interweaves the stories of ten very different people caught up in the liberation of Europe from the grip of Nazi terror.

As seen through the eyes of common soldiers, adjutants to the major players, members of the French Resistance and the Italian Partisans, their diaries, letters, dispatches of memoirs and interviews provide a unique insight into the dramatic events of some of the most gripping and terrifying days in history.

The ten overlapping stories coming from all points of the compass, all converging on the same point: the German surrender at Luneburg Heath, May 5, 1945. For millions of people this marked the end of five long years of consuming misery.

The 10 characters profiled on the DVD include Rochus Misch (Hitler's Bodyguard), Jean De Lattre de Tassigny (First French Army), Walter Audisio (Italian Partisan), Richard Winters (US 101st Airborne), Cliff Morris (British commando), Rollo Kingsford-Smith (Australian 627 Squadron), Jon Lee (first to enter Dachau on 29 April), Canadian Soldier (1st Army in Holland), Russian Soldier (raised the flag over the Reichstag), Field Marshall Montgomery (received surrender of Germans).

THE NAVAL INSTITUTE GUIDE TO COMBAT FLEETS OF THE WORLD 2005 – 2006

US Naval Institute Press

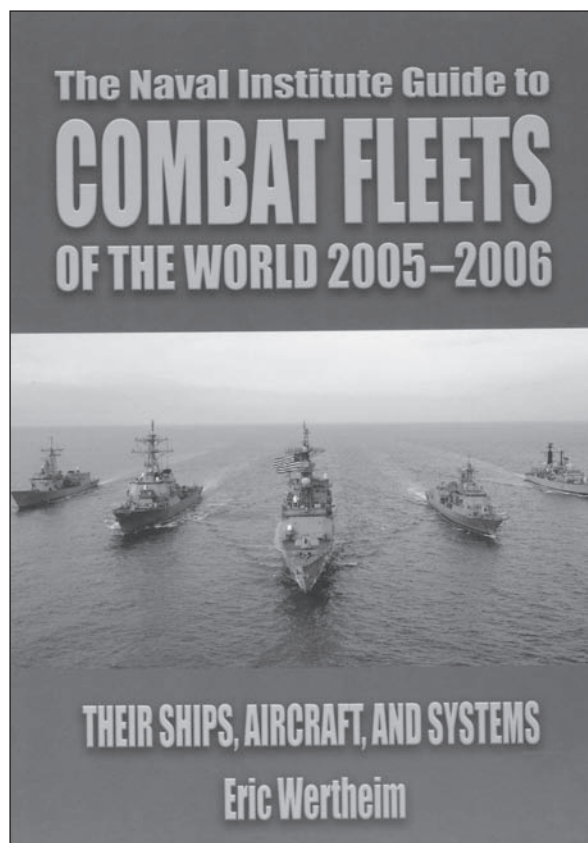
Maryland, USA

1104 pages. 4450 photographs.

Hardcover. 9 x 12 inches.

ISBN: 1-59114-935-5

Peribo Books, 58 Beaumont Road, Mt. Kuring-Gai, NSW
AUD\$495



Internationally acknowledged as one of the best one-volume reference to the world's naval and paranaul forces, this popular Naval Institute guide is both comprehensive and affordable. Updated biennially since 1976, it has come to be relied on for its all-inclusive, accurate, and current data on the ships, navies, coast guards, and naval aviation arms of more than one hundred eighty countries and territories, including for the first time this year East Timor. Large fleets and small maritime forces get equally thorough treatment as evidenced in this new edition, which highlights major and even minor developments that could have an impact on the world scene. From orders of new patrol boats for Yemen and ship-name changes in the Georgian Navy to performance details of the British Navy's new Astute-class submarines and Type 45 destroyers, the information is easily accessed by readers wanting to keep abreast of the world's navies. A thorough indexing of material and a logical ship-typing system makes the book easy to use and allows quick comparisons between fleets.

With the retirement of long-time Combat Fleets editor A. D. Baker III in 2002 and the appointment of Washington defence consultant and author Eric Wertheim as the new editor, the guide continues to present timely, authoritative information supported by hundreds of new illustrations. The

section on the Indian Navy, for example, presents new photos and line drawings of frigates in the Shivalik and Talwar classes and late-breaking information about the modified Kiev-class aircraft carrier expected to enter India's fleet. For the Chinese Navy, Wertheim provides details of new armament fits and construction of its Project 52 destroyers, and for the German Navy he offers service entry details of the new Sachsen-class Type 124 air defence frigates. Even seemingly minor changes in naval aviation are recorded, including Japan's recent decision to purchase new EH-101 helicopters. Readers can also find out the latest about the U.S. littoral combat ships and DD(X) warship programs and the Kidd-class destroyers being transferred to Taiwan. More than a hundred correspondents from around the world contributed information and illustrations to this new volume.

From giant aircraft carriers and ballistic missile submarines to tugboats and launches, the characteristics and capabilities of ships large and small are reliably recorded. Complete descriptions of naval aircraft, weapons, weapons systems, and sensors are also provided along with useful commentary on organization, personnel strengths, and bases. For those who need fast access to facts about the world's navies, this single-volume naval reference is essential and a bargain considering the wealth of material it provides.

The author Eric Wertheim is a strategic analyst in Northern Virginia and consults to government and private industry. A columnist for *Proceedings* magazine since 1994, he is the coauthor of *Chronology of the Cold War at Sea*, among other books.

**Join The Navy League of Australia.
See centre section for how.**



***The Australian Navy League,
since 1900 it has remained
'The Civilian Arm of the RAN'.***

STATEMENT of POLICY

Navy League of Australia

The strategic background to Australia's security has changed in recent decades and in some respects become more uncertain. The League believes it is essential that Australia develops the capability to defend itself, paying particular attention to maritime defence. Australia is, of geographical necessity, a maritime nation whose prosperity strength and safety depend to a great extent on the security of the surrounding ocean and island areas, and on seaborne trade.

The Navy League:

- Believes Australia can be defended against attack by other than a super or major maritime power and that the prime requirement of our defence is an evident ability to control the sea and air space around us and to contribute to defending essential lines of sea and air communication to our allies.
- Supports the ANZUS Treaty and the future reintegration of New Zealand as a full partner.
- Urges a close relationship with the nearer ASEAN countries, PNG and the Island States of the South Pacific.
- Advocates the acquisition of the most modern armaments, surveillance systems and sensors to ensure that the ADF maintains some technological advantages over forces in our general area.
- Supports the acquisition of unmanned aircraft such as the GLOBAL HAWK and UCAVs.
- Believes there must be a significant deterrent element in the ADF capable of powerful retaliation at considerable distances from Australia.
- Believes the ADF must have the capability to protect essential shipping at considerable distances from Australia, as well as in coastal waters.
- Supports the concept of a strong modern Air Force and highly mobile Army, capable of island and jungle warfare as well as the defence of Northern Australia and with the requisite skills and equipment to play its part in combating terrorism.
- Advocates that a proportion of the projected new fighters for the ADF be of the STOVL version to enable operation from suitable ships and minor airfields to support overseas deployments.
- Supports the development of amphibious forces to ensure the security of our offshore territories and to enable assistance to be provided by sea as well as by air to friendly island states in our area and to allies.
- Endorses the control of Coastal Surveillance by the defence force and the development of the capability for patrol and surveillance of the ocean areas all around the Australian coast and island territories, including the Southern Ocean.
- Advocates measures to foster a build-up of Australian-owned shipping to ensure the carriage of essential cargoes in war.

As to the RAN, the League:

- Supports the concept of a Navy capable of effective action off both East and West coasts simultaneously and advocates a gradual build up of the Fleet and its afloat support ships to ensure that, in conjunction

with the RAAF, this can be achieved against any force which could be deployed in our general area.

- Is concerned that the offensive and defensive capability of the RAN has decreased markedly in recent decades and that with the paying-off of the DDGs, the Fleet lacks area air defence and has a reduced capability for support of ground forces.
- Advocates the very early acquisition of the projected Air Warfare Destroyers.
- Advocates the acquisition of long-range precision weapons and the capability of applying long-range precision fire to increase the present limited power projection, support and deterrent capability of the RAN.
- Advocates the acquisition at an early date of integrated air power in the fleet to ensure that ADF deployments can be fully defended and supported from the sea.
- Advocates that all Australian warships should be equipped with some form of defence against missiles.
- Advocates the future build up of submarine strength to at least 8 vessels.
- Advocates that in any future submarine construction program all forms of propulsion be examined with a view to selecting the most advantageous operationally.
- Supports the maintenance and continuing development of a balanced fleet including a mine-countermeasures force, a hydrographic/oceanographic element, a patrol boat force capable of operating in severe sea states, and adequate afloat support vessels.
- Supports the development of defence industry supported by strong research and design organisations capable of constructing and supporting all needed types of warships and support vessels.
- Advocates the retention in a Reserve Fleet of Naval vessels of potential value in defence emergency.
- Supports the maintenance of a strong Naval Reserve to help crew vessels and aircraft in reserve, or taken up for service, and for specialised tasks in time of defence emergency.
- Supports the maintenance of a strong Australian Navy Cadets organisation.

The League:

Calls for a bipartisan political approach to national defence with a commitment to a steady long-term build-up in our national defence capability including the required industrial infrastructure.

While recognising budgetary constraints, believes that, given leadership by successive governments, Australia can defend itself in the longer term within acceptable financial, economic and manpower parameters.

Taken during the Fleet Review in the UK for the 200th Anniversary of Nelson's Victory at Trafalgar, pictured (L-R) the Turkish ship TCG ORUCREIS, British aircraft carrier HMS ILLUSTRIOUS, American ship USS McFAUL, British ship HMS WESTMINSTER and Danish ship HDMS RAVNEN. (RAN)



HMAS ANZAC's Mk-45 5-inch (127mm) gun firing during an exercise with the combined fleet of the Trafalgar 200th Anniversary gathering in the UK. (RAN)





HMS VICTORY as she is today in Portsmouth, UK. (Mr Rupert Lanning)