Ferranti, in deep where action information and fire control really count.

Ferranti supremacy in naval systems is not confined to surface ships. It goes deep into the world of submarines.

For many years Ferranti Action Information and Fire Control Systems have been fitted both in conventional and nuclear submarines for the Royal Navy and overseas navies.

KAFS, one of the Ferranti series of Modular Combat Systems, combines the latest technology with the vast experience Ferranti has gained in this field. It provides a four-display, two-position console with full AIO/FC facilities at each position. Microprocessor-controlled weapon firing modules are incorporated which also provide comprehensive fallback and training modes.

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The HMAS Stirling based destroyer escort HMAS STUART pictured at speed during manoeuvres on 15th March, 1984. She is flanked by the patrol boat HMAS ADROIT (leading) and HMAS ASSAIL ADROIT is manned by the Fremantle Port Division of the Royal Australian Navy. (Photo - LSNR Steve Swan)
Navy Lynx, the only helicopter to have engaged and destroyed enemy targets in total darkness in state 7 seas, also provides air-sea rescue, fisheries protection, medivac, cargo and natural disaster transport for eight countries.

Westland Helicopters, Yeovil, England. Represented by Hawker Pacific Pty Ltd

Fishing For What?

Much has been written over the past few years, in both government and non-government circles, for and against proposals for establishing a joint venture in the Australian Fishing Zone, between Australia and the Soviet Union.

As recently as October 1983, the Australian participants in the Mixed Commission on Trade and Economic Co-operation between Australia and the USSR held in Moscow, confirmed that our government "was prepared to consider the applications for access to the Australian Fishing Zone".

A proposal for such a venture was made to the Russian government in 1979 with a view to establishing extensive facilities in the Australian Fishing Zone, to support a Soviet fishing fleet operating in the waters to the south of Australia. The facilities were to include the provision of a dry dock for repairs, the provision of food, fuel and other supplies, accommodation for exchange crews and landing arrangements for Soviet aircraft.

The negotiations were at an advanced level in October 1980, with the Tasmanian Premier in Moscow negotiating the purchase of the dry dock.

Strong opposition to the Federal Government by the Navy League and others feared of the serious defense implications of such a proposal, succeeded in achieving that government's intervention and bringing about an end to the negotiations.

In the intervening years the Soviets have achieved some small success in negotiating with the New Zealand government and are presently endeavoring to set up shop in Portland, Victoria.

So much for the historical background. Some have argued that any step toward mutual co-operation with the USSR is a good thing in establishing links between east and west and there is much to be said for such a point of view. It was with the aim of the strengthening of those links that the Navy League entertained the Russian Ambassador and members of his staff in Melbourne in 1983, but it is essential that we are selective in choosing those areas of mutual co-operation and imperative that such moves, made perhaps for short term commercial gain do not lead to the larger term problems, particularly of defence and also in the case in point to potential environmental problems.

The defence implications have been well documented. The fact that all Soviet ships, including merchant and fishing craft, come under the direction of the Soviet Navy, the fact that the captains of these vessels hold commissions in the Soviet Navy and that many of the vessels carry sophisticated surveillance equipment, leads to the proposed venture being one that virtually offers home porting facilities to a part of the Soviet Navy.

In his book "A Crime Against the World", Vladimir Lysenko, a former merchant service officer and a former Senior Captain in the USSR navy, describes some of the activities of the Russian fleets. Passages which refer to the warlike uses of the merchant fleets and of over fishing and destruction of marine species, give much cause for alarm.

No matter how liberal one's views may be in terms of consulting with one's political opposites, it must be accepted that there is an element of risk in the current proposal and it is in my view a risk that we cannot afford and must not take.

Rather let us encourage and require some government initiatives that seeks to develop our own fishing industry, so that the natural resources in and adjacent to our own waters may be exploited in a controlled and environmentally acceptable fashion and enjoyed to the fullest extent by our own people.
On 15th September, 1983, the new cruiser SLAVA emerged from the Bosporus and headed for the North Atlantic Ocean. The first of only two ships of this class to be delivered so far from the 61 Kammuny yard at Nikolayev, she took an unusually long time of six years to construct, being followed by more than a year of sea trials; this whole period beginning with her launching in 1976.

The teething troubles usually encountered with a new type or class of ship were compounded with greater combat suite complexity, allied to equipment delivery delays from the suppliers, a situation with which western naval customers are only too familiar.

Although the SLAVA’s highly unusual appearance gives the initial impression that the ship represents a new generation of Soviet cruisers, closer scrutiny reveals that this is not the case. Only weapon systems already fitted on the Kiev, Kirov and Sovremennii classes have been used, albeit in different installations in some cases. The SLAVA appears to have been designed as a less expensive version of the KIROV: more of an escort vessel than a command ship, but, like the KIROV, with the emphasis on the armament on anti-surface warfare.

The hull of the SLAVA is clearly based on the later of the KARA class cruisers, varying only slightly in the three major dimensions. The hull has been lengthened by 14 metres to accommodate a new surface-to-air weapon system, with a consequent one metre increase in beam. The hull is now one deck deeper than that of the KARA, with a consequent increase in freeboard of 1.7 metres and there is increased flare at both bow and stern. Quite distant from the KARA’s is the unusually high bridge and the pyramid-shaped pile of the enclosed foremast. The superstructure in general is configured with regard to the positioning of the eight pairs of cylindrical container-launchers for the SS-N-12 “Sandbow” surface-to-surface missiles.

These launchers are mounted one behind the other, four pairs per side of the forward superstructure, all facing forward over one another and at a fixed elevation of 16°. The estimated dimensions of these containers plus the presence of the “Trap Door” missile-control radar (also fitted to KIEV), indicates the presence of the SS-N-12 which has a range of 300 nautical miles. There is no provision for reloads.

Two rows of four vertical launch tubes for the SA-N-6 long range surface-to-air missile are located abaft the funnels near the large crane. This missile has a range of 30 nautical miles and 64 reloads are carried. In addition, an SA-N-4 “Gecko” short-range SAM site with its twin launcher is fitted on each side of the aft end of the helicopter hanger, just at the beginning of the quarterdeck. The twin launcher normally retracts into the silo when not in use. Twenty of these eight nautical mile range missiles are normally carried in each silo.

A fully-automatic twin 130mm multi-purpose L-70 gun turret is installed right forward, ahead of the breakwater. Each water-cooled barrel is capable of 65 rounds per minute, with a maximum range of 28,000 metres. Both close-fitted barrels elevate together through an arc of –5° to +80° and the mounting is unusual ‘steerable as 300° traverse is possible at elevations greater than 30°. Optical as well as radar fire control is fitted.

Forward and aft gantries, side and deck units, bulwarks, etc for HMAS Success completely supplied and fabricated by:

ARCFLOW Pty Ltd
General Engineers and Boilermakers
KURNELL, NSW
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July, 1984
THE NAVY Page Five
Operating nine factories for the manufacture of munitions and other defence materiel, three aerospace facilities and two dockyards, the Department of Defence Support designs, develops and manufactures a range of products for the Australian defence force.

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**SLAVA. October, 1983. Note the twin funnel exhausts, vertical anti-aircraft missile launchers and, right aft, the landing spot for one embarked helicopter.**

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**SLAVA, captured by the photographers aboard HMS INVINCIBLE (prior to her Australian visit). The Soviet ship features a railway track (like the battleship KIROV) around her main deck.**

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**SLAVA. captured by the photographers aboard HMS INVINCIBLE.**

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**The addition to the Soviet Fleet of Kirov class strike/battle cruisers and the advanced Sovremennii and Udaloy class destroyers has required a considerable industrial and financial effort and has absorbed so much skilled labour that yard output of new construction has markedly decreased. Equipment delivery delays have meant that none of the Udaloy class ships have yet been fitted with their full air defense armament. Thus the ships of the Slava type have themselves been held back from completion and time-expired hulls are being retired faster than their replacements can be built.**

---

**Fleet replenishment vessels such as the Berezina class are also in short supply to the extent that the combat value of ships like the SLAVA in world-wide operations remains in doubt. Submarine operations outside home-waters are similarly affected.**

---
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The limited capabilities of these vessels and their general obsolescence were recognised and several schemes were developed between 1902 and 1909 for the provision of a naval defence force more in need of a newly independent nation. Most schemes included destroyer type vessels which ranged in displacement from coastal coasters of 550 tons to a cruiser type vessel of 3000 tons. Early local schemes tended to concentrate on coastal naval forces with occasional emphasis on increased endurance and taken capacities not for operations in more extended distances from bases than had been generally the practice in the past. The main schemes are shown in Table 2.

It was not until the Imperial Conference of 1909 that any serious consideration was given to establishment of a truly ocean-going Australian Navy. At this conference the British Admiralty submitted a paper to 20 March 1909 which detailed their views on the form in which the various Dominion Governments could best participate in Imperial Defence. This paper was not suggested that the Dominion Governments should be made to issue a body of forces capable of both role in relation to coastal and port defence. Unless a naval force - whatever its size - complies with this condition, it can never take its proper place in the organisation of an Imperial Navy distributed strategically over the whole area of British interests.

HMAS HUON
Australia's First Locally Constructed Destroyer

On 1 March, 1901, the Australian State Governments transferred control of their respective naval forces to the Commonwealth Government. As there was no appropriate Federal legislation, the forces remained under the administration of State Acts and Regulations until 1 March, 1904 when the Commonwealth Defence Act (1903) came into force. The ships transferred to Commonwealth control, with the exception of the cruiser PROTECTOR, were essentially coastal craft designed specifically for coastal and port defence. Some details of these ships are shown in Table 1.

State| Ship| Type| Displacement| Completed
---|---|---|---|---
New South Wales| ACHERN| Second class torpedo boat| 16 tons| 1879
Victoria| CERBERUS| Armoured turret ship| 3340 tons| 1870
Queensland| GORDON| Second class torpedo boat| 12 tons| 1884
Tasmania| TB 191| Second class torpedo boat| 12 tons| 1884

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Bread and Butter for Australia.

R.W. MILLER... COALMINERS
shipped to Australia where it would be assembled. Conditions of the agreement were authorised by the Commonwealth Solicitor in London on April 20, 1909. The contract stipulated that the first boat be delivered by June 14, 1910, second by July 14, 1910 and that the boat as assembled in Australia be ready for shipment on July 1, 1910. Progress payments commenced with the laying of keels and provision was included for the employment of Australian tradesmen to enable them to acquire the skills necessary for local construction. The contract also stipulated plans for purchasing and constructing the hulls for constructing Australia would be provided by the contractors. It also imposed damage claims for any deficiency in fuel, hull or fabric and delay in delivery. These claims were substantial and implied compliance with the specifications. To this end, fuel capacity was a sum of £200 could be claimed for each day of the deficiency of the fuel tanks. A sum of £20 for a part or whole of the first quarter of a knot which the speed of the completed vessel was below 26 knots was also payable. This was increased by a further £10 for each subsequent quarter knot until 25 knots was achieved. A fee of £50 was payable for each additional quarter knot. Delay in delivery involved a payment of £2 per day for each delay. Acquisition of Australia's first batch of Torpedo Boat Destroyers represented a remarkable achievement for a country with little experience in the definition of naval requirements or warship acquisition procedures. In contrast, the Anglo-German Programme in 1909 Professor Berlin observed:

'These vessels were designed the Admiralty has produced vessels of about the dimensions of ours - one thing is certain we have produced a ship which is 20% less cost and we believe that in respect speed, strength, radius of action or seaworthiness is inferior to the vessels produced in Germany. The speed we now require is not as large as that for the Royal Navy. Our requirement is power and hull and power in the machinery due to this saving of weight. The time is reduced by setting details on the spot and by losing no time in sending detailed drawings to lie in London. Perhaps one of the valuable lessons which the Australian Government are helping to give in Imperial matters be thus exhibited.'

These vessels were approved in February, 1909. Tenders were called and received by mid March. The contract and specifications were agreed and signed by the middle of April, 1909. Keels were laid for all three vessels in the beginning of June and the lead vessel, PARRAMATTA, was launched on September 9. The Third Naval Member stated in a report to the Parliament in May that trials of PARRAMATTA had been completed by June, 1910 and the vessel was finally accepted for service some 16 months after the initial approval to her purchase was made. Shortly after the Australian Government announced its intention to acquire three torpedo boat destroyers, Mr. Culler, the Superintendent of the State Dockyard, Cockatoo Island, NSW called on the Minister for Defence, to inform him of the NSW Government's willingness to undertake construction of the ships. During these discussions, the Minister for Defence outlined the Australian Government's intention to undertake an extensive building programme and stated that it was intended that later units would be built in Australia. Local construction was not considered to be feasible for the initial ships because of the urgency for these vessels to enter service: plans for the destroyers were not then available in Australia, nor were the necessary skilled key personnel for local construction. Mr. Culler confirmed that it would be some 12 to 15 months before the State Dockyard would be in a position to commence construction. It was subsequently agreed that the original intentions for construction of the three initial torpedo boat destroyers would remain.

Work on WARREGO was completed by Fairbairn in mid-1910 and she was shipped to Australia in pieces. Reassembly was undertaken at Cockatoo Island where WARREGO was launched on April 4, 1911. She was commissioned for service on June 1, 1912. WARREGO's reconstruction in Australia was not entirely without incident and took some six months longer to reassemble than was agreed between the Commonwealth and State Governments. A number of deficiencies were discovered during reconstruction, the most important being the omission of rudder from the vessel which supported one of the propeller shafts. Had not this been discovered serious damage could have occurred.

The next major step towards local construction of the Australian fleet was taken on March 27, 1911, when the Prime Minister wrote to the Premier of NSW seeking his advice on whether his Government would be prepared to undertake construction of a second class cruiser and three torpedo boat destroyers, and, if so, on what terms. Letters were soon received.

Basic considerations relating to the provision of plans and working drawings, ordering of materials, costs and other contract and general agreements were largely resolved during 1912-13. Although a formal agreement was not signed by the Minister for Defence and NSW Minister for Public Works until June 16, 1912, the initial order for all hulls was placed by NSW authorities on October 10, 1911. The contract specified that:

- the Commonwealth would provide the principal building plans and specifications;
- the NSW Government would provide buildings and workshops necessary for construction; the destroyers would be completed within 26 months from a date to be agreed upon when sufficient materials were available to enable construction to commence;
- damages of £300 per week were to be payable for each week's delay in delivery which were attributable to the NSW Government; and
- the Commonwealth Government, for the purpose of control, labour, general charges and dockyard running expenses related to construction, together with an 8% loading based on the actual cost of construction.

A commencement date of August 1, 1911 for construction of the three torpedo destroyers was subsequently confirmed.

The keels of the torpedo boat destroyers DERWENT and TORRENS were laid down on January 25, 1913 in a ceremony at Cockatoo Island Dockyard. Work on DERWENT was laid down until January 25, 1915. Work on DERWENT and TORRENS continued at a leisurely pace until commencement of the First World War. In response to the worsening situation in Europe, the Government of the Commonwealth of Australia decided that:

- proceed with the project of completing the two vessels urgently;
- send a cable to the High Commissioner in London asking him to invite Messrs Donn, Bayly & Co. to quote for the provision of boilers and some four days later the Third Naval Member suggested that this be copied to provide lubes for all destroyers.

Also present at this meeting were Mr. Jensen, Assistant Minister and Mr. J. King Saltar, Manager Cockatoo Island Dockyard. The meeting decided that:

- send a cable to the High Commissioner in London asking him to invite Messrs Donn, Bayly & Co. to quote for the provision of boilers and some four days later the Third Naval Member suggested that this be copied to provide lubes for all destroyers.

By the end of February 1915, 12 pounder quick firing guns at a cost of £518 Sterling each had been placed with Coventry Ordnance Works and provided for an additional two or three gunboats. Only one other 12 pounder quick firing gun was on order and one 4 inch gun was placed in protecting harbour. The second order for the 12 pounders had been sent from the Admiralty on (September 28, 1914).

In September, 1914, the Australian Government decided that the first vessel could be aimed with one 4 inch gun and the remainder to be made up by local constructors. The third vessel would have a gun armament of only two 4.7 inch mounts. Only one 4 inch gun was placed in protecting harbour. The second order for the 12 pounders had been sent from the Admiralty on (September 28, 1914).
structure had been erected, however, the seats for armament and weather deck fittings had not been included. No masts, rigging or armament were fitted. About 14 tons of machinery had been placed on board but no shafting or propellers were fitted. The displacement at launch consisted of:

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<thead>
<tr>
<th>Item</th>
<th>Tons</th>
<th>Comments</th>
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<tr>
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<tr>
<td>Bell tower</td>
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<td>Internal shoewing</td>
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<td>Temporary fittings, staging etc</td>
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<tr>
<td>Buoyancy of bilge ways</td>
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Construction continued throughout 1913 and contractors' full power trials were carried out on December 9, 1915 at Mascow Bay. The main propulsion machinery consisted of Parsons Reaction Turbine, with four shafts and two screws. Three Yarrow Small Tube Water Tube boilers were fitted. Details of the full power trial which was of eight hours duration are as follows:

- Draught of water forward 7 feet 7 inches
- Draught of water aft 7 feet 6 inches
- Temperature of sea water 66.8°F
- Distance run per ton of fuel 4.6 nautical miles
- Mean revolutions on all shafts 807.7
- Temperature of sea water 66.8°F
- Average horsepower — starboard shaft 3842
- Centre shaft 3883
- Port shaft 3480

Total 240 tons

Completed were:

- 43 inch ammunition — 95 Liveley, 55 Coomsie, 14 Practise
- 12 pounder — 43 inch
- 4 inch ammunition — 303 Maxim — 4 boxes of belts; and
- 4 inch ammunition — 4 inch


dry dock at Williamstown. (Photo: P. Williams)

- Condition C — The ship with all reserve feed, fresh water, and provisions and half the warrant officers' stores consumed, the draft becomes 6 feet 4 inches and the metacentric height is 106 feet.

- Condition A — The ship with her armament and equipment at full strength, the draft becomes 6 feet 4 inches and the metacentric height is 106 feet.

- Condition B — The ship when fully equipped with reserve feed, water, reserve feed and all oil tanks full, ie, with 14 tons of oil on board has a mean draught of 7 feet 11 inches and a metacentric heft of 6 feet, and

endless parolling, interrupted with exercises and the visit and search of vessels near the Dardanelles. 

The six Australian torpedo boat destroyers were divided into two divisions. In mid-1917 the first division of PARRAMATTA, WARREGO and YARRA were patrolling in South East Australian waters, while the second division consisting of HUON, SWAN and TORRENS were in the Singapore area.

On May 9, 1917 the British Government sought Australian agreement to deploy the first division to the Mediterranean to meet the growing submarine threat. To respond the Australian Government agreed to this request and indicated its willingness for the second division also to be deployed to the Mediterranean. The second division sailed from Singapore to Coocan Island arriving on July 7, 1917 and rendezvoused with the first division. Commander Wares of HMAS PARRAMATTA took command of the Flotilla. After fuelling the Flotilla departed for Diego Garcia to search for survivors of the British merchant ships JUMNA and WORDSWORTH which had been lost earlier in the year. No trace of survivors was found and the Flotilla sailed for the Mediterranean via the Seychelles and Port Said. Admiralty orders were received in Port Said that HUON, PARRAMATTA, TORRENS and YARRA were to escort a convoy from Port Said to Malta. This task provided the escorts with the first of many submarine engagements they were to have whilst in the Mediterranean.

HUON refitted at Malta between August 20 and September 20, 1917. During this refit the ship was fitted with four depth charge chutes, pipes and connections for smokin smoke screens and percussion firing gear to the 12 pounder mounting.

From September 24 to 27, PARRAMATTA, HUON and YARRA participated in gunnery and torpedo exercises off Corfu. On October 6 to 9, 1917 the Flotilla carried out combined exercises mainly to trial a new torpedo which had just been received.

From October 10, 1917 the destroyers were based at Brindisi, Italy to patrol at the mouth of the Adriatic Sea. This patrol was aimed at preventing Army transports, whose bulk was from reaching the Mediterranean. Patroops were undertaken on the basis of division operating four days on the patrol and four in port. Of the three destroyers, two were operating all the time, with one (the destroyer) for 60 to 70 per cent of the patrol time in port on a half hour’s notice for sea. Daylight patrols was usually undertaken with the three destroyers steaming in line abreast and about a mile apart. At night eight steamed in line abreast usually or two or three cables apart.

During the initial stages of the deployment, submarine activity was intense and engagements were frequent. Later the Australian submarine campaign declined and the patrols became more routine. HUON continued on these patrols until April, 1918 when she sailed for Malta to undergo a refit. This refit commenced on April 17 and completed on May 16, 1918. A number of modifications were undertaken to enhance HUON's capabilities. These included the fitting of:

- Two depth charge chutes;
- Hydrophone suspension gear and a directional hydrophone;
- Percussion firing gear to the 4 inch mounting;
- Training index racers to 4 inch and 12 pounder mountings; and
- An observation balloon.

In addition the after turbine pipe was removed and the main mast was moved forward to accommodate the observation balloon. PARRAMATTA and YARRA were also fitted with observation balloons. These balloons were flown from ships and carried observation balloons. HUON refitted at Malta between August 20 and September 20, 1917. During this refit the ship was fitted with four depth charge chutes, pipes and connections for smoke screens and percussion firing gear to the 12 pounder mounting.

HUON being scuttled on 10th April, 1931.
MISSILE TECHNOLOGY IS AS OLD AS TIME. BALLESTS, BOWS AND ARROWS, JAVELINS, SPEARS, ROCK AND STONES, AND EVEN CANNON WERE FORMED OF GUIDED MISSILES. MINISTERS, CANON, AND EARLY ROCKETS WERE AMONG THE "NOT-SO-WELL-GUIDED" MISSILES—BUT THEY WERE MISSILES. FURTHERMORE, IN EACH AGE AND IN TASTE, EVERYONE WANTED..."HOW DEADLY ARE THESE PROJECTIONS?" THUS, IT IS QUITE ORDINARY TO ASK THE SAME QUESTION IN THIS, THE AGE OF ELECTRONIC GUIDANCE.

MISSILE TAXONOMY

Before any answer to such a question can be attempted, a taxonomy exercise to determine the types involved is necessary. Therefore, the first place to look is JANES ALL THE WORLD'S MISSILE SYSTEMS. THIS BOOK CONVENIENTLY CLASSIFIES ALL MISSILES INTO SURFACE-SURFACE, SURFACE-AIR AND BY THE OWNER AND/OR USER NATIONS. A FURTHER BREAKDOWN INTO NAVAL AND LAND MISES Follows SO THAT NO EFFORT IS REQUIRED TO SEGREGATE THE TYPE THAT IS OF INTEREST. THIS PAPER CONCERNED ONLY THE NAVAL TYPES BUT MUST ALSO COVER A SMALL CLASS OF LAND TYPE—SHORT RANGE MISSILES.

ADDITIONAL INSPECTION OF JANES BOOK QUICKLY SHOWS THAT IF THE LIST OF US, BRITISH, FRENCH, ITALIAN AND ISRAELI MISSILES IS COMPALED WITH THE LIST OF RUSSIAN MISSILES DESCRIBED IN THE APPENDIX TABLES, THERE EXISTS A NEARLY PERFECT ONE TO ONE CORRESPONDENCE BETWEEN THE TWO SETS. MORE COMPARISON SHOWS THAT ONLY A LIMITED NUMBER OF DIFFERENT TYPES ACTUALLY EXIST.

THE LONG RANGE MISSILE (LRM)

THE FIRST, AND NOT THE MOST DISTINCTIATE, IS THE LONG RANGE OR ICBM TYPE. THIS TYPE, DESIGNED TO DO DAMAGE IF THEY HIT WITHIN 25 MILES OF THE TARGET POINT, ARE MORE THREAT THAN DANGER.
lower the P(HIT) for any given sector of the missile's range.

iv) The mid-range (or most effective) probability of a hit expands to an ever increasing area as the velocity of the missile decreases. However, the beneficial value of this is limited because (Ref Figure II) the ability of a S/AM to hit an approaching target approaches an optimum value the slower the speed of the target missile.

v) As the range to target approaches maximum value, the P(HIT) approaches zero. Thus, the best or most profitable point of range at which to use a missile appears to lie between 0.5 and 1.5 times the maximum range of the missile.

The above information agrees well with data reports from the YOM KIPUR War, the Lebanon Invasion, the Falklands War and JANES MISSILE SYSTEMS.

THE S/AM

Most of the statements about S/SMs also apply to S/AMs. The only differences are:

(i) S/AMs rarely exceed 30km and are mostly limited to 15 ± 5km.

(ii) The mach speed rarely varies above 3.0 or below 1.0. Most claims of velocities in excess of 3.0 are of doubtful validity.

(iii) Most S/AMs are physically very much smaller than S/SMs.

S/AM Guidance systems are very little different from those of S/SMs. This is not considered to be a significant observation except where decoy systems are in use. Figure I shows the derived curves for various speed classes of S/AMs.

When GTO-Melara sales data, Egyptian and Syrian air defence data and PLO Propaganda claims (generally about 15% to 30% high) are compared to data appearing in JANES, ABC News, BBC News, and Israeli news releases (usually 15% low), a mid-range probability of 35% ± 15% seems most correct. This yields Figure II. The following important claims were photographically demonstrated over Lebanon in the Israeli Invasion of 1982 and the UN actions of 1983:

(i) Infra-red and Thermionic Guidance systems, such as the PLO and Syrians used, had an 80%-90% chance of being decoyed by para-flares.

(ii) Radar Guidance systems had a 60%-80% chance of being decoyed by "Window".

(iii) Para-transponders were about 85% effective when interfering with ground controlled missiles.

No details are available on combinatorial systems but JANES accords them as being highly efficient.

EFFECTIVITY OF THE S/SM (Refer Figure I)

From the above data, there exists no difficulty in appraising the probability of a missile hit under any given (programmable) set of conditions. This can be easily done manually using a pocket calculator.

The process is:

(i) Calculate the normal probability of a hit by the given missile, on the given target, for the given range.

(ii) Work out the probability of a hit by defending S/AMs on the attacking missile(s). Then work out the number of attack missiles that must be fired in order to ensure the arrival of (at least) two attack missiles at the target.

(iii) From the gunnery data, work out the probability that at least one attack missile will get through.

This set of calculations will quickly show the effect of the attacking/defending fire. Figures I-IV may be used instead of a calculator.

An example is sufficient to show the entire process.

1. Assume an attack S/SM as follows:

   (i) Velocity: Mach 1.

   (ii) Range to target: 123km (68 Naut Miles).

   (iii) Max Range of Missile: 250km (136 Naut Miles).

   (iv) P(HIT): 30%.

   (v) No. Fired: To be calculated.

2. Assume Defensive S/AMs as follows:

   (i) Velocity: Mach 1.

   (ii) Range to target: 15km.

   (iii) Max Range of S/AM: 30km.

   (iv) P(HIT): 35% for 1; 90% for 3; 100% for 4 (Figures I and III).

   (v) No. Fired: 8, as 2 groups of 4.


   (i) Range, max: 12/18km.

   (ii) Rate of fire: 40 rounds/min.

   (iii) P(HIT): For one 5-round burst at 10km Range = 50%, for three 5 round bursts at...
TABLE 1 — GUN DATA BASED ON USE OF ROYALS

| Proximity-Fused | Bombing
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<td>Rounds</td>
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* The data for the S/SM also applies to the air
surface missile. However, the air to surface
aircraft gun. The principles of missile attack are simple.

(1) S/AM defensive attack at mid-range

(2) When used in combination, these techniques are about 90% effective in protecting aircraft. (Ref Helicopter missile films ABC — 1983.)

(3) The S/SM cannot claim such

(4) The defence must maintain a radar detection alert at all times in order to detect an attacking missile at long range. Standard radar can be used in this way. The principles of missile attack are simple.

(5) S/AM defensive attack at mid-range

(6) Rapid fire, radar-directed, computer-operated, robot-gun turrets can readily serve as a secondary defence. However, multiple attack can smother this attack.

(7) The United States has built a new system to allow the S/SM to destroy an attacker on a single attack missile.

(8) The USS New Jersey is under threat. If the S/SM cannot claim such

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Helicopter Industry Plan for Australia

Westland, one of Europe's leading high technology groups, has offered the Australian aerospace industry an $850 million work package with a difference.

The offer involves a 20% partnership in the design, development and production of the new Westland 30 passenger and troop transport helicopter and carries with it the exclusive rights to make and sell Australian made Westland 30s in the South East Asian region.

Westland intends to form a joint operation with an Australian company to manage this business. The company will also have access to Westland's whole product range, which includes hovercraft and aerospace, marine and industrial equipment.

For Australian employment this means not only the creation of 600 new long term skilled jobs but also 750 more years of creative design and development engineering.

Westland has also offered the AAC (Australian Aircraft Consortium) to UK customers to promote and provide manufacturing support for the sale of the Wamira resources to promote and provide manufacturing engineering.

Sir Basil said Westland's initiative was probably one of the most significant in the history of the Australian aerospace industry.

"It comes at a time when there is a coincidence of requirements by both the British and Australian armed forces for new helicopters and trainer aircraft", he said.

The RAAF has initiated development of a modern trainer aircraft which has also been shortlisted by the RAF. Also the RAAF and the RAF need significant numbers of troop transport helicopters of similar specification. The RAN is in the final stages of selecting a Naval helicopter involving significant offset opportunities.

The Westland 30 is a new member of the Westland Lynx team of helicopters, presently flying at a weight of 6000kgs but with planned growth to 7200kgs.

The W30-100 series powered by Rolls-Royce engines is in full production at Westland's Yeovil facility and additional variants are in the advanced stages of development.

The first of these is the W30-200, powered by General Electric CT7-2B engines, designed to meet operator requirements for hot weather and high altitude performance.

Further variants of the W30 include the 30-300 which incorporates blade, transmission and avionic developments, and is under consideration by the RAF and RAAF to replace their existing troop carrying helicopters.

The first line of the W30-300 will incorporate hard points to carry several different gun and missile installations.

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**KUTTABUL**

Sydney Harbour Ferry

**SHIPS PARTICULARS**

OVERALL LENGTH: 191 feet 6 inches.
BEAM (MAX): 38 feet 3 inches.
DRAUGHT (MAX): 13 feet 9 inches.
BOILERS: 2, working pressure: 180 psi.
ENGINES: Triple expansion, 3 cylinders (17"x. 28", 46 hp), 24 inch stroke, 113 nominal horse power, 1050 indicated horse power.
SCREWS: 2, one each end.
SPEED: 14 knots.
PASSENGER CAPACITY: 2095 persons.
SISTER FERRY TO 'KOOKABURRA'.

*Commander Peter Hugonnet, RAN.*

Commander HUGONNET entered the RAN in 1904 and undertook engineering training at the Royal Naval Engineering College, UK. His postings have included Marine Engineer Officer of HMAS WALRUS, HMAS OCEAN, Deputy Naval Engineer, Vickers Cockatoo Dockyard, Base Engineer Officer HMAS MORETON. Squadron Principal Technical Officer Australian Submarine Squadron, Principal Technical Officer HMAS STIRLING and Naval Support Command as the Rotating Pool Manager. He is presently the Commanding Officer of HMAS KUTTABUL.

*The ferry is launched on 7th April, 1952 by Lady Biddiss, wife of Sir Henry Biddiss, a director of Sydney Ferries Ltd.*

*Fitting out after the launch.*

*The main passenger deck is in place. By the time of her completion KUTTABUL would cost £70,012.*

*Page Twenty-Four*
Trials and Commissioning

The Kuttabul left Newcastle at 8 am on the 10 August, 1922, and the voyage to Sydney was accomplished in a little over five hours. As a convoy, the tug Hecate accompanied Kuttabul down the coast, but her services were not needed. The Kuttabul showed a fine turn of speed and averaged 12 knots for the trip. (SMH 11/8/22, P8)

SPEED TRIALS

Leaving the Sydney Ferry Company's yard at Milsons Point at 2.30 pm yesterday, the Kuttabul spent two hours undergoing acceptance trials. The vessel was in charge of officials of the Government Dockyard and at Walsh Island, and at the wheel was Captain Bridge, Commodore of the Fleet of Sydney Ferries Limited.

Among those present on the vessel were Mr R. T. Ball (Minister for Public Works), Messrs T. P. Cooper (Undersecretary), W. A. Mackenzie (General Manager, Sydney Ferries Ltd), A. E. Cutler (General Manager, Walsh Island Dockyard) and Hector Kidd (Sydney Ferries Ltd). The vessel was run several times over the measured mile, and her average speed on runs against and with the tide was 12.96 knots, while on one run 13.338 knots was attained. This was above the required speed.

Mr A. E. Cutler expressed the opinion that the vessel was the best ferry boat in the world taking into consideration her capacity, speed, and consumption. Mr Mackenzie (General Manager of the Sydney Ferries Ltd) stated that the vessel, with which he was well satisfied, would be placed with the Kooparto on the service between Milsons Point and the Quay on Tuesday or Wednesday next. (SMH 12/8/22, P13)

COMMISSIONED

The new passenger ferry, Kuttabul, of the Sydney Ferries Ltd., which carried out her speed trials on Sydney Harbour on 11 August, was placed in commission yesterday (18 August, 1922), and commenced running in the Milsons Point service. Two new ferries, Kuttabul and Kooparto, are now capable of carrying on a single trip across the harbour 2250 passengers each. On account of the vessels being regarded as practically unnavigable, through being constructed with 18 watertight bulkheads, these ferries are not required to carry lifebelts. (SMH 19/8/22, P13)

KUTTABUL was built to carry large numbers of commuters between Milsons Point and Circular Quay, when originally registered in Sydney in 1922 it was certified to carry 2094 passengers and crew.

CRUISE BOAT

KUTTABUL ceased running at midnight on 19 March 1932 when the Sydney Harbour Bridge was opened. It was subsequently employed as a cruise boat and sometimes to follow the 18-footer sailing boat races.

MOONLIGHT HARBOUR TRIP

The ferry steamer KUTTABUL, largest of the Sydney Ferries Company's Fleet, has replaced the KIRKULE in the Sydney night harbour excursions. She has been fitted with 10 AWA loud speakers which were used last night to broadcast items throughout the vessel during the cruise around the harbour. (SMH 25/3/35, P6)

STEAM HEATED CONCERT FERRY

Sydney Ferries concert steamer KUTTABUL will leave Circular Quay on Sunday at 7.45 pm for the regular Sunday night harbour excursion, and will return at 10 pm. The KUTTABUL is steam heated throughout and ten speakers relay music to every part of the boat. Community singing will be held, the artists assisting being Miss Amy Ostenga (mezzo soprano), Maggie Foster (vocals), Messrs Vym Selvors and Bert Harrow (entertainers) and George Brown (pianist). (SMH 29/6/35, P16)
Minehunting involves the detection of enemy mines by very accurate sonar. The mines are then destroyed with an explosive charge. A simplified version of the role this new style vessel will take in today's navy.

The prototypes, currently under construction, are not quite so simple, being mainly of fibreglass with a catamaran hull. Our minehunters will be the first of their type in the world.

Displacement: 170 tonnes approx.
Length (O.A.): 31 metres
Beam (Max): 9 metres
Speed: 10 knots approx.
Complement: 2 Officers,
3 Senior Sailors,
9 Junior Sailors
Total 14.

Built by
Ramsay Fibreglass Australasia
A division of
Carrington Slipways Pty. Ltd
Old Punt Road, Tomago NSW Australia 2322
Telephone (049) 64 8071 Telex AA 28195 Cable Carrsips
For enquiries please contact Ian Smith, Manager, Ramsay Fibreglass Australasia, Laverick Avenue, Tomago NSW 2322

THE BATTLE OF SYDNEY

A WELL PLANNED OPERATION

Plans for attack on shipping in Sydney Harbour were finalised by the Japanese High Command in early April 1942.

The Attack Group, five submarines 1-21, 1-22, 1-24, 1-27 and 1-28, was commanded by Captain Hankyu Sasaki. 1-21, the command submarine, equipped with a reconnaissance aircraft and 1-22, 1-24, 1-27, 1-28 carried midget submarines secured to their decks.

The group sailed from Japan for Truk on 11 May. 1-28 was sighted on the surface by a US submarine on the morning of 17 May and was subsequently hit by two torpedoes and sank with all hands and her midget submarine. The crews of the midget submarines were embarked in 1-22, 1-24 and 1-27 on 28 May and the group sailed for Sydney.

THROUGH THE LOOPS

Captain Sasaki brought the midget carrying submarines 1-22, 1-24 and 1-27 into the launching position seven miles off Sydney Heads at sunset on 31 May. 1-21 approached to within five miles of the harbour entrance. Soon after 1730 the submarines surfaced and the midgets were launched.

Midget 1-27, Lieutenant Chuma, was the first to enter the harbour. It crossed the submarine indicator loop at 2001. Two and a half hours later it was sighted enmeshed in the anti-submarine net by a watchman. It was reported as a mine and no offensive action was taken.

Lieutenant Chuma struggled desperately to free the midget but at 2235 when the patrol boat LOLITA closed to investigate he fired the demolition charges and Midget 1-27 sank to the harbour bed.

Midget 1-24, Sub-Lieutenant Ban, crossed the submarine indicator loop at 2148. Ban succeeded in passing through the gate of the boom and was sighted close to USS CHICAGO at 2250. The midget submarine was illuminated by searchlights and came under fire from both ships and shore.

It was next sighted off the eastern shore of Garden Island and later in the vicinity of Fort Denison where it was almost run down by the harbour launch NESTOR. Fifteen minutes later the conning tower of Midget 1-24 was sighted by passengers on a ferry between Garden Island and Bradleys Head.

1-400, an 1 class submarine similar to the parent boats used for the attack on Sydney Harbour.

Very few photographs exist depicting EUTTARUL as a commissioned RAN unit. The above view shows her alongside the south-east corner of Garden Island, with two other vessels (including HMAS SAMUEL BENBOW), onboard of the ferry.

TYPE "A" (KO-GATA) - JAPANESE MIDGET SUBMARINE

SUBMARINE DISPLACEMENT: 46 tons (46.74 tonnes)
LENGTH OVERALL: 78.30 (25.9m)
BEAM: 6ft 2in (1.8m)
DRAFT: 6ft 6in (1.9m)
MACHINERY: 600hp Electric Motor
MAX SPEED - SURFACED: 22 KT
- SUBMERGED: 19 KT
RANGE - SURFACED: 80km at 2 knots
- SUBMERGED: 20km at 19 knots
ARMAMENT: 2 x 17.7in (450mm) Torpedo
CREW: 62.
HMAS KUTTABUL SUNK

First Sub-Lieutenant Ban, commander of 1-24's midget which fired the torpedo that sank HMAS KUTTABUL.

At 2230 the midget submarine was fired on by HMAS GEELONG off Bradleys Head. Minutes later two torpedoes were fired at USS CHICAGO. The torpedoes are believed to have passed under the cruiser. One exploded harmlessly on the eastern shore of Garden Island and the other exploded on the harbour bed sinking the accommodation ship HMAS KUTTABUL and damaging the Dutch submarine K9. Twenty-one sailors were killed and ten wounded.

Inside KUTTABUL during recovery operations.

The morning after the torpedo attack. HMAS KUTTABUL lies on the bottom of Sydney Harbour.

Address of next of kin at date of death of member

STOKER II
JOHN SAMUEL ASHBY
LESLIE WILLIAM BLAND
WILLIAM RICHARD BOUNDY
SYDNEY WILLIAM BUTCHER
LESLIE JOSEPH DENNISON
ARTHUR WILLIAM FRANCIS
JACK ALBERT GARDNER
FREDERICK ARTHUR GARDNER
WALTER GEORGE GORDON
LEONARD WALTER HENDRICKSON
KENNETH FRANKS KELLEN
FRANK KIRBY
JACK EDMUND NUNAN
NORMAN LESLIE ROBINSON
ARTHUR JAMES SMITH
DAVID TRIST
R aymond Owen Vening
THOMAS JOSEPH WATSON

HMAS KUTTABUL – HONOUR ROLL

July, 1984

THE NAVY

Leut Matuu and PO Tsuzuku of 1-22 both were found dead from gunshot wounds in the head.

Their boat was subsequently salvaged after suffering a depth charge attack in Taylor Bay.

The later movements of Midget 1-24 are not known. The submarine indicator loop recorded a vessel passing out of the harbour at 0018. The remains of this midget submarine have never been recovered and it is believed it sank in deep water off the coast.

Midget 1-22, Lieutenant Matsuo, is believed to have entered the harbour at 2250. Her entry was not recorded by the submarine indicator loop but soon after 2250 HMAS YANDRA sighted a conning tower near the harbour entrance but lost contact. Fifteen minutes later YANDRA sighted Midget 1-22 again in the vicinity of Hornby Light and dropped six depth charges.

Lieutenant Matsuo appears to have lain quiet on the harbour bed for some hours after this attack. At 0000 the midget was again sighted by USS CHICAGO as she was leaving harbour.

The harbour defence craft were alerted and at 0000 HMAS GOONAMARRE made a contact in Taylor Bay. The patrol boats YARRA, BAY MIST and STEADY HOUR attacked the contact with depth charges. The wreck of Midget 1-22 was found by divers later that day.

Both Midgets 1-22 and 1-27 were recovered. A post mortem examination revealed that Lieutenant Matsuo and Petty Officer Tsuzuku had committed suicide. The four Japanese sailors were given full military funeral. Their ashes were later returned to Japan.
We contribute much more to Maritime Defence than appears on the surface.

Plessey is a major force in submarine combat system electronics—our products involve new technologies developed primarily by Plessey Marine Research in the UK.

Plessey Marine is the major sonar supplier to the British Navy and supplies sonar systems worldwide. And in Australia Plessey has always been a highly comprehensive and innovative supplier of defence technology. By combining both resources we offer Australia systems and support of up-to-the-minute sophistication.

We're able to do this because Plessey has the most advanced defence electronics facilities in Australia—backed by strong project management teams and a commitment to quality. We offer Australia's maritime and other defence forces a depth of technological expertise (and immediacy of local back-up and service) that no one in this country can match. Call us and we'll prove it.

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Telephone (062) 82 2900 Telex: 62165
A bugler stands to attention after sounding the 'Last Post' while a naval guard of honour fires three volleys at the funeral of the KUTTABUL sailors.

Rebuilding of a composite submarine from the bow section of 1-22 and stern of 1-27. This combination hull is now on display at the Australian War Memorial, Canberra. The conning tower of 1-22 is mounted at Garden Island.

In the log of HMS SIRIUS, under the date of 11 February, 1788, is the following entry:

'Sent an Officer and party of men to the Garden Island to clear it for a garden for the Ship's Company'.

Thus the naming and first occupation of Garden Island was accomplished sixteen days after the first landing in Sydney Cove.

Garden Island continued its role as a Ship's garden until about 1810. Thereafter and until 1870, it was mostly used as a pleasure resort for picnics and the like.

In 1858 the New South Wales Government suggested that Garden Island might be given over for the use of the Navy as a Naval Base. In 1858 the Admiralty approved of an outlay of £200 to £300 to render the Island available for the repair of HM Ships. The facilities on the Island were built up slowly at minimum expense and for the most part they were unsatisfactory.

Development of the Island continued in a go-stop manner over the next 50 years. In the 1880s work was started on the levelling of the Southern hill, and between 1885-1896, most of the buildings now classified by the National Trust were erected.

On 10 July, 1911 the title 'Royal Australian Navy' was granted by King George V to the Naval Forces of the Commonwealth of Australia. On 1 July, 1913 all naval establishments on the Australian Station were handed over by the Admiralty to the Royal Australian Navy.

These facilities included Garden Island and the buildings that had been erected by the Government of New South Wales in the years before Federation.

Litigation followed when in 1923 the Government of New South Wales claimed the Island as its property! After seven years, the High Court and the Privy Council both held that the claim of New South Wales was valid.

In the meantime the naval installations on the Island had been largely extended. Soon after the outbreak of World War II in 1939, the Australian Commonwealth Government resumed the Island under wartime powers, and in 1945 purchased it for £63,000.
Captain Cook Graving Dock

British naval policy in the Pacific relied on a main fleet based on Singapore.

This fleet was intended to protect sea communications in Southern and Eastern Asia and in the South West Pacific, including Australia. The growing naval strength and expansionist policy of Japan led to a request by the Admiralty in 1938, that a graving dock be built at Sydney capable of accommodating the largest capital ships of the Royal Navy. The Australian Government agreed to pay the expense of constructing the dock to Admiralty specifications and plans. The site at Garden Island was recommended in January 1940 and construction of the dock began in July that year as a matter of wartime emergency. The work proceeded in shifts ‘round-the-clock’, employing an average between 2500 and 4000 workers.

The principal feature of the plan was the reclamation of 33 acres of the sea bed between Potts Point and the southern shore of Garden Island to include the basin in which the graving dock would be constructed. With this also went the levelling of the Southern end of the Island and excavations of the cliff at Potts Point to allow the building of an access road past the Woolloomooloo wharves.

After the coffer-dam of rock filling was built, the basin was pumped dry and the immense task of lining the walls and bed of the dock with concrete, and installing caissons and machinery was begun.

The dock was ready for use in March 1945 and from then until the end of the war was used for docking and servicing ships of the British Pacific Fleet and ships of the Royal Australian Navy.

Woolloomooloo Bay

During the first five years of settlement in Sydney, the deep, narrow and landlocked recess that is nowadays known as Woolloomooloo Bay was known to the pioneers as the Garden Cove. That name came from a rural garden on the Island at the mouth of the Cove. Sydney Cove, Farm Cove and Garden Cove were the first three anchorages of ships in Port Jackson. On their shores the first permanent settlement of white men in Australia took shape.

Under stage 1 of the Garden Island modernisation project, the face of Woolloomooloo is being transformed again. The Woolloomooloo sheds have been demolished and Cowper Wharf Roadway has been realigned. A multi-storey car park capable of accommodating 1500 vehicles is being built against the cliff.

Between 1945 and 1977 only three substantial buildings were constructed on the Island.

By the mid-1970s it was apparent that the old and overcrowded facilities were inadequate to support the Fleet and consequently a modernisation plan was developed. It is anticipated that it will take 20 years to implement the plan at a cost of $190m in 1979 prices. It will be necessary to undertake the work in stages to avoid disrupting the operation of the Dockyard.

MODERNISATION
AWA communication systems: designed, produced and supported in Australia by Australians.

At AWA, we integrate our own equipment with items chosen from other local and overseas suppliers to produce cost-effective, operationally efficient systems that meet specific requirements. Quality control, reliability engineering, configuration control, project management, documentation and field service are all part of AWA's locally-based operation.

AWA's defence and communications capability is a good example. It includes locally-manufactured communications equipment for FDM, digital, telemetry and satellite applications, as well as VDU's, remote control, data interface and test instruments. These use state-of-the-art techniques and devices manufactured here, such as optical fibres and microelectronics.

What's more, AWA extends its support into the future with engineers and software people who can react to changing needs and provide enhanced capability, quickly.

Owned by Australians, AWA has served in Australia's defence for over half a century. We are proud to continue to do so.

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Telephone (02) 887 7111. Telex AA20623.

EARLY DEPOT SHIPS

On 1 January, 1909, the survey ship HMS PENGUIN was paid-off and attached to Garden Island as a Depot Ship. From this time the Royal Navy Garden Island Establishment became known as PENGUIN.

On 1 July, 1931, on transfer of the Sydney Naval Establishments to the Naval Board of the Commonwealth of Australia, PENGUIN was purchased by the RAN and the Establishment commissioned as HMAS PENGUIN.

HMAS PENGUIN paid-off for disposal on 1 January, 1923 and her place was taken by the light cruiser ENCOUNTER, which was commissioned as HMAS PENGUIN on the same day. ENCOUNTER had previously commissioned on 10 September, 1920 and had been in reserve since that date.

In 1929 ENCOUNTER was scrapped and on the 16 August, 1929, the Depot and Repair Ship PLATYPUS commissioned as HMAS PENGUIN.

On 26 February, 1941 PLATYPUS commissioned for sea-going war service and her place as a Depot Ship was taken by KUTTABUL, which commissioned as a tender to HMAS PENGUIN that same day.

KUTTABUL was requisitioned by the RAN on 7 November, 1940, from Sydney Ferries Ltd. to provide spare and overflow accommodation for ships in refit at Garden Island. The staff of PENGUIN moved into the newly erected Hydrographical building on Garden Island.

The ship HMAS PENGUIN as PLATYPUS, commissioned as such in August, 1929.

HMAS PENGUIN (II) was the former Challenger class cruiser HMAS ENCOUNTER.

On the 1 June, 1942, a torpedo fired by a Japanese midget submarine, at the heavy cruiser USS CHICAGO, passed under KUTTABUL's thin hull and exploding against the sea wall, caved in her bottom where she sank in shallow water. KUTTABUL sustained 29 casualties of which 21 were fatal.

On 1 January, 1943, Garden Island commissioned as HMAS KUTTABUL, perpetuating the name of the ferry. The name PENGUIN passed to the Balmoral Naval Depot on the same day.

Compensation subsequently paid to Sydney Ferries Ltd. at the end of the war for the loss of the KUTTABUL was 17,500 pounds.
LOCALITY:
POTTS POINT

The Aboriginal name for Potts Point was CARRAGLEN, however Governor Phillip in his survey of 1792 named it Point Campbell. In 1822 the land was granted to the Judge Advocate John Wyde who later sold off approximately six and a half acres to Mr. J. H. Potts. Neither of these gentlemen ever built properties on the Point, nevertheless their names have been perpetuated in Wyde Street, Potts Point. Where HMAS KUTTABUL is now located. The actual site on Potts Point on which HMAS KUTTABUL now stands was previously occupied by three properties called ‘Moncur Lodge’ (later ‘St Mungo’), ‘Cono’ and ‘Clarens’, which were all built between 1840 and 1845. The most historically important of these buildings was ‘Clarens’.

CLARENS

‘Clarens’, named after the town on Lake Geneva in Switzerland, was built in 1845 and purchased by Martin Place in Sydney is named after him. Martin spent considerable funds embellishing his Potts Point home. Acting as his own architect and superintendent, he converted the gardens of ‘Clarens’ to resemble the private garden of an Archon of Ancient Greece. This wide stairway of golden Pyrmont freestone, ornamented with beautifully sculptured Grecian urns and palisades, led from the summit, terrace by terrace down to a private jetty. At the top of the stairway, commanding a view across the harbour to the Heads, was another masterpiece in freestone, a summer house paved with intricate design of polished marble. On the middle terrace, high above the water, was the glory of the garden - a replica in freestone of the Choragic Monument of Lysicrates. This monument now resides on the Botanic Gardens, Sydney.

‘Clarens’ had a very early association with Garden Island and the Navy. Commodore of visiting Squadrons had a standing invitation to come across from Garden Island to ‘Clarens’. Naval Commanders-in-Chief Australasian Station, Commodore James Erskine RN (1882-1884) and Rear Admiral Sir George Tryon, RN (1884-1886) were regular visitors to ‘Clarens’.

‘Clarens’ was demolished in 1966 in the wake of the construction of the Barracks. Although today to the significant resident are sections of the garden walls and the gazebo.

MONCUR LODGE and COMO were demolished by developers about 1939. A street was formed and named Collins Avenue and the two estates subdivided into nine allotments which were sold but never built on.

CLARENS, later named WILGA, was again divided into two flats and called WILGA and STRATHISLA. From about 1936, CLARENS became the private hospital CHARLEMONT. The Department of the Interior acquired CHARLEMONT and most of the other properties on the eastern side of Wyde Street around 1941. CHARLEMONT was occupied by WRANS who operated the Sydney Communication Centre, which was also situated on the site during the latter part of World War II.

After the war it became sailors’ accommodation for personnel employed at Naval Headquarters, Garden Island Dockyard, Ships in Reserve, Gunnery Instructional Centre and Sydney Shore Patrol. It was nicknamed CHARLIE’S.

The present Barracks was commenced in February 1964. CHARLEMONT was gradually dwarfed by the new building and finally succumbed to the demolisher’s hammer when KUTTABUL was completed. The ground floor of the Administration block stands on the site of Collins Avenue and the North-South Wing cuts through the front of the old house.

THE BADGE

Each commissioned ship establishment and Fleet Air Arm Squadron is eligible to wear a badge.

The ship’s Names, Badges and Honour’s Committee considers applications from any Naval organisation for the allocation of a badge, which if considered suitable, will be recommended to the Chief of Naval Staff for approval.

The history of the HMAS KUTTABUL badge design, blazon and motto is described below.

HISTORY

When the Naval Board, in 1945, requested all ships and establishment to provide details of any badges worn, the Commanding Officer of HMAS KUTTABUL replied forwarding a black and white sketch of a badge which he proposed should be adopted for his command. The design showed the head and shoulders of an aboriginal warrior carrying a spear - an almost identical scene to that shown in the badge of HMAS WARRAMUNGA. In the background there were two ships: one a modern warship, the other a sailing vessel. The Commanding Officer advised that the design had been selected because ‘kuttabul’ was an aboriginal word. He did not suggest a motto.

No action was taken regarding the proposal, and 10 years passed before the second attempt to obtain a badge for the Establishment.

On October 3, 1961, the Commanding Officer submitted a rough sketch for a proposed badge. This design was based on the obsolete Sydney Ferries Ltd House Flag, as worn by the former Sydney ferry KUTTABUL. A St Andrew’s Cross on a blue background with the letters S and F in the horizontal segments. In this instance the letters S and F had been deleted and at the intersection of the cross, a gold laurel wreath - to commemorate the personnel lost in the sinking of the ferry KUTTABUL. The suggested motto was “AT HAND - READY” from the Latin - “Ad Manum”. This motto was considered appropriate in that it was considered that HMAS KUTTABUL was at hand to look after OC&E’s new FNSC HQ.

The proposed design was considered to lack balance, so a second design was suggested replacing the laurel wreath with a Waratah flower, this being the floral emblem of New South Wales. After modification to delete the stem and leaves (so leaving only the ‘head’ of the flower) the design was approved, but with the motto I SHALL MAINTAIN. This motto, however, had already been allocated to HMAS LEEUWIN, so was changed to WISDOM AND FIDELITY.
DESTROYER! GERMAN DESTROYERS IN WORLD WAR II by M.J. Whitley Published by ARMS & ARMOUR PRESS of London.

Available in Australia from Thomas C. Lethbit Pty Ltd of 6-12 Tattersalls Lane, Melbourne, Victoria.

Reviewed by VIC JEFFERY

Although they were the most active German surface warships during World War Two, very little has been published on the wartime activities of the German destroyer.

Heavily armed and fast, destroyers laid minefields in British and Polish waters along with the Baltic. They supported in invasions of Denmark and Norway, operated with such well-known capital ships such as the battle-cruisers SCHARNHORST and GNEISSE, fought against Russian convoys in the icy Arctic waters and clashed with British destroyers in the English Channel, North Sea and the Bay of Biscay.

Among the most famous of their wartime successes was the torpedoing of the 13,000 ton British cruiser HMS EDINBURGH in 1942, whilst it was fitted with Russian gold and a double success when five torpedo boats clashed with a British forces comprising a cruiser and six destroyers off the French coast. In the ensuing action the cruiser, HMS CHARYBDIS and the destroyer HMS LIMBOURNE were torpedoed and sunk.

The first two parts of this fascinating book, Design & Construction and Operations cover 250 chapters covering topics such as North Sea Offensive, Channel, The Freetling North, Arctic Adventure and Norwegian Swarming.

Part One's four chapters cover war-built destroyers, torpedo boats and armament and consists of 24 individual entries covering all aspects of pre-war destroyers, Heavier, larger and more expensive vessels.

Included in the Part Two section of this book are 10 chapters packed with 69 individual incidents and action accounts bearing titles such as - A Rogue torpedo, Tuckery action, Caught in the crossfire, Search for a convoy and Point blank range.

Part Three covers seven appendices covering various topics on destroyers and torpedo boat destroyers; Construction and career summaries of destroyers and torpedo boat destroyers, offering extensive detailed notes on various ships construction details, Commanding Officers, career summaries and eventual fates, and even three pages of mine-laying successes in 1939-40.

Consisting of 310 pages and including 42 black and white photographs, 14 maps and 15 line drawings, "Destroyer!" draws heavily on previously unpublished official reports and also documents covering the design and construction of the warships themselves. Carefully and thoroughly researched, this book is priced at $39.95.

"DESTROYER! GERMAN DESTROYERS IN WORLD WAR II" by M.J. Whitley.

THOROUGHLY RECOMMENDED.

"CONWAY'S ALL THE WORLD'S FIGHTING SHIPS 1947-1982"

"PART II: THE WARSAW Pact AND NON-ALIGNED NATIONS"

Published by:

MARITIME PRESS

Reviewed by: SHTANDART

It is extremely difficult to make any adverse criticism about this book. It is unique in many aspects, and the least of them being the fact that, unlike the vast majority of compilations of this type, the often convoluted political history of each of the 125 sections covered here are discussed in some detail prior to the actual listing of vessels.

For those who have never had access to the post-war editions of "Janes Fighting Ships", this book will more than adequately fill a heartfelt need. For all its dimensional immensity, this very comprehensive volume includes the very smallest ocean-going armed vessels as well as the obvious major units of the most obscure naval systems like Krihtas, formerly the British Gilbert Islands, and the mythical Swiss Navy, whose armed maritime activity precedes the fifteenth century.

The development of the post-war Yugoslav Navy is particularly fascinating, especially when one reads of the awesome and seriously-considered naval aspirations which were felt to be achievable by the People's Assembly, Prvomajski as early as December, 1946. These included plans for four cruisers and 20 destroyers, together with lesser craft.

Warsaw Pact navies are dealt with as a separate group and, not surprisingly, the Soviet Union receives a great deal of attention; this effort being extended to full discussions covering weapons and sensors for all purposes, including mines, fire control radars and a brief history of radar systems in Soviet Naval service.

Recent additions such as the KIROV class battlecruiser, TYPHON/SIERRA class SSBNs and UDALOY class large destroyers are discussed in full and, at the very end of the book, Argentine battle casualties from the Falklands/Malvinas War and museum ships extant in the various navies receive adequate coverage.

For all its historical content, this is a thoroughly up-to-date, high-quality book of a kind one expects from this reputable publishing house. Photographic and general illustrative content is nothing short of excellent in all respects. Even though it is the second part of an existing work, it is complete in itself, even up to the 1983 addenda, and would be a very necessary addition to anyone's naval library. I highly commend this work to the intending purchaser.

"THE GUINNESS BOOK OF SHIPS & SHPPING FACTS AND FEATS" by Tom Hartman.

Published by GUINNESS SUPERLATIVES LIMITED of Middlesex, England. Available in Australia through William Collins of 55 Clarence St., Sydney. Price $28.00

"THE RUSSIAN NAVY" by Richard H. Kinde.

Comment, commentary, and thoroughly researched, this book is priced at $39.95.

THOROUGHLY RECOMMENDED.

"CONSOLIDATING THE MESSAGE" by W. E. Ure and F. E. R. Buxted.

Reviewed by: VIC JEFFERY

This recently published title in the Guinea series is a must for the library of every ship lover.

Divided into six sections - Experiment and Exploration, Warshaws and Warfaret, Trade and Transport, Distress and Disaster, Odd Facts and Appendices, this book is truly a fascinating collection of entries relating to ships, ancient and modern.

Consisting of 264 pages and laid out in an easy to open format, the text is supported by 196 black and white photos and line drawings, 26 colour photographs, two pages of house flags in full colour and nine maps.

This book goes a long way towards answering most of the questions anyone might reasonably ask about ships.

Warships, merchant ships, inventors, shipwrecks, explorers and battles are covered as are the general characteristics of over 150 types of vessels in one of the two appendices.

The other appendix relates to a glossary of nautical terms and acronyms.

Subsections cover areas such as: Hospital Ships; troopships; medals and The Era of the Wooden Warship.

If you are looking for the answers to questions such as: The most famous sea fight in English history. The first man to equip his ships with harpoons. The first ship to be sunk by a submarine and the first ship to have her machinery below the waterline, you will find them in here.

Two famous Royal Australian Navy ships recorded in tragic events in the book are the second HMAS SYDNEY which was lost in action with the German raider KORMORAN off the WA coast in 1941. This is the known occasion on which both hunter and hunted were sunk.

The second RAN ship was the heavy cruiser, HMAS AUSTRALIA which was the first ship to be hit by a Japanese Kamikaze suicide aircraft, this taking place on 17 October, 1944.

Recommended reading and a valuable ready reference for any lover of ships.
Western Australia
— State on the move
by VIC JEFFERY, Navy Public Relations Officer (WA)

Sprawling over an area of more than 2.5 million square kilometres with a landscape ranging from the grandeur of the Kimberleys in the north to the large timber forests of the south, Western Australia is certainly a State on the move.

Described as the “Home of the America’s Cup”, “State of Excitement” and by a new WA Tourism Bureau slogan as “WA – One great day after another” with several climate zones and golden beaches, WA is a year-round holiday destination.

Western Australia’s capital, Perth, is a relaxed yet sophisticated and cosmopolitan city situated on the banks of the Swan River with a population of nearly one million people.

Situated some 50-odd kilometres south of Perth on picturesque Garden Island in Cockburn Sound is Australia’s fastest growing naval base, the fleet support facility HMAS Stirling.

Commissioned on 28 July, 1978, this fledgling naval base has since been visited by more than 100 RAN and Allied warships and submarines and is at present the home for one destroyer escort, one hydrographic survey ship, three patrol boats and two new naval tugs.

The six years since commissioning have also seen the construction on the island of an oil fuel installation, an armaments, weapons and equipment depot and a million dollar re-compression chamber – the first of its type in the Royal Australian Navy.

HMAS Stirling proudly lives up to its motto of “Go Forward”.

The WA media were taken to sea for the day aboard the recently WA home-ported destroyer escort HMAS STUART on 8 March.

Accompanied by the three HMAS Stirling-based patrol boats HMA Ships GERALDTON, ASSAIL, the Reservist manned ADROIT and the Darwin-based GAWLER, the STUART proceeded to an area outside Rottnest where a series of gunnery and simulated anti-submarine exercises were carried out.

One of the highlights of the day was the successful firing of a Seacat anti-aircraft missile by HMAS STUART, the target being a Learjet towed drone.

Some of the action is captured in these photographs taken by Leading Seaman Photographer Steve Given, RAN.
Saturday, 10th March, 1984 saw the 300 tonne medium naval tug TAMMAR launched in the yards of Australian Shipbuilding Industries Pty Ltd at South Coogee in Cockburn Sound, Western Australia. The launching and naming ceremony was carried out by Mrs Judith Orr, wife of Commodore David Orr, Naval Officer Commanding WA Area. The tug, the first naval vessel to be constructed in WA since World War Two, came into service on 15th March, 1984, and operates from HMAS Stirling.

A group of members of the Royal Australian Navy Corvettes association and their wives took the opportunity to inspect the first Fremantle class patrol boat to be based at HMAS Stirling, the recently commissioned HMAS GERALDTON. Including 10 members of the first HMAS GERALDTON's complement, they visited the new GERALDTON on the 6th March, several days before the new arrival commenced her first patrol.

Manned by the Fremantle Port Division of the Naval Reserve, the HMAS Stirling based Attack class patrol boat HMAS ADROIT pounds through a light swell. (Photo - ABPH Steve Green)

A new aluminium workboat, based at HMAS Stirling. (Photo - ABPH Steve Green)

A Seacat anti-aircraft missile is fired from the destroyer escort HMAS STUART during the exercise. The missile was fired at a target drone towed by a commercial Learjet aircraft. (Photo - ABPH Steve Green)

The Darwin-based Fremantle class patrol boat HMAS GAWLER made its first visit to HMAS Stirling in Western Australia on 2nd March, 1984. GAWLER is seen here entering the waters of HMAS Stirling. (Photo - ABPH Steve Green)

The Fremantle class patrol boat HMAS GERALDTON arrived at the HMAS Stirling fleet support facility in Western Australia on 17th February, 1984. (Photo - ABPH Eric Peverall)

Seen working in Careening Bay, the site of the fleet support facility HMAS Stirling on 11 April, 1984, is the largest tug in the RAN, the 300 tonne TAMMAR. This medium tug has the distinction of being the first naval vessel to be constructed in Western Australia since World War Two. (Photo - ABPH Eric Peverall)
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**NAVAL ROUNDCUP** — Compiled by "GAYUNDAH"

**HMAS TOBRUK DELIVERS VINTAGE TANK**
The Royal Australian Navy’s heavy landing ship HMAS TOBRUK returned from her New Zealand deployment on Monday, April 2. TOBRUK unloaded a cargo of Army war transport craft including two 68 tonne landing craft (LCM 8s) and up to six LARCs (amphibious vehicles).

However the highlight of the morning was the transfer from TOBRUK through her stern ramp to a waiting LCM 8 of an historic M-41 Walker Bulldog tank destined for the Armoured Corp Museum at Puckapunyal. The tank was formerly operated by the New Zealand Army until replaced by the Scorpion.

**HMAS SYDNEY JOINS THE FLEET**
The Royal Australian Navy’s latest guided missile frigate HMAS SYDNEY made a triumphant entry through Sydney Heads at 8.10 am on Tuesday, 27th March.

Sydney is the first ship in the RAN to be equipped with the formidable close range Phalanx anti-missile weapon system capable of firing 3000 rounds of tungsten-tipped bullets per minute from a six barrel 20mm gun.

She is also armed with a Mk 13 guided missile launcher for Harpoon anti-surface missiles and Standard anti-aircraft missiles.

Sydney carries a 76mm Mk 75 gun and two triple Mk 32 anti-submarine
warfare torpedo tubes. The vessel has a sophisticated array of sensors and computerized warfare systems. It is powered by two General Electric LM 250 gas turbines driving one controllable pitch propeller to give speed of more than 28 knots. Sydney displaces 3000 tons and is equipped to carry two helicopters.

Sydney's Lord Mayor Alderman Sutherland and the Fleet Commander Rear Admiral Geoffrey Woychook joined Sydney by helicopter out at sea for her progress to Circular Quay.

INDONESIAN FISHING BOAT APPREHENDED BY NAVY

The Fremantle Class patrol boat HMAS IPSWICH apprehended an Indonesian fishing boat off the north-west coast on 21 March and escorted it to Koolan Island, north of Derby, for investigation by the West Australian fisheries officials.

The fishing boat was first sighted at 3.30 pm the previous day by a coastal surveillance patrol aircraft. At the time it was hidden in mangroves at the entrance to King Sound. The Australian Fisheries Surveillance Centre in Canberra requested Navy assistance, and IPSWICH which was on patrol duties in the vicinity of Ashmore Reef, was ordered to carry out a search. The patrol boat intercepted the Indonesian fishing boat at 9.45 am, and handed it over to the West Australian officials at Koolan Island.

VISITS BY ALLIED AND FRIENDLY NAVAL SHIPS

At the conclusion of consultations between the United States, the United Kingdom and Australia, the Minister for Defence, Mr Scholes has announced that:

- As a result of the visit of HMAS INVINCIBLE to Sydney last December, the United States Government will review the arrangements for visits by allied and friendly naval ships to Australian ports and in particular the question of possible access to Australian dry dock facilities.
- The Australian Labor Party and this Government have gone on record as supporting the visits of naval ships of our ANZUS allies. This policy applies equally to our other friends and allies, particularly the United States.
- Visits by allied warships are fully consistent with our responsibilities as a sovereign nation which must protect its fundamental security interests, as is the provision of necessary repair facilities.
- As a matter of record, we wish to state that this Government does not endanger the safety of any allied or friendly ship or crew in need of assistance, and IPSWICH which was on patrol duties in the vicinity of Ashmore Reef, was ordered to carry out a search. The patrol boat intercepted the Indonesian fishing boat at 9.45 am, and handed it over to the West Australian officials at Koolan Island.

RAAF FLYING IN SUPPORT OF THE FLEET

The Department of Defence and the Defence Force have an acknowledged right to have access to Australian facilities; and

- Endanger the safety of any allied or friendly ship or crew in need of assistance; and
- The former Daring class destroyer HMAS VENDETTA is towed across Sydney Harbour on Friday, 25th May to be stripped of any valuable items still aboard and which can be used by her owner HMAS VAMPIRE. Later in the month the ship was placed in the Captain Cook Dry Dock and made seaworthy for her last voyage. (Photo: ABPH Kath Caw, RAMC)

The Minister for Marine, Mr Gordon Scholes, recently announced the appointment of Commodore Peter R. Sinclair, RAN, as the first Commandant of the Australian Defence Force Academy.

He was commenting on media reports that the RAAF's assumption of responsibility for the Fleet Air Arm was occurring more than the support formerly given by the Fleet Air Arm.

Mr Scholes said that while all flying support tasks were transferred to the Fleet Air Force from the Fleet Air Arm, a process expected to be completed by July 1984, the additional cost for the flying hours for items such as fuel, spares and contractor servicing, would be about $5 million. This would be more than offset by net savings of about $10 million a year as a result of reductions in other Navy costs flowing from the transfer of the air support tasks to the RAAF. This will give a net annual saving of about $5 million a year without taking into account the very substantial capital investment required to sustain the Fleet Air Arm.

The Minister said that the Fleet Air Arm fixed wing aircraft flew a total of just under 4000 hours in 1982-83 on Fleet support tasks and training. In 1983-84 Fleet support tasks are being carried out by both Fleet Air Arm and RAAF aircraft, with the Air Force providing some 1500 hours and the RAN some 1700 hours.

"The RAAF is broadly meeting the Naval requirements now," the Minister said, "but by the end of the financial year on June 30 it will fly 80 per cent of the hours on Fleet support tasks agreed by both services.

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Page Fifty-Four

THE NAVY

July, 1984

Page Fifty-Five

THE NAVY
For years, the shallow waters of the Australian coastline have made detecting hostile submarines virtually impossible.

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HMAS TOBRUK

New Zealand Deployment

HMAS TOBRUK, the RAN's Amphibious Heavy Landing Ship has returned to Australia after participating in multi-national exercises off the New Zealand Coast.

TOBRUK sailed from Sydney on 21 February with elements of the 1st Field Squadron Royal Australian Engineers embarked. The first port of call was Great Barrier Island, off Auckland, where the army contingent was landed to take part in exercises Exercise Taurus Exchange.

Auckland was the next stopping point and during the ships ten days alongside HMNZS Philomel, final preparations were completed for the major exercise of the deployment. This exercise was captioned Northern Safari.

The aim of the exercise was to mobilise the New Zealand Army's Ready Reaction Force and to familiarise selected elements of this force in air/sea deployment to an area lacking in developed port and off loading facilities.

TOBRUK's role in the exercise was to ferry the estimated 700 soldiers, 50 vehicles and associated stores to Great Barrier Island, the venue chosen for the exercise. Included amongst the soldiers transported to the island were 136 Gurkhas, normally based in Hong Kong, who were to act as the enemy force.

On completion of the first major discharge...

LARC V embarks aviation fuel from HMAS TOBRUK.

THE NAVY

July, 1984

Page Fifty-Nine
of cargo, the ship sailed from Lyttelton, near Christchurch, to embark further elements of the Ready Reaction Force. During the four days alongside the crew experienced the warm hospitality which is an integral part of any New Zealand visit. But social success was not the only highlight of the visit. The ship’s Australian Rules football team proved themselves a formidable force by defeating a team of local stars by eighty-five points. This feat was repeated again in Auckland later in the deployment but not however, by such a rude margin.

With yet another “green horse” embarked the ship returned to Great Barrier Island and once again successfully lodged her cargo on the island’s rugged shores. Having completed the lodgement, TOBRUK sailed to join Exercise AUCKEX, an ASW exercise in which units from the RAN, RNZN, USN and RNZAF participated. During the exercise the ship was involved in the salvage of a stricken fishing trawler off Great Barrier Island and detached from the exercise early to tow the stricken trawler to Auckland.

The task of extracting the New Zealand Forces from Great Barrier Island was conducted during the period 26–27 March and the exercise, from TOBRUK’s point of view concluded in Auckland with the final discharge of stores and personnel.

The ship sailed for Sydney on 29 March with the army participants of Tasman Exchange embarked. Throughout the voyage both sailors and soldiers alike worked feverishly to prepare the ship for her annual inspection which was scheduled for Thursday, 12 April.

The crew’s efforts culminated with a successful inspection report from the Fleet Commander and the ship sailed the following morning to anchor off Grotto Point, Sydney, an anchorage not recommended for those contemplating relaxation.

During the four days the ship was at anchor, the Maritime Wing of the Army School of Transport carried out freight handling exercises using LARC V amphibious vehicles in preparation for deployment with the Australian National Antarctic Research Expedition.

TOBRUK departed Sydney on Monday, 17 April and headed north to her Brisbane base and a well deserved rest over the Easter holidays. (All photos - courtesy HMAS TOBRUK.)

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PART II contains the navies of the Warsaw Pact, non-aligned countries and minor navies. $79.95 each volume.

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QUBEONSLAND

Recently the RAN played an important role in the practical development of a group of Naval Reserve Cadets from Queensland who hosted a team of them together with their Commanding Officer and two PO instructors on the flagship HMAS STALWART for a voyage from Sydney to Brisbane. In doing so, the RAN staff of STALWART earned the gratitude of those involved and indeed of the NRC movement generally for their co-operation and understanding.

The Cadets experience took place during STALWART's lineback in early May. Seal’n'Peel protects surfaces against scratching, heat, corrosion, water, wind, and other abrasive elements. Envelon's flexible vinyl membrane can be easily sprayed on most surfaces.

The Cadets where possible fitted in with the routine running of the ship but also witnessed or took part in, shipboard activities such as firefighting exercises, engineering watches, refuelling at sea, anchoring in harbour, a church service at sea, jackstay transfers and helicopter operation from the flight deck. Practical instruction the lads received included steering experience on the bridge (all achieved at least 10 hours watchkeeping on the wheel and the maintenance and firing of various firearms. The Commanding Officer of the cadet group, Lt J. A. Tranter (CO, TS TIRagoon) reported however that it was not only the cadets who obtained benefits from the voyage. "PO Beaton and PO Dickson and myself," he said, "primarily acted as observers but within a couple of days were taking a very active role on board because of the total acceptance by the STALWART crew. We managed to glean much useful information and of course obtain first hand experience of today's Navy."

The experience was then, of benefit to all who took part. It was however aimed primarily at developing the awareness of the cadets to sea-going duties and there are ten cadets from T'S TIRagoon, Rockcliffe, Palma, Magnus and Norfolk who will never forget those nine days in March.

In fact as Lt J. Tranter recalled, it was "in summary a very worthwhile experience for all the NRC contingent and one which, we hope, can be repeated in the future!"

TWO WESTERN AUSTRALIA
TS VANCOUVER

Sailing regatta held in Albany on the Princess Royal Harbour on March 3rd, 4th and 5th. Units from Perth and Bunbury joined Albany Naval Reserve cadets in a sailing regatta at the Princess Royal Sailing Club on the weekend.

Abroad HMAS STALWART: March 1984.
The most consistent trophy was awarded to Leading Seaman P. Hinge, Seaman Coutts and Seaman Longbone of the TS Vancouver at Albany.

Other cadets of the TS Vancouver who participated in the regatta were Petty Officer S. Prior, Seaman Madden, Able Seaman T. Shirley, Leading Seaman Hearney, Able Seaman Woolley, Recruit Cufley. Rescue crew: Seaman Hinge, Recruit Coutts, Recruit Milne and Galley staff Seaman M. James.

Commanding Officer (G. Curran) SO NAVAL RESERVE CADETS WA was also in attendance at the regatta.

The regatta was hailed as an outstanding success by all officers and cadets and they expressed their thanks to the Princess Royal Sailing Club for the use of the club’s facilities.

It is hoped that Albany will be able to make the regatta an annual event.

VISIT TO HMAS STUART BY NAVAL RESERVE CADETS

At 0800 on Friday, 30 March, ten naval reserve cadets from the Training Ship Vancouver embarked on HMAS STUART for a trip to Esperance a port 500 kilometres east of Albany.

Those cadets to embark on the Stuart were: Lsnm Paul Hinge, Lsnm John Waghorn, Lsnm Paul Heaney, PO Scott Prior, Snn Dallas Boston, Snn Devon Barto, Snn Martin Coutts, Recruit Andrew Hinge, Recruit Kevin Heaney, Recruit Kenworthy.

For many of the cadets involved it was the realisation of a lifetime dream to go to sea with the Navy.

Following is an account of their voyage as written by Lsnm Paul Hinge and Lsnm John Waghorn.

0800 the cadets mustered on the Albany wharf alongside HMAS STUART, from there we marched up on the ship, saluted the colours and the officer of the day, from there we were assigned to our sleeping quarters. After settling in we were paraded to the fo’c’sle and fell in forward of the gun. We remained there until the ship had cleared the harbour and was well coming to terms with the ships movement. This time due to the lack of sleep we were more prone to retching and each cadet needed to retire due to a lesser ability to withhold our SCRAM. After SCRAM we were called to One deck aft, where we were taught pistol and sub-machine gun drill. Two cadets from the same family had to retire due to a lesser ability to withhold their SCRAM. From here we moved to the starboard bridge wing to try our skills at using a .40 calibre machine gun. Some seagulls had near misses. From here a sinking drill was performed, where all cadets moved to their life boat area for roll call. After this, all cadets moved to the quarterdeck to try out their skills with pistols and sub-machine guns. The two cadets who retired earlier rejoined us, while Lsnm Waghorn left the group and went with an ETS sailor to gain some experience on what this field entails. Once again it was time for SCRAM after which we watched a video and some lucky cadets headed for bed. Other cadets mustered for night duty. On duty we spent an hour on the quarter deck as life boat sentry.

The next hour on the helm, the third hour on the starboard bridge wing and the final hour on the port bridge wing. By early morning on Saturday, 31st March, we were in sight of Esperance. We had SCRAM and cleaned up into 10s for berthing. The next hour on the helm, the third hour on the starboard bridge wing and the final hour on the port bridge wing. By early morning on Saturday, 31st March, we were in sight of Esperance. We had SCRAM and cleaned up into 10s for berthing. During the berthing an Officer played the bagpipes. We then collected our belongings and moved into hired cars for the return trip to Albany. And so ended 24 of the best hours we have spent.

TS VANCOUVER was well represented at this year’s ANZAC day service that commenced at 10.45 am, Wednesday, 25th April. Close to a full complement of Naval reserve cadets ably led by Sub-Lt Peter Hare (NRC), took part in the parade that commenced in Lockyer Avenue and proceeded along York Street to finish in Stirling Terrace.

Albany turned on a wonderful day of sunshine with the bugler high on the parapet of Saint John’s Anglican Church making a splendid sight as he played the Last Post.

The day was slightly marred due to several cadets fainting.

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