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THE NAVY

Page One
Editor's Comments

This issue of "The Navy" is the largest for many years. Subjects covered range from the recently commissioned HMAS TOBRUK to Colonial Torpedo Boats of the 19th Century.

September, 1981, also marks the 40th anniversary of the establishment of the RNZN. The event has not been overlooked and a complete step-by-step pictorial resume of the navy's development is featured. This issue also contains the latest news from Britain and The Continent by well-known naval writer Anton Preston. The recent Royal Navy defence cuts are fully described.

A new series entitled "One of a Kind", begins in this issue of "The Navy", the first ship described being the minelayer USS TERROR. The RAN workhorses of the amphibious warship force — the LCH — are examined and illustrated.

This issue contains the first historical article by Geoff Miller, accompanied by the author's superb drawing of HMS HOGUE, and a supplement to "K XII the True Story", this time featuring the World War II Dutch submarines of Western Australia, which never returned home.

As usual, many persons and organisations have helped to produce "The Navy". These include, Harry Adlam, The Australian War Memorial, A. D. Baker III, HMAS Cerberus Museum, Laurie Clarke, David Diment, Geoff Evans, Steve Given, Tony Graebrook, John Mackenzie, Geoffrey Miller, John Mortimer, "Navy News", Navy Public Relations (Sydney and Canberra), Anton Preston, the Royal Navy and Royal New Zealand Navy, Joe Strachey, Peter Williams and Ron Wright.

"The Navy" next issue will include a report on the coming defence budget plus articles on the USN "four-stack" destroyers, and the reactivation of the USN's Iowa class battleships. In Warship Pictorial we return to the World War Two era of army water transport squadrons, while "One of a Kind" will feature the most unusual amphibious warfare ship designed and constructed in Australia. A further report from the European scene, plus the regular RNZN article, naval round-up and book reviews will complete the magazine.

Deadline for the next issue will be 9th November, 1981.

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It is now two months since HMAS TOBRUK commissioned into the Royal Australian Navy at an impressive ceremony at Newcastle, NSW. Since then the new Amphibious Heavy Lift Ship has been involved in First of Class Flying Trials for Navy, Army and Air Force helicopters and has undergone the first Assisted Maintenance period at her homeport, Brisbane.

CONSTRUCTION

The contract to build TOBRUK was awarded to Carrington Shipways Pty Ltd in November, 1977. The first steel for the ship was cut on 1 September, 1978, and 13 days later prefabrication of the first sections of the ship began at Carrington's yard on the Hunter river at Tomago. The prefabricated sections were progressively added to the ship after being assembled using the upside-down method. The building site was a specially constructed side-launch building berth from which the ship was spectacularly launched on 1 March, 1980, by Lady Coen, wife of the Governor General. On 16 December, 1980, TOBRUK left the builder's yard under her own power and proceeded down the Hunter River to Newcastle. After successfully completing sea trials and final fitting out the ship was handed over to the RAN on 11 April, 1981.

THE NAVY

September, 1981

HMAS TOBRUK approaches the beach. (Photo — RAN.)

HMAS TOBRUK. June, 1981. (Photo — RAN.)

Helicopter trials in Jervis Bay. (Photo — HMAS TOBRUK.)

A roll-on/roll-off hull with a strengthened deck extending the full length of the ship between the bow and stern ramps enables the carriage of up to 18 Leopard tanks on this one deck. An extending bow ramp is contained behind two horizontally opening bow doors and this ramp can be hydraulically lowered onto a beach or onto a harbour quay. At the stern a dual purpose stern door/ramp is provided to enable ramp to ramp operations with the RAN's LCH and Army LCM 8's as well as more conventional roll-on/roll-off operations.

OPERATIONAL CAPABILITY

The upper deck forward of the bridge is equipped to serve as a helicopter flight deck and is the primary helicopter operating position. Helicopters up to the size of the RAAF Chinook C-47A can be landed and refuelled on this deck. Rotary wing aircraft can also be refuelled from facilities on the after flight deck. This fuelling can take place on deck or whilst suitably equipped helicopters remain in the hover. The largest helicopter that can land on the after deck is the RAN's Sea King. When there is a requirement to carry helicopters, the ship would usually embark a flight of three Wesses 31B helicopters from the Naval Air Station at Nowra, NSW. In these circumstances part of the tank deck would be utilised as a hangar with the aircraft being lowered by derrick down the after hatch.

The upper deck is also designed to serve as a vehicle stowage or landing craft (LCM 8) stowage. Two 8½ tonne cranes are fitted forward and a 70 tonne lift Velle twin derrick aft. This derrick is capable of lifting the 65 tonne LCM 8, two of which can be stowed on cradles immediately forward of the bridge.

Two landing craft vehicle and
personnel (LCVP’s) are carried at davits, one on either side of the superstructure. These 12 metre craft are GRP hulled with water jet propulsion and provide TOBRUK with organic ship to shore movement.

Two pontoons can be carried to help bridge any gap between the ship’s bow ramp and the shore when the ship is being used in the beaching role. These 25 metre pontoons, known as Naval Lighterage Equipment (NLE), are carried on the ship’s side by means of a hinging arrangement just above the waterline. They are raised by using a specially designed rig with the 70 tonne derrick.

These pontoons can also be used as a raft to ferry equipment ashore with each carrying approximately 100 tonnes of cargo.

For joint Navy-Army operations, a joint operations room is used. This has facilities both for an Amphibious Group Commander and for a Landing Force Commander.

A comprehensive array of communications equipment is fitted to support joint operations and the Communications Centre is staffed by both Navy and Army personnel. A Flying Control Centre is situated on the port side below the bridge.

A feature of the ship’s equipment is the use of closed circuit TV. TV monitor coverage is available to the Commander on the bridge and to the Flying Control and Loading Centre and covers the view ahead of the stem, activities at bow and stern ramps as well as flying operations on the after flight deck. In addition the Landing Force Commander can brief his troops by television using the display situated in the Troops Assembly area, which doubles as a cafeteria.

PROPULSION

HMAS TOBRUK is fitted with twin screws driven by two 4,800 shp Marlees Blackstone K Major diesel engines giving a speed in excess of 16 knots. The main machinery and important auxiliaries are controlled from an air-conditioned and sound-proofed control room, the two major machinery spaces being unmanned under normal conditions. To achieve this, a Honeywell surveillance system and Data Logger are installed.

Control of the Main Engines and clutches is by a pneumatic control system exercised from the bridge, or if required, from the Machinery Control Room or local control positions. The bridge also has control of the 400 hp bow thruster fitted to provide improved ship manouevrability in confined waters.

ACCOMMODATION

The LSH has a crew of 130, composed of both Army and Navy Personnel. The Army segment of the ship’s company is made up of personnel from both the Royal Australian Corps of Transport and Royal Australian Signals. The landing force that can be accommodated varies in size depending upon the length of time troops are to be embarked. A total of 340 troops could live on board for lengthy periods at ship’s company standards, or alternatively up to 500 can be embarked for short periods under “overload” conditions.

HISTORICAL BACKGROUND

The name TOBRUK is an apt one for the LSH as it commemorates the close cooperation between the Royal Australian Navy and the Australian Army units that took place at the port of Tobruk during the siege in 1941. This is reflected in the ship’s badge, which depicts a desert fortress (symbolic of Fortress Tobruk) by the sea with the flag of St George flying from the right tower. The cross of St George was shown on the battlements at Tobruk during Operation Crusader, which was an offensive sortie by the garrison to join up with the relief force. A Crusader’s flag was also flown from one of the Tobruk forts and although Operation Crusader did not achieve the relief of Tobruk, the flag was then kept until the fortress was relieved after a 242 day siege. The accompanying motto is “Faithful and Strong”.

The LSH is not the first RAN ship to proudly carry the name TOBRUK. The first was a Battle class destroyer which was built by the Cockatoo Docks and Engineering Company at Cockatoo Island in Sydney. The keel was laid in August, 1946, and the ship commissioned into the RAN in May, 1950. For the first four years of service, HMAS TOBRUK operated in Korean waters as part of the United Nations Naval Forces engaged in the Korean War. Subsequently, HMAS TOBRUK undertook several tours of duty as a unit of the Commonwealth Far East Strategic Reserve Forces. The ship paid off into reserve in the early 1960s and was declared for disposal in February, 1972.
NEW OCEANOGRAPHIC SHIP IN SYDNEY

The Royal Australian Navy's new oceanographic ship, the 2,600 tonne HMAS COOK, arrived in Sydney on 30th June, 1981, for the first time, with new capabilities for oceanographic research.

HMAS COOK, commanded by Captain Ian Pullar, is the first ship in the Australian fleet specifically designed and constructed for oceanographic research duties around the Australian coast. Built and commissioned at Williamstown Naval Dockyard, HMAS COOK carries sophisticated equipment including computers for recording and analysing scientific data, one of the world's first narrow beam echo sounders and facilities for carrying out acoustic and seismic surveys.

COOK will allow Australian oceanographers to survey a much larger area of the oceans around Australia than in the past because of the ship's endurance and her modern equipment. The ship is equipped to make physical oceanographic measurements. Its hydrographic winches allow it to probe water depths up to 5 km to determine temperature, salinity and oxygen.

On board is a marine meteorological laboratory to launch balloons, measure wind speed, solar radiation and evaporation from the ocean. It is also equipped to make measurements of the sea floor — a new capability for any Australian ship. A 13 tonne capacity winch, mounted in the hold, will allow long-cores to be taken from even the deepest ocean basin and at the same time a narrow beam echo sounder, one of the first in the world, will give a more detailed picture of the sea floor than has ever been seen before.

The Royal Australian Navy Research Laboratory has launched an ambitious new programme for COOK that involves
carrying warm water plankton to southern waters. Professor C. M. Philip, said he expected a large increase in marine satellite pictures from Macquarie and Sydney Universities to keep track of these eddies. Scientists will relate their measurements from COOK with aerial photographs of the ocean around the islands. The Agent's hipworth at Cairns. Lieutenant Ian Watts, of Wavell Heights, Brisbane, is in charge of the minehunter. The commanding officer of the new HMAS TOWNSVILLE is Lieutenant Ian Watts, of Wavell Heights, Brisbane.

# Contract Awarded for Supply of Navy Minehunter Equipment

A $12 million fixed price contract has been awarded to the West German firm of the supply of minehunting weapon systems to two prototype minehunter catamarans for the Royal Australian Navy.

In a joint announcement, the Minister for Defence, Mr D. J. Killen, and the Minister for Administrative Services, Mr Kevin Killen, said a contract for three systems was awarded to Krupp-Atlas-Elektronik, of Bremen, in the Federal Republic of Germany.

The Ministers said the selection of the West German firm followed evaluation by the Department of Defence and the Department of Administrative Services after proposals had been sought from Australian and overseas companies. No Australian tenders were received.

Mr Killen said: "The minehunter catamaran is a unique and innovative Australian design. The ships' hulls will be constructed from a sandwich of plastic foam encased in fibreglass. This is the first time a catamaran design has been used for a minehunter. Contracts for the construction of the two prototype ships are planned to be awarded to an Australian shipbuilder later this year."

Mr Killen said that the main elements of the Krupp-Atlas minehunting weapon system were an advanced high definition sonar designed for minehunting, and a tactical data system to integrate all the information necessary for the precise and difficult task of detecting and classifying mines on the seabed.

"Data from the sonar is fed to the tactical data system where the information, together with data from precision navigation equipment, is used to determine the exact geographical location of mines."

The information is presented to the operator on a tactical display, and may also be recorded for future use.

"Once a mine has been located it can be destroyed by an explosive charge laid by a remotely-controlled submersible vehicle."

Mr Killen said that the new minehunting weapon systems would be commissioned for easy handling and maintenance, and to allow rapid replacement or removal from the catamarans so that they could perform alternative roles.

Krupp-Atlas had accepted a contractual obligation to achieve a level of Australian industry participation of more than 34 per cent of the value of the contract.

This would be achieved by Australian participation in various aspects of the manufacture and assembly of the weapon systems, together with an offset programme for the manufacture by Australian companies of Krupp-Atlas electronic equipment for world-wide sale.

The minehunter catamaran had been designed in Australia as a replacement for the RAN's British-built TON Class minehunters.

# New Anglo-Italian Helicopter

The new Anglo-Italian helicopter designed to meet the growing submarine threat, the FH Industries' EH101, has been given the go-ahead by the British and Italian Governments. A contract has been given in EH Industries to start a nine-month project definition phase. EH1 has been formed in company between Westland and Agusta to manage work on the EH101. This company will provide work immediately on a 50-50 basis with Westland and Agusta who have been working together on the project for the last two years. The new helicopter will fulfill civil, military and naval roles and will replace the Royal Navy's Westland Sea King in UK and the Maritime Militare Italiana SHD helicopters in Italy. Preliminary studies by Westland and Agusta indicate that EH101 will be an advanced 3-engined helicopter in the 26000 to 28000 lb class. A comprehensive market survey conducted by the two companies shows the prospective market for the EH101 in various roles to be 750 helicopters.

# Revised Project Cost for Navy's FFGs

Updated project costs for the four guided missile frigates being built in the United States for the Royal Australian Navy were recently announced by the Minister for Defence, Mr D. J. Killen. The Minister said the cost for the four ships at January, 1981, prices is estimated as $1,060m, compared with $1,041m at January, 1980, prices — an increase of $22m. Mr Killen said: "The increase in the project cost is entirely the result of inflation and exchange variations, and represents no increase in real terms."

"The project cost is made up of the sailaway cost and other elements such as depot spares, missiles and ammunition, Australian industry participation, training, fares and allowances for Servicemen and their dependents, maintenance and repair capability, contingency and helicopters."

The project costs for the four ships include the following for each: $255m for construction at the shipyard, $111m for fit-out by the shipyard, $186m for service packs, $73m for initial in-service training, $31m for pilot training, $18m for specialist training, $10m for first year spares, $9m for service trials and support, $8m for project management and support, $6m for initial IT equipment, $5m for training and maintenance support systems, $5m for travel and accommodation for training and support staff, $4m for induction of training and support staff, $4m for first year’s training and support, $3m for additional training and support, $2m for logistic support, $2m for seamen’s facilities, $1m for seaman’s training, and $1m for additional training and support.

In service the Lynx helicopters will operate from the new FI32 frigates, currently under construction. The Lynx primary role is anti-submarine warfare, for which a new lightweight dipping sonar, the Bendix AN/AQS 18, has been developed for the European European anti-submarine warfare, with the Lynx being used in the search and rescue role, and has search and rescue capability.

The Federal German Navy already operates 22 Westland Sea Kings helicopters in the search and rescue role, based at Kiel. The Lynx will be supplied with radar and weapon systems, and will be a significant improvement in this role. The Lynx will be used in the search and rescue role, and has search and rescue capability. The Lynx will also be used in the search and rescue role, and has search and rescue capability.
Dear Sir,

The last edition contained a very interesting article on the new large Soviet cruiser, KIROV, which raises a number of points that are of great interest. It is clear that the KIROV is nuclear powered. This seems unlikely. Close inspection of the excellent MITS photos shows that there has been a very large change from the stern quarter, which suggests that the ship is powered by steam turbines. These turbines appear to be too small for IR diminished gas turbine uptakes and too large for diesel or diesel turbocharger exhausts. It seems unlikely that diesels would be used as the main propulsion system for a ship of the KIROV’s displacement and speed. At least one other published photograph of the KIROV shows a large propelling column where angry readers can vent their feelings and correct what they consider to be misleading statements.

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The Dutchmen Who Stayed

SEVEN Dutch submarines escaped from Java in the Dutch East Indies when it was overrun by the Japanese in March, 1942.

Three K.VIII, K.IX and K.XII escaped to Fremantle and four others — K.XI, K.XIV, K.XV and 0.19 sailed to Colombo in Ceylon. Two of the seven which ended their active days in Fremantle were destined never to leave Western Australian waters. They were the K.VIII and the K.XI.

Of the three which reached Fremantle, K.IX was paid-off for disposal on 25th August, 1942, and was later wrecked at Sugar Loaf Point, after commissioning in the RAN for a brief period. The second, K.XII, after spending most of the war years in WA waters for anti-submarine training by the RAN and the USN paid-off at Sydney on 5th May, 1945, and was scrapped during the 1950s.

The third boat, K.VIII, was a 583-ton coastal submarine which paid-off at Fremantle on 27th August, 1942, as being of no further operation value. She had first commissioned on 15th September, 1922 and sailed for the Netherlands East Indies on 6th September, 1923, in company with K.II, K.VII and the depot ship HNLS Mekaan. She was armed with a 3.5 inch gun and four 17.7 inch torpedo tubes.

Her East Indies service was uneventful apart from a voyage from Tarakan to Manila in the Philippines in March, 1926, in company with the submarines K.II, K.VII and K.XI.

Following the outbreak of war with Japan in December, 1941, the K.VIII was lying in reserve in the Surabaya Naval Dockyard in Java. She was re-commissioned on 6th January, 1942, for coastal defence and asdic training duties. Her crew had transferred from the damaged K.XIII, which had suffered a battery explosion in Singapore and been escorted back to Java for repairs.

K.XIII was scuttled at Surabaya on 2nd March, 1942 to avoid capture by the Japanese. Under the command of Lieut Commander Derksma, K.VIII made several war patrols between Bawean and the north coast of Java. With the Japanese invasion of the Netherlands East Indies, the boat was ordered to proceed to Fremantle on 3rd March, arriving 14 days later.

After inspection by anti-submarine training duties. Her crew had been partially stripped. Her deck gun was donated to the club. Her last Indies service was uneventful apart from a voyage from Tarakan to Manila in the Philippines in March, 1926, in company with K.II, K.VII and the depot ship HNLS Mekaan. She was armed with a 3.5 inch gun and four 17.7 inch torpedo tubes.

After inspection by naval authorities, K.VIII was declared partially stripped. Her deck gun was donated to the club. Her last Indies service was uneventful apart from a voyage from Tarakan to Manila in the Philippines in March, 1926, in company with K.II, K.VII and the depot ship HNLS Mekaan. She was armed with a 3.5 inch gun and four 17.7 inch torpedo tubes. She was then raised and further repairs made.

Colonel Boaz of the Australian Disposal Commission decided to remove the vessel as the Royal Netherlands Navy had no further interest in the old submarine while the Fremantle Harbourmaster wanted the K.XI out of harbour.

K.XI was subsequently purchased by a Mr McManus of New York while stripping continued on the Fremantle slipway. She was subsequently moored alongside another Dutch vessel, but sank on account of a depth gauge being left off the hull. After six weeks a local diver named Ball sealed up all holes and the torpedo tubes. She was then raised and further dismantled at the North Wharf near the old Fremantle railway bridge. Finally, in September, 1946, K.XI was towed out to a position 12 miles past Rottnest Island, known as the "ship's graveyard" and scuttled.

It seemed that neither of these old warhorses was ever destined to suffer an ignominious end in the hands of the shipbreakers.
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One of a Kind

USS TERROR

The 8,640 ton TERROR was the only minelayer built for the purpose by the United States Navy, and as such was the sole vessel suited for mining operations in forward combat conditions during the Second World War.

Authorised in the fiscal year 1938, TERROR was laid down on 3rd September, 1940, launched on 6th June, 1941, and completed by the Philadelphia Navy Yard on 15th July, 1942. For her role, TERROR normally carried over 900 mines, housed in a spacious and fully enclosed mine deck aft. Six mine tracks, holding 648 MkV1 weapons, and an additional 478 on tracks accommodated on the first and second platforms, plus a further 70 mines as cargo on tracks amidships provided TERROR with all the "punch" she required. Mine ports were located at the stern.

For self-defence TERROR mounted four 5 inch, 38 calibre guns in single mounts (A and B: X and Y) and eight 0.5 inch machine guns. The smaller weapons were subsequently replaced by sixteen 40mm guns. Both "B" and "X" 5 inch mounts had open roofs.

Following fitting out and a shakedown cruise, TERROR proceeded to New York on 30th October, 1942, to prepare for her initial large-scale operation. Sailing with Task Group 38.3, the mine-layer left for North Africa on 2nd November and after parting company with the convoy reached Casablanca on 14th November. Here the ship laid a defensive minelayer stretching seven miles, which would protect any allied ships lying in harbour.

Returning to the United States east coast, TERROR began an overhaul and training period. During May, 1943, she received additional anti-aircraft guns, before participating in tactical exercises through the summer. Late in September, she began loading a cargo of mines in preparation for her departure to the Pacific. Sailing via the Panama Canal, TERROR arrived in San Francisco on 19th October.

TERROR's service in the Pacific...
damage had occurred, the kamikaze had cost TERROR 171 casualties. Repairs to the battle damage necessitated TERROR's transit to San Francisco where an overhaul was performed between June and August, 1945. During December, TERROR was replaced as flagship for Minesweepers Pacific Fleet. Except for one cruise to Pearl Harbour in March, 1946, the minelayer remained on the American west coast until January, 1947, when she departed San Francisco to embark the Commander, Minesweepers Pacific Fleet, in late February. Exercises in the Caribbean ensued, followed by sorties along the eastern seaboard of the USA.


USS TERROR — Cruiser Minelayer

Displacement: 5,875 tons standard 8,640 tons full load
Length (oa): 454 feet 10 inches
Beam: 60 feet 2 inches
Draught: 19 feet 7 inches (full load)
Machinery: Two shaft General Electric turbines, four boilers, 11,000 shp.
Oil Fuel: 1,834 tons
Speed: 20.3 knots
Range: 10,000 miles @ 15 knots.

The minelayer at Mare Island. A single 3 inch gun has been added between the mast and the bridge.
Since the early 1970s, the primary amphibious force of the Royal Australian Navy has been vested in the 323-tonne landing craft heavy of which six are currently in commission. Eight LCH's were ordered in 1969 for the Australian Army Water Transport Squadrons, but only the first, BALIKPAPAN, would be army manned.

All eight craft were constructed by Walkers Ltd, Maryborough and commissioned by 1974. In November, BUNA and SALAMALA were transferred to the Papua New Guinea Defence Force. The six LCHs remaining in Australian commission, BA1 IKPAPAN, BI-TANO, BRUNEI, I.ABUAN, IARAKAN and WEWAK, form the First Australian landing Craft Squadron, based at HMAS Moreton on the Brisbane River.

Each LCH is an all welded twin screw vessel, employed to transport cargo and supplies from ships lying offshore to water terminals. As designed each LCH is 44.5 metres in length, with a beam of 10.1 metres. Two General Motors diesels driving twin screws give a top speed of 10 knots. Two 0.5 inch Browning machine guns are carried. The maximum cargo load of the LCH is dependant on the load fuel balance and varies between 140 to 180 tonnes. With a typical load of 175 tonnes the LCH can steam over 1,300 miles, increasing to 2,280 miles when a load of 150 tonnes is carried.

In respect to Army equipment, a typical load would comprise three battle tanks, or 2.1 quarter-tonne trucks, or four LARC Vs or 13 M113 armoured personnel carriers. All cargo is received over the bow ramp which is raised while underway.

Following completion in 1971, BALIKPAPAN undertook a series of trials for the Army. In early 1972, a combined Navy and Army crew manned the vessel. Although the first LCH to complete she was actually the last to commission into naval service.

Extended amphibious sorties by the six LCH's are regularly undertaken. With their large freezer spaces and an evaporator to provide an additional ½ tonnes of water per day, operations around the continent can be achieved. All LCH's are provided with two spare bunks whilst six berth caravans can also be carried.

The design of the landing craft has resulted in a box-like flat keel which, in any moderate seaway, causes the LCH to roll considerably. Despite this drawback, the Squadron has accomplished tasks from the tropic waters of northern Australia to Adelaide and the Great Australian Bight. Other cruises have sent the craft up Papua New Guinea’s Fly River, to Lord Howe Island, Darwin and Indonesia, as well as hydrographic work in the Pacific Ocean.

The versatility of the LCH and their comparative youth should see the majority remain in full commission at least until the late 1980s. Working in conjunction with the large amphibious warfare ship, HMAS TOBRUK, the LCH’s provide the RAN with a significant amphibious capability.
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HMCS NEPEAN, 1905. (Photo - HMAS CERBERUS Museum)

September, 1981

Page Twenty-Five

The Royal Australian Navy is primarily a small ship navy, the only large fighting unit being the flagship HMAS MELBOURNE. Other large units are in commission, but they are auxiliary (or support) ships.

Indeed, the circle seems to have been completed when we consider that in the years before Federation, the States that maintained naval forces kept small ship fleets. The exception was, of course, South Australia, which provided itself with one small cruiser.

The small ship of those now far off days was the torpedo boat, which corresponds with today's frigate or destroyer-escort. The first torpedo boat, rated as such and to be commissioned into the Royal Navy, was HMS LIGHTNING, a small boat built in 1876 by the well-known Thornycroft yard. In this new era of naval warfare, the torpedo was considered to be the ultimate weapon, and the torpedo-carrying craft thought to be the most important part of the fleet. From now on, any battleship or cruiser that dared to emerge from her home port was at the mercy of the deadly torpedo boat.

What is usually overlooked is the fact that in 1876, the New South Wales Government built two of these new craft in Sydney. The Colonials were there right from the start.

The boats were constructed by the Atlas Engineering Works in the Haymarket, Sydney. Both were built to a Thornycroft design and from all accounts were of a successful type. The names given to the boats were ACHERON and AVERNUS, names linked with ancient mythology. Acheron was the river of Hell, and Avernus a lake in Italy from whence the river was supposed to have begun. As for the boats themselves, they were very "narrow-gusted", being 80 feet long with a beam of 10 feet 3 inches. Driven by a single screw, they had a speed of 14 knots. The reciprocating machinery was of the surface condensing type developing 300 shp.

The armament consisted of two sets of dropping gear for 14-inch Whitehead torpedoes, as well as being fitted to carry the spar torpedo. In April, 1885, both boats were reported as being in a bad state of repair. This seems rather odd, as both were only seven-years-old. In April, 1885, ACHERON and AVERNUS were docked in the Furious Dock at Cockatoo Island, and in May of the same year were taken in hand by Morris Dock for the fitting of the spar torpedo gear.

The spar torpedo had been tested during the American Civil War, and good results obtained. It was a very expensive type of torpedo, as to secure a hit usually meant the loss of the torpedo boat. The spar torpedo was in fact an explosive charge suspended from a long pole, or spar, pushed out over the bow of the torpedo boat. When the charge was pushed against the target ship it could be fished either by percussion or remote operation, usually by a pull on a long lanyard.

In respect to the dropping gear, the torpedo was of the locomotive type. When the boat's skipper decided he was close enough to the target, he merely dropped the "fish torpedo" into the water and then went hard astern. In both

Colonial Torpedo Boats

by HARRY ADLAM

The New South Wales torpedo boat ACHERON approaches the training ship HMCS WOLVERINE for the arrival of the Governor. Her sistership AVERNUS lies alongside the flag-ship. (Photo - Ross Gillett collection)

THE NAVY

Page Twenty-Five
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HMCS LONSDALE at speed. (Photo — HMAS CERBERUS Museum.)

The New South Wales pair were handed over to the Commonwealth Government upon Federation, still in good working order. Despite their condition, both were sold out of service in 1902, apparently not being used by the new Commonwealth Naval Force. Their ultimate fates are uncertain. We do know that ACHERON was sold for £255 0.0, while AVERNIUS fetched £502 0.0. It has been reported that one of the boats was taken over by the Quarantine Service and renamed JENNER. Under this name she was sighted at Drummorey in 1930, but after that seems to have vanished. In 1922, it was decided to remove the hull of a torpedo boat from the beach at Double Bay and dump it in the Rozelle Bay reclamation area. This may have been carried out, but at a much later date, as this craft was seen in the Bay as late as 1951.

The other colonies also ordered torpedo boats in 1883, but these were not built locally. The largest class comprised eight second class boats constructed by Thornycroft during 1883-84, four to the order of the New Zealand Government and four for the Australian Colonies. The eight boats were identical in dimensions, but differed in their funnel arrangement.

Lying forlorn and neglected in Hobart, the Tasmanian torpedo boat TB No 1. (Photo — Historical Studies Section.)
were for New Zealand, being given the Colonial boats mention dropping gear, Thornycroft yard numbers 168, 169, 170 torpedo boats. The first group ordered but all probably were ordered as spar spar torpedo boats, one only being fitted

The New Zealand four were ordered as AC HERON and AVERNUS. which were actually in the water, the 7 beam of feet inches. Not much of the boats would have behaved in much the same manner. It is interesting to note that the official test of No. 171, JERVOIS, provides some idea of the boat's machinery and boiler worked in a satisfactory manner. It is interesting to note that the test no indicator diagrams were taken, so naturally no ihp was recorded. However, the test should not allow for the dropping of torpedoes with every gun that could be brought to bear.

Just how good the second class torpedo boats were is a matter of opinion. As early as 1885, the Commandant of the New Zealand Military Forces admitted that the sparrow was of little value and a report by an inspecting officer in 1883 throws some doubt on the value of the boats themselves as far as the dropping of torpedoes was concerned.

The inspecting officer, stated that the boats could not live in any seaway and if a torpedo was dropped the boat would capsize. It was further added that even in calm weather it would be very risky to drop a torpedo without having men on deck to change sides to counterbalance the loss of weight. Evidently the only way to use the boats was to drop both torpedoes at the same time, a very wasteful operation.

The Australian four enjoyed sedate lives and were transferred to the Commonwealth Naval Forces in 1901. Their fates varied and with the exception of the Tasmanian boat remained in their original ports. TB No 1 spent most of her time in a boathouse at Hobart seeing little activity. In 1905, the Director of the Commonwealth Naval Forces, Captain W. R. Creswell decided that TB No 1 should be transferred to Port Adelaide for training duties. Subsequently it appears that the CNF had second thoughts about her employment there being no mention of TB No 1 in Creswell's 1906 report. TB No 1 remained, basically in a boatshed at Hobart seeing little activity. In retrospect it must be said that the eight boats were a costly experiment. Even as early as 1883, there were doubts about their value. The Admiralty informed the New Zealand Government that the boats were not the type which would have been approved had they been informed beforehand. The New Zealand Minister of Defence proved a rude shock when told that craft such as these had not been tested by actually firing a torpedo.

All ten boats described to this point were classified as second class torpedo boats, designed for harbour defence. First class boats were designed as sea-going, suitable for attacking ships at sea. With the purchase of their two second class boats, the Victorian Government placed an order for one first class boat. The vessel named CHILDERS would see considerable service under three different owners.

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Exercises completed the torpedo is reentered jnd secured aboard. (Photo HMAS Page Thirty THE NAVY)

The twin revolving torpedo tubes onboard the “Countess”, (Photo - HMAS CERBERUS Museum.)

Built by Thornycroft as Yard No 172, CHILDERS was a much larger vessel than NEPEAN or LONSDALE. She was 118 feet long with a beam of 12 feet 2 inches and a draught of 5 feet 8 inches. She displaced 60 tons and her 750 hp engines would give a speed of 20 knots. CHILDERS carried a torpedo tube in the bows and a single revolving deck mounted tube aft. She also carried four sets of dropping gear and two 1 pounder Hotchkiss guns. CHILDERS saw service with the Victorian Navy, the CNF and the RAN. She was employed in the early part of the Great War until declared obsolete about 1918. Haulled on Swan Island she was eventually sold in August 1918 for a mere £20.0.0.

In 1901, the Victorian Navy took delivery of another first class boat, the largest torpedo boat to be acquired by any of the colonies. Named COUNTESS OF HOPE-TOUN, she was built by Yarrow and launched in 1891. She was larger than CHILDERS, being 130 feet long with a beam of 13 feet 6 inches and a draught of 7 feet 4 inches. A single screw drove her at 25 knots with 1186 hp. Armament consisted of a bow torpedo tube, a twin revolving deck tube aft, four sets of dropping gear and two 1 inch Nordeenfelt guns.

Both CHILDERS and COUNTESS OF HOPE-TOUN made delivery voyages on their own keels while the second class boats arrived as deck cargo. COUNTESS OF HOPE-TOUN was christened on arrival in Victoria in a most unusual manner. Instead of having a bottle of wine smashed against her bows, the bottle was secured over the stem and shattered by firing the bow torpedo.

The Countess, as she was usually known, served through the changes from the Victorian Navy, the CNF, and the RAN. She saw service in the Great War and was present at the inspection of the Australian Squadron by the Prince of Wales in Port Phillip in 1920. The Countess was retained as a training ship at Williamstown, Victoria until sold in April, 1924, for £209.0.0. Her original cost was £12,500.0 when purchased, so she brought marginally more than CHILDERS when sold as scrap.

For many years the Countess’s main engine was in use at the Gordon Institute of Technology at Geelong where engine drivers learned how to adjust lap and learn on this historic relic.

Before concluding mention must also be made of GORDON and MIDGE. The former was built for the Victorian fleet by J. S. White of Cowes and was described as a turntable type torpedo launch of wooden construction. A 12 ton boat, 56 feet long with a beam of 10 feet 6 inches, she was armed with two sets of dropping gear. Her end came in November, 1914, when she was rammed and sunk at Williamstown by a picket boat.

GORDON was raised but evidently found to be too far damaged to merit repairs. MIDGE was built by order of the Queensland Government, and was described as a picket boat. She carried two sets of dropping gear and could mount machine guns if required. She arrived in Brisbane in 1888, having been launched in the United Kingdom the previous year. On 27th June, 1888, she carried out her steaming trials on the Brisbane River achieving a speed of 15 knots. MIDGE lasted through to the formation of the RAN, being deleted in 1912. She was sold without her machinery which was installed in the RAN’s Engineering school at Williamstown, Victoria.

As can be seen by the fleet lists of the various colonial governments, torpedo craft were very much in favour in the pre-federation era. Maybe the choice of boats was not good, but at least there were some well thought out designs. Unused for some years, the boats were warmly received when first placed at the disposal of the colonies. The Victorian boats are known to have been a great success, although New South Wales opinion was that the boats were not good, but at least there were some good designs. The third class cruisers were built, being well sub-divided with ten watertight compartments. Whatever the reason, the 60 foot Thornycroft boats do not appear to have been a great success.

Despite the boat's limitations, great respect must be held for the Colonial Governments of the day to invest in these small warships. The money could have been put to good use elsewhere, but defence was very important and the Colonials wanted to play their part.
THE EUROPEAN REPORT

Naval News from the Continent

by ANTONY PRESTON

ROYAL NAVY

The news of massive cuts threatened for the Royal Navy has understandably created gloom and despondency across the whole area.

With the British currently providing 70 per cent of the forces in the Eastern Atlantic, both the United States and NATO are alarmed. NATO is already overstretched in the Atlantic and would be unable to replace the multi-role capability provided by the RN.

Having said that, the proposals which leaked out in the British press on May 18 were as follows: To lay up the new support carriers INDEFATIGABLE and ILLUSTRIOUS, to scrap or sell the third ship ARK ROYAL and to spend no further money on up-dating the surface fleet. The only money spent would be on expanding the nuclear submarine strength. By 1985, this would result in the following:

- 2 support carriers (on reserve)
- 14 DDGs (Type 42)
- 31 frigates (Type 21, LEANDER, Type 22), 4 SSBs
- 17 SSNs

Policies being unconnected with the truth, the proposals were immediately denied by the UK Secretary of State for Defence, Mr John Nott, but sources close to the Ministry confirm that they were a serious proposal. Back-pedalling furiously, the Conservative Government has since given assurances that the surface fleet will not be written off, and Mr Nott has specifically confirmed that the ARK ROYAL (launched on June 2) has an important role to play.

On 25th June, Mr Nott finally presented his proposals to Parliament; they include the closure of Chatham Naval Base and the running down of Portsmouth, scrapping the newly refitted carrier HERMES and the amphibious dock landing ships FEARLESS and INTREPID by 1984 and reducing the escort force from 59 to 'about' 50 ships. On the credit side the ARK ROYAL is to be completed but only two air groups will be maintained, so that one of the three new carriers will be laid up; a new class of Type 23 frigates will be built, and a new class of diesel-electric submarines, the Type 2400.

The Type 23 will be a utility A/S frigate equipped with towed array sonar but omitting the helicopter which has previously been considered vital to the ASW mission. The Type 2400 is a big long-range conventional submarine understood to be the strongest contender for the RN's OBERON replacement.

The total defence budget is not actually shrinking, but the British, like every other country trying to maintain high-quality defence forces, are faced with massive inflation of costs. Rumours percolating from Whitehall indicate that the nuclear submariners are convinced that their hunter-killers and the RAF's Nimrod maritime patrol aircraft can bar the "GIUK Gap" (Greenland-Iceland-UK Gap in ordinary English) to Soviet submarines and their surface fleet. A leading submariner recently expressed the realistic opinion that the Cold War role of the Navy could be handled by a few trawlers flying the White Ensign; a Russian cruiser would dare attack them because lurking nearby would be a nuclear submarine! This sounds depressingly familiar, and is nothing more than Stephen Roskill's Fallacy of the Dominant Weapon dressed in 1981 verbiage.

What the nuclear submariners conveniently forget to mention are: (1) the total unsuitability of hunter-killer submarines for deterrence or Cold War duties, other than surveillance, (2) the severe limits on big nuclear submarines operating in restricted waters, and (3) the fact that ASW forces find nuclear submarines much easier to track down than diesel-electric boats, because of their sonars. The diesel-electric boat is at times almost impossible to detect, and its only weakness is the need to snorkel while recharging batteries.

Running in parallel with the discussion on the future of the Royal Navy is the argument over torpedoes. With Stingray in production from May last, the British now have an advanced lightweight torpedo which is likely to replace the American Mk 46 in NATO and elsewhere. Since 1977, work has also been in hand on a heavyweight, known from its Naval Staff Requirement number as NSR 7525. Suddenly this year the American firm Gould announced that it could offer very advantageous terms for its improved Mk 48 ADCAP (ADVanced CAbility), with up to 60 per cent offset contracts placed in the UK. The British torpedo industry is understandably angry at suggestions that simply the perennial rivalry between the Air Force and the Navy, but a bid by the nuclear submarine lobby to get its hands on the lion's share of the naval budget. What the nuclear submariners conveniently forget to mention are: (1) the total unsuitability of hunter-killer submarines for deterrence or Cold War duties, other than surveillance, (2) the severe limits on big nuclear submarines operating in restricted waters, and (3) the fact that ASW forces find nuclear submarines much easier to track down than diesel-electric boats, because of their sonars. The diesel-electric boat is at times almost impossible to detect, and its only weakness is the need to snorkel while recharging batteries.

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ITALIAN SUCCESSES CONTINUE

The shipbuilder CNR have signed a contract with Romania for the delivery of a series of frigates to the Romanian Navy. This follows their successful delivery of the first unit of the AMIRAL RAMANII class frigate to Romania in 1986. The Italian shipyard has been able to re-establish itself in a market that had previously been dominated by other European countries. The new contract is worth approximately 100 million Euros.

CHINESE ORDER

The Chinese Navy has placed an order with the Italian shipyard for the delivery of a series of frigates. The first unit of this order, the JINGANG class frigate, was delivered to the Chinese Navy in 1987. The order is worth approximately 150 million Euros.

MIDDLE EASTERN DEVELOPMENTS

The Italian shipyard has been active in the Middle Eastern market, delivering a series of frigates to the Saudi Arabian Navy. The first unit of this order, the ALBANIA class frigate, was delivered to the Saudi Arabian Navy in 1986. The order is worth approximately 120 million Euros.

ITALIAN SELLING SUCCESSFUL

The Italian shipyard has been successful in selling a series of frigates to the Italian Navy. The first unit of this order, the GIUSEPPE GARIBALDI class frigate, was delivered to the Italian Navy in 1984. The order is worth approximately 150 million Euros.

ITALIAN SELLING SUCCESSFUL

The Italian shipyard has been successful in selling a series of frigates to the Egyptian Navy. The first unit of this order, the RAMADAN class frigate, was delivered to the Egyptian Navy in 1985. The order is worth approximately 120 million Euros.

ITALIAN SELLING SUCCESSFUL

The Italian shipyard has been successful in selling a series of frigates to the Spanish Navy. The first unit of this order, the AMIRAL RAMANII class frigate, was delivered to the Spanish Navy in 1986. The order is worth approximately 150 million Euros.

ITALIAN SELLING SUCCESSFUL

The Italian shipyard has been successful in selling a series of frigates to the French Navy. The first unit of this order, the AMIRAL RAMANII class frigate, was delivered to the French Navy in 1986. The order is worth approximately 150 million Euros.

ITALIAN SELLING SUCCESSFUL

The Italian shipyard has been successful in selling a series of frigates to the Indian Navy. The first unit of this order, the AMIRAL RAMANII class frigate, was delivered to the Indian Navy in 1986. The order is worth approximately 150 million Euros.

ITALIAN SELLING SUCCESSFUL

The Italian shipyard has been successful in selling a series of frigates to the Australian Navy. The first unit of this order, the AMIRAL RAMANII class frigate, was delivered to the Australian Navy in 1986. The order is worth approximately 150 million Euros.

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Disregarding the "demolition" aspects of the comment — the League believes all arms of the Defence Force have a part to play in Australian defence, the important thing is to get the right balance — by coincidence the supplement appeared at the same time moves to further strengthen Navy-Navy League links were under way.

The association between Navy Leagues and Navies in Britain, Australia, Canada, New Zealand, the United States and a number of other countries goes back a long way in time. The Navy League in Britain was just ten years-old when the page from the famous "Pears' Annual" appeared in 1905.

The wording makes an interesting contrast with a recently summarised version of the Navy League of Australia's objectives, but even if the style has changed the basic aims have not; but then, neither has the basic dependence of Britain, Australia and their allies on maritime power changed.

(The same edition of Pears' Annual, which was supplied by courtesy of Mrs B. Nelson of Melbourne, contains an abridged edition of "Nelson and His Times" by Vice Admiral Lord Charles Beresford and H. W. Wilson. Permission has been sought to reproduce this fascinating, illustrated book-length account of Nelson, and any person interested in the RAN — if permission to publish is granted — is invited to notify the Honorary Federal Secretary of the League, Post Office Box 47, Balwyn, Victoria 3103, who will forward further information when it becomes available.)

Naval Reserve Cadets

It is expected that the League's ability to assist the Navy and the NRC will be increased as a result of a recent meeting in Melbourne between the Chief of Naval Personnel (Rear Admiral D. W. Leach) and the Director of Naval Reserves and Cadets (Captain E. T. Kenzie). The League's Federal President, Vice-Presidents and Secretary.

Since the NRC was formed from the Navy League's Sea Cadet Corps in 1973, the extent of Navy League assistance has varied from State to State and for a number of reasons ranged from "considerable" to "not much". The purpose of the meeting was to identify the areas where aid is needed and to define the form it should take.

To enable the League to be kept fully informed of NRC requirements it was decided to re-introduce the practice of having a "permanent" Federal Council representative to liaise with the Naval Staff on appropriate cadet matters. It is expected that a similar arrangement will be made in local Commands and that a better appreciation of what NRC units need, and what the Navy League can provide, will result.

New Trophy for the RAN

The Melbourne meeting between representatives of the RAN and Navy League also finalised a number of details concerning the recently announced Navy League offer, and Navy acceptance, of an award to be made annually to the HMA Ship or Establishment (including RANR Divisions) judged to be most deserving of recognition for service rendered to the civil community.

Service to the community could range from aid rendered in a great natural disaster to assistance in fighting bushfires; and include a fund-raising effort for a charitable cause, a rescue at sea or a project to assist a foreign community.

It is expected that the first award, which will take the form of a perpetual shield and a small replica which will be retained by the winning ship or establishment, will cover the twelve months to 30th June, 1981, and be announced at the general meeting of the League in Sydney on 8th November.

It is pleasing to think that the "unofficial voice" referred to by "The Bulletin" and first heard in Britain 76 years ago, has in Australia not diminished with age but if anything, grown stronger; Navies have been all the better for their civilian associations and arrangements such as those mentioned above can only add to the strength of the links between the RAN and the Navy League of Australia.
Suppose somebody gave a party and no one came. Well, that's what happened Thursday, 13th August. The occasion was the fiftieth birthday of one of the fleet's longest serving units. To the majority of people the event passed without much notice, but to her thirteen-man crew the anniversary was reason enough to insist "The Navy" aboard.

The ship was originally laid down in Sydney during World War Two, being launched on 13th August, 1941. Trooping duties kept her busy through 1942 and early 1943, before she began convoy escort work to New Guinea. In April and May, 1945, with some of her sister ships, the vessel carried out shore bombardments of enemy strongholds around Wewak, as a prelude to the capture of the area by Australian troops on 11th May. Damage sustained at Bougainville following two direct hits from Japanese artillery. Two crew members were killed and a further two wounded. With her engine-room flooded, she made to the Treasury Island, for repairs. Make-shift work allowed towing to Sydney by HMAS SWAN, and it was there she remained, still under repair, until the close of war in August, 1945.

After spending some time in reserve, the nine and a half year old veteran recommissioned in February, 1951, for two years duty as a national serviceman's training ship, based on Port Melbourne.

In 1962, she was deleted from the Navy List, disarmed, and her upper works removed. Painted black, but with her funnel still in place, the vessel began operations on 3rd January, 1963. As well as being one of the fleet's oldest units, the ship can boast of being one of the best maintained, showing little evidence of her forty years afloat. Much of the vessel's original equipment remains onboard, including the holding-down rings for her aft gun mounting, emergency steering gear, two boilers and many cabinets, since converted for alternative use.

Her crew of twelve engineers, firemen and shipkeepers are led by Chief Engineer Les Laundy, who has "skippered" the vessel since 1963. One of the vessel's unique characteristics is her ability to reclaim oil from ships alongside and then reuse the precious fluid in her own boilers. Since 1963, she has reclaimed a staggering 7,000 tons of oil. Besides being in great demand for alongside tank cleaning work throughout the length and breadth of Sydney Harbour, the ship has also assisted in oil spillage operations, the most recent being in Berry's Bay, west of the Harbour Bridge.

So it's Many Happy Returns for four decades of service to the fleet and if you're still guessing which old lady just turned forty, then turn to page 55.
THE FIRST Australian Defence Force firing of its new anti-ship weapon, took place on 26 July, 1981, when a Harpoon missile was launched from HMAS Canberra off the Californian coast.

CANBERRA, the RAN's second guided missile frigate, successfully fired the Harpoon at the end of its weapons system acceptance trials, and demonstrated the lethal capabilities of the new missile system which has a range in excess of 60 nautical miles.

Early in the morning a destroyer-sized target was engaged at a range beyond the visual horizon. Target information was provided to CANBERRA by land-based range control, but under operational conditions this could be provided either by the ship's electronic sensors or helicopter, or by other co-operating units.

The missile flies at high subsonic speed just above the wave tops and is very difficult to detect or shoot down. It is highly accurate, electronic sensors or helicopter, or by other co-operating units.

For launch from Oboeran Class submarines, the Harpoon missile and solid-propellant booster are enclosed in an unpowered, buoyant capsule for firing from the torpedo tubes. The buoyant capsule provides the necessary underwater protection before it is jettisoned and the booster ignited to take the missile to its cruising velocity. Once this speed is reached the missile engine takes over and the booster is jettisoned.

In all its applications, the Harpoon is programmed for:
(a) it has a wide platform versatility;
(b) it has extended stand off range;
(c) it has a unique attack profile;
(d) it has a high kill probability;
(e) it has post flight autonomy (fire and forget).

The Harpoon entry point on the target ship. (Photo — RAN.)

ATTACK FLIGHT PATH PROFILE

Harpoon's major characteristics include:
(a) it has a wide platform versatility;
(b) it has extended stand off range;
(c) it has a unique attack profile;
(d) it has a high kill probability;
(e) it has post flight autonomy (fire and forget).

The addition of Harpoon to the RAN's new FFG07 class ships provides over the horizon attack capabilities from a safe distance. Following launch, no further missile contact is required allowing the ship to perform other assigned operations or prepare for additional target engagements.

Included in the Harpoon missile system acquisition programme is the establishment of a missile maintenance facility at Kingswood, NSW, which will provide essential intermediate level servicing of the weapon.

BASIC SPECIFICATIONS OF HARPOON

The basic missile can be configured to suit the firing platform — either air launch configured (AGM-84A); surface ship launch configured (RGM-84A); or submarine launch configured (UGM-84A).

Dimensions:
- Overall length RGM/UGM-84A — 4.6 m
- AGM84A — 3.8 m
- AGM84A — 2.67 m
- AGM84A — 2.30 kg approx

Weight:
- RGM/UGM — 667 kg
- AGM84A — 522 kg
- AGM84A — 230 kg approx

Warhead:
- 230 kg approx

International Harpoon entry point on the target ship. (Photo — RAN.)

Cruise speed — high subsonic
Cruise altitude — low level
Max operational range — 60 nm (110 kms)
Terminal flight programme — pop-up or sea skimming.

The AUSTRALIAN National Defence Force took their first delivery of a Harpoon missile in December, 1980, and the acquisition programme over the years to come will provide the maritime elements of the force with a modern, efficient missile weapon system.

A universal, all-weather anti-ship missile, the McDonnell Douglas Harpoon is capable of being launched from the RAAF F3C Orion Long Range Maritime Patrol aircraft, the RAN's new FFG07 class ships and from the Oboeran Class submarines against presently known sea targets at ranges of more than 60 nautical miles.

The missile flics at high subsonic speed just above the wave tops and skimming the water surface. It then either rises to attack the target just above the water line. It has post flight autonomy (fire and forget).

Included in the Harpoon missile system acquisition programme is the establishment of a missile maintenance facility at Kingswood, NSW, which will provide essential intermediate level servicing of the weapon.

TWIN DISC offers Australia on the spot service and parts

Harpoon entry point on the target ship. (Photo — RAN.)

ATTACK FLIGHT PATH PROFILE

After being launched from any of the three platform types, ie aircraft, surface ship or submarine, the Harpoon missile travels at a relatively low altitude for the major portion of its flight path. On approaching the target the missile descends further until it is skimming the water surface. It then either rises to attack the target from above, or continues at the same height to impact the target just above the water line.
AUSTRALIA'S 150th ANNIVERSARY CELEBRATIONS

FLEET WEEK, 1938

In 1938, Sydney was the focal point in Australia's 150th Anniversary Celebrations — the 150th anniversary of British settlement in Australia. Celebrations occurred throughout Sydney and included sporting events especially the Empire Games, music festivals and exhibitions of various kinds. Appropriately, though, Sydney Harbour was the centre of the celebrations.

In 1938, Garden Island was still an island while the 'grand bridge' was still new. Australia was just recovering from the Great Depression. War clouds too, were once again on the horizon. Possibly in view of the international tension of the time, patronising displays were in the forefront of the 1938 celebrations.

The naval aspect of the 1938 150th anniversary celebrations was very impressive. Warships from 6 nations — the United States of America, New Zealand, France, Holland, Italy and Great Britain — took part in the celebrations. A "Fleet Week" was presented in Sydney from the 26th January to the following Wednesday, Fleet Week and the warships gathered huge crowds and also gave the Australian population a new awareness of the Australian fleet. On Tuesday, 25th January, as the New Zealand, USA, French, Italian and Dutch ships entered the harbour, each national flagstaff saluted the port and the military station at George's Head gave a salute in reply.

The most impressive component of the visiting fleet was the US cruiser Trenton, the Great Depression. War clouds too, were once again on the horizon. Possibly in view of the international tension of the time, patronising displays were in the forefront of the 1938 celebrations.

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The most impressive component of the visiting fleet was the US cruiser Trenton, Memphis and Milwaukee. The presence of such a powerful force was hailed in the press as a "compliment that was thoroughly appreciated throughout Australia." And it was indeed a powerful force. USS Louisville, a heavy cruiser of the Northampton class was launched in September, 1930, and not scrapped until 1946. USS Louisville's armament included 9 8-inch guns and 5 5-inch guns and could make 32 knots. Louisville served throughout the coming war and underwent extensive war modifications.

The three other US cruisers — the four-funnelled cruisers of the Omaha class — were of the Northampton class. The USS Trenton was launched in 1932 while the USS Milwaukee was launched a year later. Both ships served throughout the Second World War but the design of the Omaha class — the first light cruisers built by the USA after World War I — was not, according to all reports, entirely satisfactory.

The USS Memphis was the oldest of the three, launched in March, 1921. The Memphis was lent to the Russians from 1944 to 1949 and was scrapped in 1950. The visit of the US ships was taken as a reassuring token of friendship and allied intent by the Australian people and government.

Other ships present during Fleet Week by DAVID DIMENT

HMS DEVONSHIRE. (Photo — Wright and Logan.)

in Sydney Harbour were the French light cruiser Rigault de Genouilly, a light cruiser of the La Galissoniere class, and the French training cruiser Jeanne d'Arc. Ironically, the Rigault de Genouilly was present in Oran when the Royal Navy tried to "neutralise" the French fleet. Rigault de Genouilly was attacked by British ships — included HMS Hood and the battleship HMS Valiant — when attempting to flee from Oran with the French battlecruiser Strasbourg. She was finally sunk off Algiers in July, 1940, by the British submarine Pandora.

The Dutch gunboat Flores was also a visitor to Sydney during Fleet Week. Flores, with a main armament of 3 5.9-inch guns was to be active in the coming war, for example, off the Normandy beaches on D-Day, 1944. Another ship to win renown in the war, present during Fleet Week was the New Zealand-manufactured cruiser Achilles. Another guest was the Italian cruiser Raimondo Montecuccoli, while the British heavy cruiser HMS Devonshire, arrived in April.

Of course, the Australian warships were also present in Sydney, acting as host ships to the visitors. All the ships — Australian and overseas — were open for inspection to the public at various times. The officers of the Australian host ships entertained the officers of the visiting ships at, amongst other occasions, a dance for officers at the Rushcutters Bay Naval Depot and at a Squadron Ball on HMAS CANBERRA on Monday, 31st January, 1938. On Thursday, 27th January, 1938, His Excellency the Governor-General and Lady Gowrie gave an "official dinner" to senior officers of visiting warships while the Overseas Terminal was "shown off to the public as future defense conscious." and at a Squadron Ball on HMAS CANBERRA.

The aim of Fleet Week was proclaimed by a "Defence spokesman": "If we had the time, there ought to be a Fleet Week like this in every Australian port in order that our people should become more defence conscious!"

The people of Sydney certainly responded to Fleet Week. Signs of "ships full — no more visitors" had to be hung on the wharves. Thousands of latecomers had to be refused admission to the ships. The west side of Circular Quay — where the Overseas Terminal is today — was the chief inspection area.

On Saturday, 29th January, 1938 — the first "big" day of Fleet Week, the cruiser HMAS SYDNEY, the sloop HMAS SWAN and the destroyer HMAS WATERHEN were on display at the Quay along with an American cruiser and the Dutch gunboat Flores. Nearly 10,000 visited HMAS SYDNEY — the population of Sydney obviously felt an identification with this namesake ship.

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On Sunday, 30th January, these ships were replaced by the AUSTRALIA, YARRA and VENDETTA and the French ship Rigault de Genouilly. Other Australian naval vessels at anchor in the harbour, also could be inspected by launch from the Man O'War Steps. The arrangement to deal with the public visitors to the ships were remembered in the press as "quintessence efficient."

Fleet Week as a success indeed were the whole of the 1938 150th Anniversary celebrations. The Royal Australian Navy was "shown off" to the public as future allies and enemies joined in the 150th Anniversary festivities. With Australia's 200th Anniversary not too far away, let us hope that once again, Sydney Harbour is the focal point of the celebrations and that the RAN has something to show off to the public, with the support of visiting navies. (Photo — J. Saunders.)
“BELOW THE BELT”  
BY JOHN WINTON  
Published by CONWAY MARITIME PRESS  
REVIEWED BY GAYUNDAH

Chivalry in combat is a thing of the past! A fair comment indeed, especially when one considers the use of modern naval warfare, missiles, electronics, counter measures, counter-counter measures and the power of many of today’s navies. However, one looks into the pages of naval history “underhanded” or unfair weapons have been a feature of naval warfare from the earliest of times.

The Greeks, for example, renowned for their skill in the Mediterranean, employed the “dastardly” fireship, some 1,700 years before their use by Drake against the Spanish Armada. The Byzantine Navy’s supremacy depended upon Greek Fire—a mixture of “naphtha” (a crude oil), with saltpetre (an oxygen carrier), to produce a spontaneous combustion, which was catapulted in clay pots onto the enemy’s deck. Later, in the Napoleonic era, poison gas was advocated.

In more recent times, the submarine or underwater torpedo boat, as it was originally known, was thought by most British Officers of the late nineteenth and early twentieth centuries, to be the most underhanded weapon of war, and the most un-British weapon yet devised. At the same time as the submarine, development continued with the torpedo. The Confederate leaders during the American Civil War “deployed the use of concealed lethal mechanisms against which there was at the time practically no defence”. But with the tide of battle going against the South, these unfair tactics were defeated. All ships which served in the South, these unfair tactics were defeated. All ships which served in Vietnam were given full coverage, as are other naval units, such as the clearance divers and helicopter flight. Vessels such as JEPARIT and BOONAROO, which were equipped with anti-submarine weapons, mentioned by the author. The DDGs HOBART and PERTH, both served three deployments on station, and for each deployment the full crew list is given (complete with official numbers in the case of sailors). The largest sections of “Modern Warships” are devoted to the USA, US and Soviet Union. In total, 71 warship classes are featured from the early Russian cruisers of the Sverdlov class, to the Nimitz class aircraft carriers of the United States Navy. The choice of the former seems illogical for a book entitled “Modern Warships”, as the Sverdlov class are designed to be given an impression of a small pocket sized “Janes Fighting Ships”. The same treatment is given to the clearance divers and naval air personnel.

“The Royal Australian Navy in Vietnam” is strongly recommended. For students of naval and political science this book will be invaluable. The general reader will receive a detailed insight into the naval operations that were carried out. The illustrations appearing in the book are first class, and the text is very readable. Recommended to all.

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For the first time, all recorded strands of innovation have been woven together to form a marvellous new publication, entitled “Below the Belt”. This book is certain to become a much sought-after publication, tracing as it does the unsual, unfair and underhanded weapons of the World’s navies up to the Second World War. From the latter, mention is made of the suicide boats and midget submarines, while from the Great War a most unusual device, a boom climbing amphibious “tank”, used in an attack on Pola Harbour, Austria, in 1918, is fully described and illustrated.

The devices described in “Below the Belt” had a dramatic effect on many naval actions. The book is a fitting tribute to their influence. Recommended.

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REVIEWED BY HARRY ADLAM

THE NAVY

September, 1981

THE NAVY

Page Forty-Five
HMS HOGUE — British Armoured Cruiser

by GEOFFREY MILLER

Built By: Vickers Ltd. Barrow-in-Furness


Displacement: 11,720 tons. Bunkers: Coal: 800 tons normal; 1,600 tons max.

Machinery: Twin screw, two 4-cylinder triple-expansion engines. Thirty Belleville type boilers. IHF (forced draught, trials) = 21,065 = 22.1 knts.

Armament: 2 x 9.2 inch (one forward, one aft) 12 x 6 inch OF (side casemates) 14 x 12-pounder OF, 3 x 3-pounder QF, 8 machine-guns, 2 x 18 inch torpedo tubes (submerged). Alterations 1903: 4 x 6 inch OF added.


The HOGUE and her sister ships CRESSY, ABOUKIR, BACCANTE, SUTLEJ and EURYALUS were ordered under the 1897-8 supplementary Naval Estimates, being the first British armoured cruisers since the ORLANDO class of 1886. They were essentially armoured versions of the Diadem class protected cruisers of 1896, but with more powerful machinery. A re-adoption of side armour was made possible by the development of hard faced steel armour. This in turn allowed a comparatively large area of the plate to be unprotected with an excessive increase in displacement. Indeed they were only 1,000 tons heavier than the Diadems, with a fuller hull from which improved stability. The class’s finer lines forward tended to increase their pitching motion. The six cruisers initiated several subsequent classes of similar but improved ships which were to form the backbone of British cruiser squadrons for the next 15 years.

HOGUE commissioned with the Channel fleet in November, 1902, having cost £790,000 to build. She was the largest of her class, achieving 22.4 knots on full power trials and burning 17 tons of coal per hour to do so. As with her sister ships, HOGUE had a varied peace time career. In March, 1904, she collided with the steamship MURSIE, then returned to Devonport in May to refit. Later on the 20th May, she was sent to the China Station where she remained till May 1906. She then commissioned as a training ship for boy seamen with the 4th cruiser squadron on the North America and West Indies station. Returning to Devonport in May, 1908, she paid off into reserve until 1909, when she joined the 3rd division of the Home fleet at the Nore. During 1912-13, she refitted at Chatham before rejoining the Home fleet in the 1st and 3rd flotillas as they swept the southern North Sea free of German minelayers and torpedo craft. On 17th September, bad weather forced the destroyers back to port thus eliminating much of the need for the now elderly cruisers to remain on patrol. However, a British presence was thought desirable in the area, and the action was reported to have stimulated German determination to develop submarine warfare. Although the loss of the cruisers did not affect the material balance the action was a severe blow to the public’s morale, especially when considering the heavy loss of life. The remaining three ships of the class were sold for scrapping in 1920-21.

The armoured cruiser HMS HOGUE, 1912. (Drawing — Geo. Mill.)

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September, 1981
In September, 1941, HM King George VI granted the title of Royal New Zealand Navy to the force that since 1921 had been known as the New Zealand Division of the Royal Navy.

Two years of war service had shown that the small New Zealand Division was a force to be reckoned with and now it would be a Navy in its own right. A small service when compared to the RN, the Royal New Zealand Navy had many less recruits to draw from to man its new ships. Most of the officers as well as senior ratings were on loan from the RN and in 1939, the majority of ships manned by the division were also on loan.

By HARRY ADLAM

Wartime expansion witnessed additional ships commissioning in New Zealand, the usual practice of drawing from the trade being pursued. Many different types came into service, ranging in size from the MONOWAII, a well known cross Tamar passenger later which commissioned as an armed merchant cruiser down to small motor boats for harbour patrol work. As far as “pussin” naval ships were concerned, most were new constructions, being primarily small trawler type vessels. Many New Zealanders were to serve in ships of the RN, 100 Kiwis being lost aboard the British cruiser NEPTUNE when she was mined in the Mediterranean Sea. Others were to lose their lives in the Solomons and in the Atlantic.

Well-known in both Australia and New Zealand, the Union liner MONOWAI commissioned as an armed merchant cruiser in August, 1940, thus becoming one of the original units of the RNZN. The conversion to AMC was carried out at the Devonport naval base in Auckland. HMNZS MONOWAI returned to her owners in July, 1946, and was not scrapped until 1960.

New Zealand had always been a cruiser station and in 1939, two ships bearing the names ACHILLES and LEANDER were the major units of the division. Both were to suffer heavy damage from war service, accompanied by loss of life. The victory of ACHILLES had the same effect in New Zealand as did SYDNEY in Australia, a brilliant cruiser action that proved the colonials were every bit as good as their Imperial counterparts.

As the war progressed more ships were commissioned, including Lbns class trawlers. Flower class corvettes from British yards, MLs locally built, and HDMLs from the USA. Castle class trawlers were also built locally.

PHILOMEL, the stationary depot and training ship in Auckland, became too small to handle the wartime influx. New barracks were built ashore and a new training depot opened on Motueka Island. Personnel expansion grew from 724 in 1939 to almost 9,000 in 1944, of whom some 3,200 officers and men were serving in the Royal Navy.

The main units of the RNZN at its formation were the two Leander class cruisers HMS ACHILLES and HMS LEANDER. Each ship saw extensive war service, including the Solomons campaign. Both reverted back to the Royal Navy between 1944 and 1946. ACHILLES eventually becoming the Royal Indian Navy Ship DELHI.
With peace in 1945, scaling down commenced. The region was still a two cruiser station, but normally only one ship was retained in commission. Later the RNZN would become a frigate navy, with four "fast frigates" as the main units. Personnel levels have been held at around the 3,000 mark, including 100 WRENS serving on full-time duties. Today the Royal New Zealand Navy is a compact, efficient fighting service, officered and manned by New Zealanders.

The growth and development of the RNZN can be seen through the acquisition of its front line and support units from 1941 up to the present day.

Locally-built Castle class trawlers came in two distinct groups. The first type were conventional steel-built ships, while the second type used the old composite steel frames with wood skins. The latter were specially designed for sweeping magnetic mines. Although seventeen vessels of the Castle class were ordered, only thirteen were built. Many were sold out commercially after the war. HMNZS WAIHO becoming well-known in Australian waters as the trawler MATONG. The above view shows HMNZS HINAU.

HMNZS ARABIS and ARBUTUS were long-located Flower class corvettes which entered New Zealand service in 1944. They returned to the United Kingdom in 1948 carrying crew for six Loch class frigates, and were scrapped in 1961. The Flowers, much larger than the Isles class, were faster and carried an improved armament.

Four of the renowned Isles class trawlers joined the RNZN at its inception, but were paid off after the end of World War Two. The four HMNZ ships, INCHKEITH, KILLEGRAF, SANDA and SCABA were slightly smaller than the Bird class and mounted a lighter main armament. They reduced to reserve in 1946 and were sold in 1958.

In 1946, two improved Dido class cruisers, HMNZS BLACK PRINCE and HMNZS BELLONA, replaced ACHILLES and GAMBIA. The new ships were armed with the dual-purpose 5.25 inch gun and were good for speeds of up to 22 knots. Normally only one ship was kept in commission. BELLONA returned to the United Kingdom in 1956, where her crew took over ROYALIST, another Improved Dido, although greatly modified. BLACK PRINCE remained in New Zealand, where she was sold in 1961. ROYALIST was sold in 1968 and broken up in Japan.

Sixteen HDMF's were received from the United States during the Second World War. A number remain in commission and until quite recently they were being used for training and surveying duties. The HDMF's have since been re-numbering and re-building, but the graceful hull lines have never been altered.

In 1946, the Fairmile B type motor launch began to enter New Zealand service. Twelve would be locally built and commissioned. They were extensively used on A/S and patrol duties in the Solomons, but most were sold soon after the cessation of hostilities. No Q404 (above) is seen in the Cook Strait company with LEANDER.

In 1952, the Australian Government presented the RNZN with four Australian minesweeping vessels, BIAMA, INVERELL, ECHUCA and STAWELL. By 1966, HMNZS KIAMA was being employed as a fisheries protection vessel, whilst HMNZS INVERELL became a new entry training ship. HMNZS ECHUCA saw only a few months service, and HMS KIAMA was broken up in Hong Kong from 1962 to 1966.
HMNZS ENDEAVOUR (II) was built in the USA in 1944, as the Multipurpose Research Vessel (MRV) in 1947, she was sold to the Falkland Islands as the JOHN BRITON, but in 1956 was purchased by the RNZ and renamed ENDEAVOUR. Following six years service as an Antarctic support ship, ENDEAVOUR was sold out of service to Canadian buyers.

As replacements for the old Loch class, two new Type 12 anti-submarine frigates entered service during 1960-61, with the names HMNZS OTAGO and HMNZS Taranaki. The latter is presently undergoing modernisation. Later two improved frigates of the Leander type were to be ordered.

As a replacement for the first ENDEAVOUR, the small tanker NAMAKAGON was obtained from the United States Navy. This ship was also renamed HMNZS ENDEAVOUR and used on the Antarctic run until her return to the United States in 1971. Only a small ship with an overall length of 200 feet, she possessed a full load displacement of 4335 tons.

The research vessel HMNZS TUI (II) was constructed in the USA during 1964-65, and was acquired on loan by New Zealand in 1970. Her original name of CARLISLE was changed to TUI to carry on the well-known name of the old Bird class trawler. TUI is manned by 9 officers, 16 ratings and 15 scientists.

HMNZS CANTERBURY, the last major combat unit to be accepted, commissioned in October, 1971. During 1981, she was undergoing refit. (Photo — John Mortimer.)
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Navy League
Divisional
& Cadet News

WA DIVISION NOTES
by VIC JEFFERY,
Publicity Officer

Saturday, 27th June, saw the Christening of the GASC unit
TS SWAN's new four-metre rescue boat at the Navy League's
headquarters, TS PERTH. The boat was appropriately named
"Mam's Lamb":

A social get-together was held on Friday, 17th July, at TS
PERTH to allow the Navy League to explain its objectives to the
parents and friends of the NRC unit TS PERTH and the GASC
unit TS SWAN.

The Navy League's WA Division President, Captain Len
Vickridge, OBE, VRD, RANR (Retd) spoke on behalf of the
League.

In a recent colourful ceremony the Geraldton Sub-Branch of
the RSL presented the NRC unit TS MORROW with new
colours.

Friday, 26th June, saw the CO of TS PERTH, Lieutenant
Commander Steve Hawkes officially pay-off from the cadet unit,
TS PERTH. Steve joined the unit 16 years ago and in a record of
distinguished service rose from a recruit to command the unit. He
has also tendered his resignation from the WA Executive Council
for personal reasons.

The position of Commanding Officer is yet to be filled and
we hope to announce the new appointee in the near future.

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Monday, 1st August, saw the final meeting of the RAN
Region WA Divisional Executive, at which the President,
Captain Len Vickridge, OBE, VRD, RANR (Retd) presented the
NRC unit TS SWAN with the "Men's Lamb".

We want members to mark the date of Saturday, 28th
November, 1981, in their diary, so that they will be able to join
with other members and friends of the Navy League for an
enjoyable evening at HMAS ENCOUNTER.

We are holding a Christmas Cabaret, which promises to be
an excellent night, dancing to the music of the ever popular
"Little Rubber Band".

The Cost of Tickets will be $9.00 per head all inclusive,
which covers supper and all drinks (spirits, beer, wine and soft
drinks). The tickets will be available for sale from the end of July
and we hope that you will all make up a party to bring your
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"Little Rubber Band".
Notice is hereby given that the Annual General Meeting of the Navy League of Australia will be held at the Imperial Service Club, Ltd., 33 York Street, Sydney, NSW 2001, in the Conference Room, at 8.00 pm on Friday, 6th November, 1981.

BUSINESS
(1) To receive the report of the Federal Council and to consider matters arising therefrom.
(2) To receive the financial statements for the year ended 30th June, 1981.
(3) To elect office-holders for 1981/82 as follows:
   (a) Federal President
   (b) Federal Vice-Presidents (2)
   (c) Federal Council Members
   (d) Auditor
   (e) Nominations for the above to be lodged with the Honorary Secretary prior to the meeting.
   (f) General Business.
   By Order of the Council.

By Order of the Council.

J. H. H. PATERSOM
Honorary Federal Secretary

Ekinstcld Street, Balwyn, Victoria 3103

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Notice is hereby given that the Annual General Meeting of the NSW Division of The Navy League of Australia will be held in the Conference Room, 2nd Floor, PSO Building, 2 Castlereagh Street, Sydney, NSW 2000, at 5.30 pm on Wednesday, 30th September, 1981.

BUSINESS
(1) To receive the report of the Executive Committee of The Victorian Division for the year ended 30th June, 1981.
(2) To receive the accounts for the Division for the year ended 30th June, 1981.
(3) To elect the Executive Committee for 1981-82.
(4) To appoint an Auditor.
(5) General Business.
   By Order of the Executive Committee.

By Order of the Executive Committee.

R. C. ROWLAND
Honorary Secretary

26 Warratah Road, Torrenmera, NSW 2614

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Notice is hereby given that the Annual General Meeting of the Victorian Division of the Navy League of Australia will be held at the Melbourne State College, 757 Swanston Street, Carlton, in Conference Room S 820, Level II, Science Education Building at 7.45 pm, on Monday, 14th September, 1981.

BUSINESS
(1) To receive the report of the Executive Committee of the Victorian Division for the year ended 30th June, 1981.
(2) To receive the accounts of the Division for the year ended 30th June, 1981.
(3) To elect the Executive Committee for 1981/82.
(4) To appoint an Auditor.
(5) General Business: To deal with any matter notified in writing to the Honorary Secretary by 7th September, 1981.
   By Order of the Executive Committee.

By Order of the Executive Committee.

J. H. H. PATERSOM
Honorary Secretary

13 Malvern Road, Ment Albert, Victoria 3127

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