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THE NAVY

The magazine of the Navy League of Australia

Vol. 32
February-March-April, 1970
No. 1

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Plus some stories and photographs

The views expressed in articles appearing in this publication are those of the authors concerned. They do not necessarily represent the views of the editor, the Navy League, or official opinions or policy.

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When the Ports Were filled with Loveliness

ALLAN FRASER

(Reproduced from Hemisphere—an Asian-Australian magazine).

Carry-on-an'-break-her ships — shake-her-up-and-wake-her ships—
Crammed with Southern fleeces for the Sou' West India Dock—
The westerlies to hustle 'em and the steady Trades to hustle 'em
Eighty days from Melbourne to the chime of Limehouse clock!

These were the ships—the fine ships, the fair ships, Golden Fleece and Cutty Sark and swift Thermopylae;
Sailors they were sailors then—ay, and ships they were ships;
When the ports were filled with loveliness and sails were on the sea.

—C. FOX SMITH.

Sightseers gather to watch a squadron of ships in Sydney Harbour in 1882.
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In 1885, the two ships raced from Australia to catch the London wool sales held in January. Cutty Sark won by a week. This was sweet revenge for her crew because a few years earlier the two clippers had raced from Shanghai with cargoes of tea; Thermopylae had then won by a week after Cutty Sark’s rudder had been carried away. But of these things, more anon.

Today, when the luxury liners, the floating hotels on the England-Australia run, range from 20,000 to 30,000 tons, it is instructive to recall that up till 1850 the ships coming to Australia were from 250 to 300 tons and not much more than a hundred feet long.

The gold rush brought the demand for larger and faster ships; the Sovereign Of The Seas, diverted from the Californian run in 1852, was perhaps the first of these. But other fine vessels were quickly built to carry eager passengers to Australia and soon the influx grew to thirty thousand a year.

By 1860, the mass migration was falling away and the demand was for smaller ships. Sailing now saw, in contrast to the towering softwood vessels of the 1850s, the advent of composite clippers with their iron frames planked with teak. They brought out passengers and then raced home with wool to catch the London sales. Much was at stake; if they were late, the wool had to wait several months until the next sales.

Sobraon, built in 1866, was the largest of the composite clippers—2,131 tons, 317 feet long, and with a 40-foot beam. She was one of a fleet of swift and graceful clippers owned by Devitt and Moore, others including La Hogue, Parramatta, Macquarie, Medway, Rodney and Collingwood.

In the nineties Sobraon was acquired by the New South Wales Government as a training ship for boys, and in 1911, when the Australian Navy was established, she became a naval training ship with a new name, Tingira. Upon her retirement she lay at rest in Sydney Harbour with another famous clipper, Fortuna. In 1929 she was sold, then resold in 1935 and subsequently broken up. It was a pity.

Cutty Sark, launched exactly a hundred years ago, continued her remarkable exploits in the Australian trade until 1893. Her tonnage was 921, her length 212 feet, her breadth 36 feet and her depth 21 feet. She carried a cloud of sail—as much as many vessels double her tonnage. In 1880 she was considerably cut down, but after this she made her speediest passages.

The figurehead of Cutty Sark, one of the most remarkable ever placed on a ship, was considered a masterpiece. It showed the winsome but immodest wench of the poem Tam o’Shanter by the Scots writer, Burns, with her ‘cutty sark’ (short skirt) blowing in the wind. The figure’s creator succeeded admirably in giving her an expression of fierce intent, streaming hair, bared shoulders, flowing draperies, and hand outstretched in vengeful pursuit of the peeping Tam o’Shanter on his old mare Meg. Behind her on the tailboard danced witches, more abandoned still; behind them again sat the Devil, watching the proceedings in high glee.

Alas, this fine interpretation of the poem was doomed almost immediately to partial obliteration: mid-Victorian moralists succeeded in persuading her owner, Captain Willis, to remove the offending witches.

Cutty Sark was specially built to lower the colours of Thermopylae, as she sometimes did. The young men who designed her were also given the commission to build her. They
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A dressed ship: the S.S. Sabrahn, in 1898.

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went bankrupt in the process because of the rigid manner in which the owner, fiercely intent to have a peerless ship, held them to the letter of their contract.

She had many captains; one of them, Wallis, described as a good sailor but temperamentally unsuited to control a crew, disappeared over the side one dark night.

On a voyage to Australia in 1888, Cutty Sark was partially dismasted, but Captain Woodget drove her on with splintered spars and topmast and a tangle of rigging and torn canvas about the deck. He steadfastly refused to cut anything away, made temporary repairs during calmer weather and drove her on several runs of over three hundred miles in twenty-four hours.

In the following year, Captain Woodget delighted the hearts of the true lovers of sail by racing the mail steamer Britannia from Caxto Island, off the coast of Victoria, to Sydney. In the early stages Britannia, logging fifteen knots, maintained a good lead, but with the assistance of a nice blow Cutty Sark achieved a steady seventeen knots, passed Britannia and reached Sydney four hours ahead.

On Christmas Eve 1893, Cutty Sark bade farewell to Sydney. Her cargo on that last voyage worked out at over two million pounds and its value was approximately £100,000. The cost of putting the wool aboard exceeded £800 and freight amounted to £4,000 at one-halfpenny a pound for washed wool and three-eighths of a penny a pound for scoured wool.

With freights diminishing and steamship competition growing ever keener, Cutty Sark’s owners, despite all protest, sold her in 1895 to the Portuguese. From the limelight of London, now rigged as a barquentine. A dressed ship: the S.S. Sabrahn, in 1898.

A cry went up that the very elastic, these two clippers were in fact identical twins. Perhaps the fastest of the iron clippers was Hallowe’en, although maybe Salamis, a little Aberdeen clipper, could successfully have disputed the claim. There is no evidence, however, that they ever met on equal terms to settle the point.

Hallowe’en came just too late for the great days of the China tea racing, which ended with the opening of the Suez Canal and the advent of steam. Nevertheless, her sailing in the tea trade was second to none, her fastest passage from Shanghai to London being eighty-nine days.

An extraordinary contrast existed between Hallowe’en and her sister ship, Blackadder. Although the latter ship was very elastic, these two clippers were in fact identical twins. They were built on the Thames, side by side in the same yard, from the same plans, from the same materials; there was a difference of only one ton in their dimensions. Yet Hallowe’en was a famous clipper while Blackadder, ‘built in th’ eclipse and rigged with cursés dark’ carried a veritable hoodoo from the day of her launching. She was a man-killer, she was dissatisfied, all kinds of ill luck attended her. Sailors have their own explanations of these things.

Golden Fleece, launched in the same year as Cutty Sark, had the curious distinction that she was built to the specifications of Noah’s Ark but half as large. If the building she passed into obscurity. A similar fate overtook her rival, Thermopylae, at much the same time.

But that was not the end of Cutty Sark. Like a ghost ship, and bearing the name of Fervous, she reappeared in a British port in 1914. Her return, after years of wanderings, aroused widespread interest. Again in 1919 she turned up in the Port of London, now rigged as a barquentine. A cry went up that Cutty Sark should be saved for the British nation. In 1922 Captain Walter Dowman, himself an old windjammer skipper, bought her, sailed her to the port of Falmouth and lovingly began to recondition her. She was recently given a new home in the Naval Museum on the bank of the Thames at Greenwich, where she is still a great public attraction.
All those who sailed in her sang her praises. She handled well much improved by modern builders, for.

No ship ever identified herself more closely with a port than did Brilliant, another of the iron clippers, with Sydney.

Glossy black, with bright teak and glowing brass, she seemed to be in her happy days. In the days when she was launched, she was said to be the handiest vessel ever launched. In 1916 a German submarine sank her by shellfire: she thus escaped the ignoble fate of rotting as an abandoned coal hulk.

No ship was more seaworthy than did Brilliant. She was as good on the wind as off it.

The story is that while Brilliant was running from London to Sydney one of the crew was swept overboard. After a desperate struggle he managed to free himself of his oilskins and sea boots.

An albatross which had been following the ship swooped down on him, so close that he was able to grasp it by the neck and to hold its head under water till it drowned. The albatross was the means of saving the man's life, for, by its buoyancy, it kept him afloat until he was picked up by the ship's boat, which had been launched with extreme difficulty and danger.

In later years, the sailor, a Norwegian, would frequently display the scars he incurred on his hands while struggling with the albatross, as evidence of the truth of his story.

Year by year the competition of steam became more formidable. Constant improvements in steamships gave them increasing advantage. The last sailing ship specially built for the Australian passenger service was Harbinger, launched in 1876. As the eights dawned, the era of sail gradually faded.

Yet, for many years more, the sailing ships tramped the seven seas for cargo ever more difficult to find. Well into the 1920s, some sailing ships still made at least annual voyages with wheat from South Australia to the United Kingdom. Their number declined as disaster overtook them or they became training ships—or, most inglorious fate, were sold for scrap.

In both 1892 and 1893 the remaining ships of the wool clipper fleet found their way blocked by tremendous barriers of ice along the parallel of 45 degrees south. Smackdown dodged icebergs, in vain attempts to find a way through, from March 18 continuously until May 21. Her captain reported the ice cliffs as rising a thousand feet above the sea.

These extraordinary heights were confirmed by many other ships, including Liverpool, a full-masted iron ship of 3,400 tons which continued to be a familiar sight in Australian ports until early this century. In 1893 Caisie Sank reported ice cliffs also a thousand feet high at 50 degrees south and 43 degrees west, while Lock Torridon reported ice fifteen hundred feet high in the same region. These two ice fields of 1892 and 1893, representing a tremendous breakaway of the Antarctic ice barrier, arc by far the largest ever recorded.

In the final days of the battle against steam the sailing ship owners had to impose every possible economy to stay in business. A graphic illustration of the hardships faced by the attenuated crews is given by the historian of steam, Basil Lubbock; he sailed in Ross-shire, which made her first appearance in Sydney in 1895.
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"Even to square the yards when it was blowing hard not only required all hands but became a desperate fight between man and the elements. She was not a ship that had any mercy on her crew but then those who went to sea in the latter days of sailing ships did not expect mercy. They expected to have to endure hard work, hard knocks and hard living." And they did.

On Ross-shire's last voyage she carried coal across the Pacific from Newcastle, New South Wales, to Valparaiso. After discharging most of the coal, she took aboard salt-petre. A great explosion of gases occurred in the hold, set fire to the ship and destroyed her. Captain and crew were saved.

So the era of sail ended. Each year had seen the hosts of flyers spread their wings on the long race home around Cape Horn to London, and.

With tallow casks all dunnaged tight with tiers and tiers of bales.

With cargo crammed from hatch to hatch she's racing for the sales.

Those fine ships are gone, but it is good that the sparse records which remain of them and the stories which we have of them should be handed down.

But long after the great days of sail had ended, their glory was kept alive by ocean training ships specially built to carry cadets. Still in service for their navies are Dewarutji (Indonesia) and Esmaralda (Chile), graceful ships which have visited Australian ports in the last decade. Unfortunately, an earlier visitor, the German ship Pamir, went down not long after the war.

The clipper Red Jacket in ice off Cape Horn during a passage from Australia to Liverpool.

Pamir showing a good turn of speed.
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One of the last of the training ships to be built was a magnificent steel four-mast barque launched in 1902 to the order of a Uruguayan company and first named Ama Bego-niha. The new cadet ship registered 2,511 tons gross, with a length of three hundred feet. In 1910 she was bought by Devitt and Moore to add to their fleet of ocean training ships, renamed Medway, and placed under the command of Robert Jackson, who had been chief officer of the Port Jackson.

At a luncheon given by Lord Brassey to mark the end of Medway’s first voyage under her new owners, made in ninety-five days from Australia, Captain Jackson made a remarkable declaration on the superiority of sail training over steam training for the future officers of the Mercantile Marine. He said that a first-voyage cadet was fit to go through the second mate’s examination, a second-voyage cadet could pass a mate’s examination, and a third-voyage cadet could bear any old shell-back at pure sailorsing.

Until the outbreak of war in 1914, Medway voyaged regularly in the Australian trade, with general cargo out from London and wool and grain home from Sydney. She always had a full complement of cadets.

In 1914 Medway sailed from Sydney a few days before the declaration of war and arrived at Falmouth, 116 days out, on November 13. Very shortly after her arrival Captain Jackson died.

Now placed under the command of Captain David Williams, Medway performed remarkable war service, sailing again and again in defiance of German submarines which were then thick in the English Channel. At the beginning of 1916 all her cadets with twelve months’ service or more were drafted into the navy as midshipmen.

On one occasion Medway sailed without escort or armament from Falmouth to Bordeaux, her grain having been bought by the French Government. After discharge, she left Bordeaux with a cargo of pit props; again her luck held in extraordinary fashion, for this time she was becalmed for several days. During this time Captain Williams and his crew enjoyed bathing over the side, notwithstanding the fact that a submarine might have sent their ship sky high at any moment.

In May 1917 Medway completed an encirclement of the globe in 105 days from northern Chile to the south round the Horn, then eastward to the Cape, and on again round New Zealand and across the South Pacific to her warping point.

Thermopylae.

Dewarutji, the Indonesian naval training ship which visited Australia in 1961.

In his account of Medway’s final days, Basil Lubbock says that though she was never torpedoed she fell a victim to the war just as surely. It happened because in 1918 the Ministry of Shipping was at its wit’s end for oil carriers. With unlimited resources and powers it bought up sailing ships and converted them into diesel-engined tramps.

Despite the resistance of Devitt and Moore, who were aided by the Admiralty, the Ministry took possession of Medway and sent her in ballast to Hong Kong. There her masts were cut down, diesel engines were embedded in her hold, and she was converted into an oil carrier. The transition was from a beautiful four-mast barque into a monstrosity, a nightmare of a ship.

The tragedy was that by this time the Armistice had been signed, and the Ministry had no further need of poor Medway.

For many years she traded under the flag of a petroleum company as the Myr Shell. At last hearing, she was an abandoned coal hulk somewhere on the China coast.

The sailing ship depicted on the back of the Australian five-dollar note is the clipper brig Waverley. The name can be read on her pennant. She first traded in the Chinese ports and then around Australia. In July, 1871, she made the record passage of six days from Adelaide to Sydney.

THE AUTHOR: Allan Fraser has written a book and many articles on Australasian early history. He acknowledges the valuable help of Mr. C. L. Hume, of Sydney.
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The Australian Sea Cadet Corps is a voluntary organisation administered by the Commonwealth Naval Board and The Navy League of Australia.

The aim of the Australian Sea Cadet Corps is to provide for the spiritual, social and educational welfare of boys, and to develop in them character, a sense of patriotism, self-reliance, citizenship and discipline.

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Instructional camps are arranged for Sea Cadets in Naval Establishments and they are also given opportunities, whenever possible, to undertake training at sea in ships of the Royal Australian Navy.

Cadets, if considering a sea career, are given every assistance to join the Royal Australian Navy, the Mercantile Marine or the Royal Australian Naval Reserve, but there is no compulsion to join these Services.

For further information please contact the Divisional Senior Officer in your State, using the Form provided below.

Senior Officers, Australian Sea Cadet Corps
QUEENSLAND: C/- Box 376E, G.P.O., Brisbane, 4001.
SOUTH AUSTRALIA: C/- Box 1529M, G.P.O., Adelaide, 5001.
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Please address your envelope to the Senior Officer in your State or Territory—see list of addresses above.
The most complex and expensive ($22 mill) warship ever built in an Australian dockyard, H.M.A.S. Swan, was commissioned at Williamstown, Victoria, on Tuesday, 20 January, 1970, a little over two years after having been launched (16 December, 1967) by Lady Fairhall, wife of the then Minister for Defence.

Similar in many ways to the existing four Type 12 destroyer escorts in the Australian Fleet, H.M.A.S. Swan's design includes many improvements to increase the ship's fighting efficiency and to reduce weight, size and cost. Among new features in the ship are improved navigational and gunnery radars, stabilisers, remote control of machinery and boilers, and improved accommodation for officers and sailors. H.M.A.S. Swan is the first ship in the Australian Fleet to be fitted with automatic steering.

Displacing 2,700 tons and carrying a complement of 250 officers and sailors, she is capable of speeds in excess of 30 knots. The ship has several weapons systems. Primarily an anti-submarine vessel, she carries the Ikara anti-submarine missile system and a three-barrelled mortar for close range anti-submarine attack. Swan has been fitted with a Sea-cat close range anti-aircraft system controlled by digital radar and computers, and one turret (forward) with two 4.5 inch guns.

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The Navy's latest fighting ship, H.M.A.S. Scorn, undergoes acceptance trials in Victorian waters following completion of construction at the Williamstown Naval Dockyard. The most obvious difference between Scorn and the early ships in her class is the positioning of the large radar scanner amidships instead of atop the forecastle. A sixth ship in the same class, H.M.A.S. Torrens, is still building at Cockatoo Island Dockyard in Sydney.

Attention Navy Men

A number of Naval Cadet Units are in need of additional Officers and Petty Officer Instructors with Service background to instruct Cadets. Anyone who may be prepared to give of his time on Saturday afternoons is asked to please contact the Cadet Liaison Officer, Lieutenant McPherson, H.M.A.S. WATSON, Telephone 37-1311, extension 256, between 0800 and 1530 for further particulars.

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CANADA

Newest addition to Vancouver Sea Cadets house flag collection was presentation of flag from F & A Line brought to Port of Vancouver by the P & O liner Canberra (photo below). Making presentation on behalf of the company was Canberra Staff Captain A. H. W. Dallas (left). Others in picture (from left) are Lt. Comm. W. J. Walmmsley, CO of cadet group; Petty Officer Richard Harrison; Cadet Robert Tennani; and P & O Vancouver manager Donald Palmer

Canadians Developing Frigates

The Canadian Navy is continuing frigate development from a concept of missions based on World War II experience and initiated 20 years ago. Now under construction are four units which will be commissioned this year (see photos). Twenty units have been built during the past two decades and have largely been modernized through extensive modifications.

The development of A.S.W. with the help of helicopters and variable depth sonar (V.D.S.) have been important factors in the development of the Canadian frigates. The V.D.S. can be trailed to a depth of over 328 feet for ranging in depths out of the unfavourable warm water layers at the surface by means of a cable. At the same time, sonar locations can be made from the apparatus fixed to the stern of the ship, whose 3,800-ton displacement is about 900 tons more than her predecessors. She has a length of 396 feet, a breadth of 37.9 feet, and a draft of 14 feet.

The propulsion plants of the frigates will have two driving and two main gas turbines, which will have a total output of 50,000 h.p. for a maximum speed of about 30 knots.

In contrast to the old type, the units have only one gun. However, it is a 12.7 calibre, rapid-fire cannon of a new Italian design. For close air

option of depth charges or homing torpedoes. In rough seas, the helicopter can be hauled aboard with lines. The lines can be fired from the helo and winched to the platform with the deck lines. When secured to a dolly or wagon, it moves into the hangar on the mechanized wagon.

1. Variable depth sonar
2. Limbo” launcher
3. Helicopter platform
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* * *

FRANCE

Submarine Missile

France has joined the United States, Britain, and the U.S.S.R. with the capability of launching nuclear-armed missiles from submarines. The French Armed Forces Ministry has announced the firing of a ballistic missile from the submarine Gymnote off southwest France to a target area 1,100 miles towards the Azores.

Current plans call for a fleet of five ballistic-missile submarines in the 1970s which will place France third after the United States and the U.S.S.R.

The British plan only four such submarines. The French missiles have a 1,600-mile range, somewhat shorter than that of the early U.S. Navy Polaris missiles.

* * *

WESTERN GERMANY

FGN Construction Programme Approved

The budget committee of the German Bundestag has approved the new naval construction programme. Thus, the final hurdle has been cleared prior to beginning this urgently needed programme (for essential units). The relative strength of naval forces vis-à-vis the Baltic, will be raised to a modest extent, enabling the people faced with the growing threat in this area to breathe a bit more freely. To this end, NATO has been demanding the strengthening of German naval forces in this area for some time.

In addition to the construction of four rocket frigates, 12 additional submarines are assured. However, priority goes to the four rocket frigates, which will release the two leased destroyers of the U.S. Fletcher class to be retained until 1974. By that time, the Fletchers will be retired as over-age.
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UNITED KINGDOM

Seacat's Successor

A new generation successor to the Seacat anti-aircraft missile is being worked on by Short Bros. & Harland as a private venture. Aimed as a command-line missile for the late 1970s, it will be kept simple, for operation without skilled manning, but will have higher speed, greater maneuverability, and be armed with a different type of warhead able to divers or damage smaller, harder targets. Naval ships now armed with Seacats will probably be able to take the proposed new weapon with modification of existing launchers.

** AUTOMATIC BOUY FOR NAVIGATION **

Europe's first automatic unmanned replacement for a lighthouse—a 40-ft.-diameter, 84-ton, navigational buoy—was handed over to Trinity House by Hawker Siddeley Dynamics Limited at a launching ceremony at London's Royal Albert Dock on 3 December.

This prototype, known as the Hawker Siddeley Dynamics Lanby buoy (Large Automatic Navigational Buoy), is to be evaluated by Trinity House (the general lighthouse authority for England, Wales and the Channel Islands), to find an economical means of replacing a number of the authority's 32 lighthouses.

The buoy's capital costs, which include its shore-based monitoring and control equipment, is about half that of a modern lighthouse. Its running costs are expected to be about 90 per cent less than the £29,000 required to keep a conventional manned vessel at sea each year.

The navigational aids, fitted to a lattice mast on top of the buoy, consists of a main light beacon 40 feet above sea level giving a luminous range of 16 miles, and a powerful fog signal which is audible over three miles away.

At a later date radar and radio beacons may be fitted, and there is provision for accommodating meteorological or oceanographic data-reporting equipment if required.

The automatic operation of these aids and their power supplies—three 5-kW diesel powered generating sets—is monitored every 30 minutes by the buoy's shore control station using a radio telemetry link.

Should any failure occur, standby services operate automatically, and indication of the fault is relayed to the control station.

Shore control can carry out 40 separate checks on the equipment and can control 22 different operations on the buoy.

The Lanby buoy, which can be moored in depths from 30 to 300 feet, weather conditions—winds up to 40 m.p.h., waves up to 40 ft. high, and tidal currents up to seven knots.

On completion of full operational trials in the North Sea, the Lanby buoy will be towed to its permanent site off Portland Bill (on England's south coast) to replace the Shambles lighthouse.

The order for the buoy was placed with the industrial automation division of Hawker Siddeley Dynamics at Chaddesley Holme, Cheshire, which had previously carried out a design study.

** HARRIER FIGHTER **

Sea trials of the British V-STOL Harrier fighter will begin fully in March, when a Harrier—probably from the squadron operated by No. 38 Group, R.A.F.—will go aboard H.M.S. Eagle for a series of day and night tests to be jointly undertaken by the R.A.F. and Fleet Air Arm. The tests, to be continued possibly over a period of years with regular deployment of Harriers to carriers and other naval vessels either for special trials or during maritime exercises, are expected to provide a basis not only for the evolution of a pattern of naval V-STOL operations, but also for studies contributing to future developments both of new combat aircraft of the type, and of ships to carry them.

** NEW PATROL BOAT **

Siernaw of Tenderly, the prototype built by Vosper Thornycroft to their new 142-ft. patrol boat design, showing, in mockup form, the Conraves Sea Killer missiles, and Sea Hunter fire-control equipment. Other alternative weapons can, of course, be carried. Last year this fine craft demonstrated her speed and extreme maneuverability in the press of calm waters of Spithead. As this class is designed very much for long-range, deep-water operations, it would be interesting to see how she behaves in a Western Ocean gale.

** United States **

S-3A A.S.W. Aircraft

Lockheed California has awarded three further sub-contracts associated with development of the U.S.N. S-3A carrier-based A.S.W. aircraft—planned replacement for the Grumman Tracker—for which it is the prime contractor. Loral Electronic Systems has a contract, valued at $US4 million, for help in the development of integrated tactical display systems. A $3 million contract goes to Lear Siegler for an attitude heading reference system and inertial navigation system interface. Kinetic has been awarded a contract of undated value for a recording system for the S-3A.
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The S-3A all-weather carrier-based A.S.W. plane is being developed to replace the Grumman S-2 Tracker. It will be powered by two G.E. TF-34 high-bypass turbofan engines, capable of speeds of more than 400 knots and a range of over 3,000 nautical miles. First flight of the S-3A is expected in early 1972, with fleet introduction in 1973.

Wings, Hydrofoils in Sub. Concept

A Navy programme of concept formulation for modular fleet submarines, stressing the safety features of a detachable minisub, has produced ideas in including wings and a tail section for greater stability while running submerged, and retractable hydrofoils for greater speed on the surface.

Ben L. Friedman of the Operations analysis section, Office of Naval Research (O.N.R.), is involved in weighing the prospective functions of a new generation of fleet submarines. Friedman said that this will determine how many jobs can be automated, and the crew size, which in turn will be the basis of the weight requirements. He expects to arrive at a crew of 25, compared to a crew of about 100 on the present ballistic submarines.

Involved in different approaches to the problem are Westinghouse Electric Corp., and Lockheed Missile & Space Co. Lockheed is performing a research and development study, Westinghouse is examining relationships of payload to displacement, costs to savings, and noise signature possibilities.

Drawings done for Friedman show a fleet submarine with retractable legs or hydrofoils under the wings. This would allow the submarine to sit on the bottom while the escape chamber, an area at the bow where all the crew would live except during maintenance excursions to the after part of the vessel, would be discharged.

The chamber, powered by batteries, could be used as a reconnaissance vehicle, with a range of around ten miles.

U.S.S.R.

Shakedown for New Soviet Sub.

Russia's new Y-class nuclear-powered, missile-firing submarines have been detected for the first time on the high seas. Two Y-boats, similar to the U.S. Polaris, are undergoing shakedown cruises in the North Atlantic off Norway.

The Soviets have a total of five operational Y-class submarines in their northern fleet. Each can carry 16 SS/6 nuclear missiles of 1,500-mile range. The Russians are believed capable of turning out eight missile submarines each year—which would bring them up to the present U.S. total of 41 Polaris in five years.

OUR COVER

WINNER OF QUEEN'S medal

The Governor-General, Sir Paul Hasluck, presented the Queen's Medal to Midshipman John Robert Lord, of Joondanna, Perth, at a Promotion Parade at the R.A.N. College, Jervis Bay, on 5 December, 1969. He was among 13 midshipmen at the college who were promoted in the rank of Acting Sub-Lieutenant. Midshipman Lord, 20, the son of Mr and Mrs Robert Lord, of Osborne Street, Joondanna, has already won the Governor-General's Cup for Sport awarded to the best all-rounder in sport at the college.

The Queen's Medal is awarded to the Acting Sub-Lieutenants of the promotion year who during his training has exhibited the most exemplary bearing, conduct, performance of duty and good influence among his fellows. The 13 officers journeyed to Britain in January to continue their training.
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Ejector Liferafts under Test

A self-inflating rubber liferaft that is automatically catapulted out of a sinking ship in the way that an aircraft seat is ejected has been under test in Britain. The liferaft is stored in a torpedoshaped container and mounted in the stern of the ship. In an emergency, compressed air "fires" the container into the sea. Water and wind are kept out of the "torpedo" tube by means of a plastic cover over the opening. Laboratory and water tank tests have been carried out by the British Aircraft Corporation and the Palmer Aero Products Company. Further testing will follow in the B.A.C. chamber where the liferaft will be subjected to icing conditions.

** Distress Signal Flares also Visible on Radar

A low-cost distress signal that is detectable by radar in conditions of poor visibility has been developed by a British firm. A rocket, containing red flares, is fired by hand to a height of 1200 ft., which it reaches within 5 seconds. It also carries three packs of radar reflective dipoles, tuned to the X-band (3 cm) radar frequency. The rocket is fired by means of a lever operated ignition device in the base of the container. At the height of trajectory, the burning flares and dipoles are ejected. Echoes lasting up to 15 minutes may be detected on aircraft radar screens 20 miles distant and by ships up to 12 miles.

** Mini-fin Stabilisers Small Boats

Effective stabilisation on small boats is made economically possible with a low-cost stabiliser unit which was recently demonstrated off the south coast of England. Developed by Vosper Thornycroft, the international marine engineering group, the "Mini-Fin" considerably reduces severe rolling and makes it practicable for motor cruisers to undertake heavy passages in more reasonable comfort than at present. A pair of the non-recratable fins, gyro controlled and hydraulically operated, was fitted to a 48 ft. demonstration motor yacht which moved smoothly through medium seas in the Solent. The units, which are increased as linked pairs according to size and speed of vessel, have been tested for over 300 hours in weather up to gale conditions. Quality production is now starting to make the "Mini-Fin" a standard off-the-shelf unit which can be fitted to any small motor vessel, except fishing boats, ranging from about 75 feet down to 30 feet.

Methane Progress

A new marine radar display, claimed to provide the clearest and most accurate information that has ever been available on the bridge of a ship, has been developed by GEC-Elliot Automation Ltd. It greatly simplifies the guidance of a vessel in poor weather conditions such as fog, and also through crowded waters. Already this equipment has been installed aboard the Queen Elizabeth 2 and has been specified by other leading shipping companies in Britain. The new equipment uses a dual electronic presentation system in two colours to convey key information in the simplest form, eliminating the need for labourious manual plotting. One colour presents conventional radar information on the position of ships and other hazards, superimposed on this display in the second colour is information predicting the future course of up to a maximum of twelve ships. This prediction is provided by built-in computer equipment, which ensures that if any ships are on a collision course with "own" ship, an audible
warning note is sounded, and a flashing “halo” appears on the display around the radar echo from the other ship involved. A further facility enables a proposed change of course to be set up on the display. The computer then predicts whether this new course would be the optimum to follow, avoiding any new hazards. These, and a number of other features, make the equipment one of the most sophisticated aids ever produced provided to the mariner, say the manufacturers.

The system, which has been given the name “COMPACT” (Computer-Predicting and Automatic Course Tracking), is an extension of the well-known Escort series marine radars.

**Instant Action Rescue Quoit**

A British firm has developed a lifesaving aid that is simple to use, easy to install and moderately priced—the Dunlop Rescue Quoit.

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The buoyant Quoit ring and securing line are strong enough to support the heaviest person without risk of breaking. It can be used repeatedly without adverse effects, and is easily re-packed.

No skill or training is required to install or operate the Dunlop Rescue Quoit, and all fixing materials and instructions are supplied with the Quoit.

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A page in Australian Maritime history was turned in December, 1969 when the first navigational chart portraying depths and heights in metres was released by the Hydrographic Office of the Royal Australian Navy for issue to naval ships and for sale to the merchant marine and the public.

The term "fathom" has been used by British seamen for depth measurement for possibly a thousand years and, with its subdivision of feet, has been referred to both in sailing directions and charts, since such aids to Mariner's were first introduced. However, with faster travel giving the effect of a shrinking world it is becoming increasingly more important that standardization in various fields of transport should take place in the interests of world-wide efficiency. One of these areas of standardization is in linear measurements, and almost universally it has been decided that these measurements should be standardized on decimal units (see photo).

The first Australian chart to be issued in this form is chart No. Aus. 58, for the newly developed iron ore port of Dampier in North Western Australia. In the next three months this will be followed by the chart for Port Hedland and the coastal charts between Port Hedland and the Moree Bello Islands. It is hoped that by the end of 1972 all large-scale charts of Australian ports will have been converted, and inroads made into the medium-scale coastal charts. The full conversion programme is, of course, a long one and it may be up to ten years before all the small-scale general and planning charts have been converted.

The next important item for conversion will be the Australian National Tide Tables and the 1972 Edition will express tidal heights, etc., in metric form.

To help the Mariner during the transition period when charts in both metric and fathom units are in existence together, certain devices have been introduced. On the metric charts the land is coloured with a new distinctive yellow tint, while outside the top and bottom borders, the notation DEPTHS IN METRES in large block letters should be sufficient warning to the Mariner that his chart is in metric form. The tide tables will include a stiff card book mark carrying conversion tables from both fathoms to metres and metres to fathoms.
The principal objective of the Navy League of Australia is to stress the vital importance of Sea Power to the Commonwealth of Nations and the important role played by the Royal Australian Navy.

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What the World Owes...

CAPTAIN COOK

by Rear-Admiral G. S. Ritchie
Hydrographer of the Royal Navy

1970 marks the 200th anniversary of Captain Cook's first sighting of
Australia. Today his surveying methods have been superseded; his
regimen of a weekly airing for sailors' hammocks is out-dated by bunks
and air-conditioning, and scurvy is a thing of the past. But Captain
Cook's determination and achievement still stand as an example.

Captain Cook was more than a gifted explorer. He was a
surveyor who charted with remarkable accuracy the coast-
lines, the bays and the anchorages he discovered; and he
taught British seamen who sailed with him the technique of
the "running survey" which he developed as an art.

But first Cook, a Master in the Fleet,
had to learn the rudiments of surveying
for such were neither used nor under-
stood by British sailors in the mid-18th
century.

A happy chance set Cook on the
right road, when in 1758 he landed
from his ship Pembroke in Kensington
Cove, Nova Scotia, during the Seven
Years War against France and her allies.

Here he met Samuel Holland, a
Dutchman serving as a surveyor in the
British North American Regiment. Hol-
land was using the plane table, a por-
table plotting board upon which the
land surveyor may plot from a number
of selected and inter-related "stations"
prominent features in the landscape.

This he does by sighting the features
through the alidade, a telescope
mounted on a straight edge to which a
magnetic compass is attached; the line
of sight is transferred to the plot by
means of the straight edge, and when
three or more such lines are seen to
intersect, the feature may be laid down on
the plot.

Cook invited Holland on board to
meet his Captain, Simcoe, who was
himself intensely interested in naviga-

CAPTAIN COOK'S SHIP "RESOLUTION"

Cook set off on an expedition to search the southern hemisphere of
the world for a continent which people believed to be there. He was in
command of two small ships, the RESOLUTION and the ADVENTURE. The
former, illustrated below, was of 462 tons, and carried a crew of 112 men,
twelve guns and a large number of animals for landing on the islands.
would carry secret orders bidding him go in search of the "Great Southern Continent" generally believed to exist in the South Pacific, as soon as the observations in Tahiti were complete.

For this second task Lieutenant James Cook was undoubtedly the man.

Thus it was that 300 years ago, in October 1769, Cook fell in with the east coast of New Zealand, the west coast of which had been briefly sighted by Tasman 127 years earlier.

BRILLIANT

Cook was now able to put into brilliant practice the knowledge gained by studying Holland's plane table.

To lay down a long coastline it would be necessary to intersect by magnetic compass bearings recognisable features along, or in close proximity to, the coast from the ship as she sailed offshore.

The stations from which the intersecting bearings would be taken would not be onshore but would be on the deck of the ship herself, and thus her position must be continuously known.

Celestial fixes were made whenever possible, and with no chronometer on board for the first voyage, lunar sights had to be worked out in all their laborious detail to find longitude.

Between sights, the ship's changes of course, often dictated by the wind, and the distance run by log, had to be meticulously recorded so that the position of each "ship station" might be known, both in latitude and longitude and in relation to adjacent stations from which the same features ashore were being fixed by intersecting bearings.

SURPRISINGLY FEW MISTAKES

This was the technique of "running survey" which enabled Cook, within the space of a few brief months, to lay down the entire coasts of the North and South Islands of New Zealand.

On-shore gales and thick weather necessitated leaving the proximity of the coast for days at a time, but Cook endeavoured to reach the coast again where he could recognise land features previously fixed so that he might sail on without a break in the plot, which was slowly revealing the shape of New Zealand as we know it today.

It was on such occasions that his surprisingly few mistakes were made, such as his description of Stewart Island as a peninsula and Bank's Peninsula as an island; pos-
sibly his failure to find the great Hauraki Gulf, at the head of which the great harbour of Auckland is situated today, was due to poor visibility or lack of time to investigate.

Not only did Captain Cook develop during his three great voyages the running survey, but he also came to realise that the work of one day must be set down the same night while all was fresh in the mind, and before details were confused with the work of the following day.

TRADITION OF DEDICATION
Cook established not only a technique but a tradition of dedication which must go with it; officers who sailed with him and whose names were subsequently scattered about the world on the features they themselves charted, learned from Cook's example. Such men were Bligh and Vancouver, who in turn passed their learning on to Flinders and Broughton, and so down the years even to the present generation of Britain's sea surveyors.

The techniques have been improved by changes in ship propulsion and modern survey instruments, including many electronically operated or controlled, but Cook's example of dedication and hard work remains for us today and must still be followed by all who essay to chart the seas.

FIGHTING SCURVY
More is known about the work that Cook performed in reducing the ravages of scurvy on long sea voyages and in generally maintaining the health of his men.

In his brief periods between voyages he consulted medical opinion, both British and Continental, and arranged that sauerkraut should be provided for his men and that the brewing of spruce beer would be facilitated, and when these were served he encouraged the taking of them by the crew by his own obvious relish.

He established in his ships the weekly airing of bedding on the upper deck, and the drying of damp messdecks with stoves, and the sprinkling between decks with vinegar to keep them sweet. Flinders was closely following these practices thirty years later in Investigator, having learnt them from Bligh in Providence during the second, and successful, breadfruit voyage.

Airing of bedding continues to the present day and is only now going out of practice with the replacement of sea-
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men’s hammocks by bunks and the general adoption of air conditioning in Navy ships.
Perhaps it could be said that Captain Cook gave to the world his discoveries of the two islands of New Zealand, and New South Wales, but after all, these were but re-discoveries.
The Maoris and the Aborigines had found them long before, and another European navigator would undoubtedly have made such discoveries by the end of the eighteenth century had Cook never sailed.
What Cook gave the world was the ability to take a crew of seamen on long voyages of exploration to distant seas, and to keep them alive and in good health and spirits so that they could map distant shores using techniques developed by Cook himself.
Returning to their homelands, the fruits of their labours were charts of far-off shores which led inevitably to the colonisation of New Zealand and Australia by the British.
It is a glorious tribute to Captain Cook that he stands today in such high regard among the population of those two great countries.

About the Author—Rear-Admiral G. S. Ritchie, C.B., D.SC., F.R.I.C.S.
The post of Hydrographer of the Royal Navy was established in 1795, and Rear-Admiral George Stephen Ritchie is the 19th holder of the office.
He was promoted to his present rank when he took over the post from Rear-Admiral E. G. Irving in January, 1966.
Born in 1914 at Burnley, Lancashire, he joined the Royal Naval College at Dartmouth in the early 1930s.
He has been in the surveying service since he joined the coal-burning survey ship, H.M.S. Herald, in 1937, then employed in the South China Sea.
He continued on surveying duties throughout the war and was attached to the Eighth Army for 18 months in North Africa and Italy to survey the various damaged ports and harbours which fell into Allied hands and were required for landing military stores.

SEISMIC STUDY
In 1949-51, Rear-Admiral Ritchie commanded H.M.S. Challenger on a world voyage with scientists who were investigating the nature of the ocean floor by seismic methods.
From 1953 to 1956 he was on loan to the Royal New Zealand Navy in charge of their hydrographic department and in command of their survey ship, H.M.N.Z.S. Lachlan.
During this time he carried out surveys in New Zealand and Samoa as well as undertaking a number of oceanographic cruises in the South-West Pacific.

WINNING FAVOUR WITH THE NATIVES
It was Captain Cook who laid the foundations for the taking of Australia and New Zealand into the British Empire.
He also discovered a great many island groups in the Pacific Ocean, and upon these would trade with the native chieftains.
On some of his voyages Captain Cook carried sheep, by means of which he won favour with the aborigines.
In this illustration, from a painting by Stephen Reid, we see him presenting some sheep and a goat.

Page Forty-two THE NAVY February-March-April, 1970
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Changeover Ceremony
Aboard Flagship

Former Deputy Chief of the Naval Staff, Rear Admiral Hugh David Stevenson (at left in photo below) took over the pos of Flag Officer Commanding the Australian Fleet on 6 January. Rear Admiral G. J. B. Crab, the previous Flag admiral, accompanied Rear Admiral Stevenson during his inspection aboard H.M.A.S. MELBOURNE in Sydney. Captain J. D. Stevens (right) was among the contingent of commanding officers of R.A.N. ships who attended the changeover ceremony. Rear Admiral Crab has been appointed to the pos. of Flag Officer in Charge, Fast Australia Area.

* * *

Hydrographic Ship to be Built at Williamstown


Design of the vessel is complete and planning for its construction is in the final stage.

The ship will replace H.M.A.S. PA-1UMA, which is now reaching the end of its economic life.

Modern hydrographic equipment including highly accurate echo sounding devices and a satellite navigation system will enable the ship to carry out her functions efficiently and accurately.

Construction is expected to take about two years and the project will provide a workload sufficient to maintain the current general level of employment at the Williamstown Dockyard.

* * *

First Joint Service Staff Course

The first course of the new Joint Services Wing of the planned Australian Services Staff College commenced during January at the Wing's temporary accommodation on the Cotter Road, near Canberra.

Its establishment represents the first stage of the establishment in Australia of a Joint Service Staff College for the training of senior service and civilian officers associated with defence activities. The plan was for three single Service Wings as well as the Joint Service Wing, the whole College being in Canberra.

Each Service has long since ceased to be distinct from itself; the three Services have become increasingly interdependent and this trend is bound to continue. Likewise Service officers are becoming more closely involved with civilian defence administrators and planners.

The new College is designed to help produce officers for command and staff appointments who will have the requisite Joint Service training.

The 23 students on the first course, which will extend over five months, include senior officers of the Navy, Army and Air Force, civilian officers from those Departments and of the Department of Defence, and three officers of the New Zealand armed forces.

The students will study the wider aspects of Australia's defence planning and policy, foreign policy and regional defence arrangements. They will also do exercises involving the planning and conduct of joint operations by Australian armed forces in types of warfare.

Pending the establishment of the Australian Services Staff College in Canberra in its final form, individual Service staff college training will continue at Queenscliff for the Army, Fairbairn for the R.A.A.F. and the Navy will continue to send its officers overseas for naval staff training.

* * *

Cooling Down After Shoot

Sailors use hoses to cool down the two 4.5 in. guns of H.M.A.S. Vendetta, after bombarding shore targets in South Vietnam (see photo). The 3,500 ton Daring-class destroyer, which began her first tour of duty with the U.S. Seventh Fleet in September, 1969, spent the Christmas-New Year period on patrol in the war zone. On one occasion, Vendetta fired 90 rounds in less than 30 minutes at three suspected Viet Cong loca-
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Optional Discharge Scheme for Sailors

The Royal Australian Navy has introduced a scheme to enable recruits who discover that they "don't like Navy life" to be discharged at their own request after a limited period of service. The scheme came into effect at the beginning of 1970 and will continue in force for 12 months after which the success or otherwise of the scheme will be assessed.

In years past all recruits had to sign on for a minimum of 9 years, and although discharge was possible for a number of reasons these did not include giving a recruit the option to stay in the Navy, or leave it, within a prescribed time.

Now, all male adult recruits at the training establishment, H.M.A.S. Cerberus, may apply on the 64th day of service to leave the R.A.N. if they so desire.

Administrative work necessary to process the Scheme, known as Optional Discharge, will take a further 6 days after which a recruit will be free to go.

Similar facilities have been arranged for other types of recruits, with variations in the period when optional discharge can be claimed:

W.R.A.N.S. 30 days
Junior Recruits at H.M.A.S. Leeuwin 6 months
Apprentices at H.M.A.S. Cerberus 6 months
Junior Recruits at H.M.A.S. Nirimba 7 months
Recruits who are optionally discharged will be able to set their period of service with the R.A.N. against any period of compulsory National Service for which they may be called.

N.S.W. Governor Reviews Parade

On Wednesday 17 December, 1969, Sir Roden Cutler, the N.S.W. Governor, took the salute at the Passing-Out Parade (see photo) at the Royal Australian Navy Apprentices Training Establishment at H.M.A.S. Nirimba. A total of 63 apprentices and 15 mechanics formed the graduation contingent.

The Royal Australian Navy is to get one of the world's most versatile naval training simulators.

It will offer tactical experience to officers and sailors who will be able to conduct realistic mock exercises while shore based and will be a valuable supplement to sea training.

The simulator will be the only one of its type in the Western Pacific area.

It is a combined action information and tactical trainer and will be used to train personnel in tactical situations and radar plot sailors and ship teams in "action information organisation".

The trainer will be used to investigate and evaluate current and future naval tactics and should be operational by April, 1973.

Simulation will be controlled by a "real time, on line" computer complex.

When the trainer is operational, information from all available sources such as radar reporters and plotters, will be collated in the operations to give the exercise picture to the command team.

Combined Maritime Exercise

The combined operational training exercises conducted from 10 to 24 November, involved 25 ships of four Com-
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monwealth navies, four R.A.A.F. squadrons, one R.N.Z.A.F. squadron and elements of the Australian Army. In the week prior to the start of the maritime phases of the exercise, the ships assembled in Sydney and Melbourne for import maintenance and training exercises.

For the first week of the combined operational training period, each ship and air unit participated in co-ordinated fleetwork, gunnery, anti-aircraft warfare and underway replenishment at sea.

The work-up phase was followed by a tactical phase, which tested the efficiency of the combined Commonwealth Fleet.

The Flag Officer commanding the Australian Fleet, Rear Admiral G. J. B. Crabb, was in tactical command of the exercises, and flew his flag from the flagship of the R.A.N., H.M.A.S. Melbourne (see photo).

***

R.A.N. Officer Tops Submarine Course

Acting Sub-Lieutenant B. D. H. Clarke is the 5th R.A.N. officer to be awarded the Admiral Sir Max Horton prize for obtaining the highest aggregate marks in the final examination of the course conducted at H.M.S. Dolphin, the Royal Navy's submarine training base.

---

Naval Survey in North

The R.A.N.'s hydrographic research ship H.M.A.S. Moreby sailed from Sydney on 10 February to survey parts of the Torres Strait and Gulf of Carpentaria, principally the areas west and south-west of Booby Island at the western approaches to Torres Strait, in order to help establish a safe route for shipping operating out of the developing mineral ports of Gove Peninsula and Groote Eylandt.

Moreby will also examine some shoal patches reported during the last two years by ships using Torres Strait.

While in the Booby Island area, small boats from Moreby will survey the Gannet Passage, a narrow passage containing a small sand bar. To a large degree the depth over the bar controls the size of the shipping which can use the calm inshore route through the Great Barrier Reef.

The depth over the bar changes and this is believed to be caused by sand waves generated by the seasonal meteorological variations experienced in the area.

It is believed that her resurvey of the area at the end of the monsoon (April), will contribute useful data in support or rejection of the sand wave theory.

***

To Serve in Royal Yacht

Two of the nine R.A.N. sailors chosen to serve in the Royal Yacht Britannia during the Royal Tour this year, show their mates a picture of the Royal Yacht (see photo). They are Able Seaman Norman Bayley serving in H.M.A.S. SUPPLY (on the left) and Able Seaman Lyn Bayley, serving in H.M.A.S. Nirimba (second from the right); they are not related. Four Able Seamen, two engineering mechanics, a writer, a tactical operator and a physical training instructor were chosen from volunteers from ships and establishments of the R.A.N. They will join Britannia in Auckland, New Zealand, on 30 March and disembark in Britain in mid-June.
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THE OBSERVER’S FIGHTING VEHICLES DIRECTORY—WORLD WAR II

Researched and Edited by: Bart H. Vanderveen. (Frederick Warne, London). 337 pages £3.95. Reviewed by ENERGA.

This book is part of the excellent Observer series, whose books of Basic Military and Civil Aircraft were reviewed in this magazine about a year ago. This particular book is larger than the previous books and, if possible, even more comprehensive.

The title is a bit of a misnomer, because whilst a fair amount of space is given to armoured fighting vehicles of various types, the larger part of the book is devoted to the many types of soft-skinned vehicles used by the main combatants of the Second World War.

The book itself is a masterpiece of organisation and detail. There is a section for each of the nations represented, and each section is divided into further sections for each type of vehicle, plus an introduction. The countries represented are the United States, Great Britain, the British Commonwealth Countries (in one section), the Soviet Union, Germany, Italy and Japan. France is a notable omission.

The serious reader could start right at the beginning and work through from "USA—Motorcycles" to "Japan—Combat Vehicles". However, you can get a lot of fun by dipping into it, to see famous old vehicles, to follow the development of the Jeep, or to gaze at the various oddities that were produced.

There is a stack of information about the DC 3 of the army truck world, the 2½ ton "Jimmy". This famous old workhorse was (and still is) one of the most reliable army trucks ever made and (in its Studebaker version, at least) one of the best looking. Over 800,000 of these trucks were also made by International Harvester and Studebaker mainly for Lend-Lease). The fact that many of these Studebakers, designed in 1941, are still rendering faithful service to the Australian Army (and many other armies, I have no doubt) gives some indication of their quality.

Other old faithfuls appear, including the many forms of Jeep, the famous old "Blitz" made by Ford and Chevrolet, the White Scout Car (known as the "Can", the Marmon-Herrington Gun Tractor and the Staghound armoured car.

In many ways, it is even more interesting to look at the oddities, the ideas which never really left the ground or were only produced in small numbers. Some of the stranger vehicles produced were the various low-silhouette cargo trucks (which sometimes had no cab at all), the enormous Boarhound armoured car, German motor-cycles with tracked side cars, Japanese amphibious trucks with steel hulls, looking like ships with wheels, British Humber Snipes with bodywork by Karmann, of all people, and an extremely neat and ingenious self propelled 17 pounder Anti-tank gun, which (alas) never went into production. The list is endless.

Mr. Vanderveen has definitely done his homework thoroughly. The book has 900 illustrations and a great wealth of technical data, social comment, and pure items of historical interest. The quality of the production is good—the illustrations are clear, the book is well-bound and printed on good glossy paper.

Not the kind of book you would give your girlfriend for her birthday, but, nevertheless, it is to be recommended. The book is a must for any service library.

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reward for being efficient. Very strange
ly he can often applaud vigorous ex-
ercises in other races which are not
friendly to us, but he holds that it is ir-
religious to commend these things in
the people of England. . . . This sort of
person has a settled conviction that his
country is wrong, and that any foes who
rise against her, right. He is for the
most part in favour of making friendly
agreements with irreconcilable enemies,
even with an enemy who throughout
the world is striving for the overthrow
of our Empire.

This book, then, should be regarded
as an oversimplified crash course in the
history of naval wickedness. The Royal
Navy, like any other human institution,
can be criticized, but something better
than this book is needed if it is to be de-
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### Naval Cadet Force News

**NEW SOUTH WALES**

**QUARTERLY REPORT OF PROCEEDINGS**

This report covers the training and activities undertaken by the Naval Cadet Force N.S.W. Division for the period 1 October to 31 December, 1969.

Continuous training periods were carried out in the following H.M.A. Ships, H.M.A. Naval Establishments, and other approved locations:

<table>
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<tr>
<th>Ship/Establishment/Location</th>
<th>Dates</th>
<th>Activity</th>
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</thead>
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<tr>
<td>Sydney Training Depot, Snapper Island</td>
<td>25.11.69 to 4.12.69</td>
<td>Boating Course.</td>
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<tr>
<td>H.M.A.S. ALBATROSS</td>
<td>7.12.69 to 17.12.69</td>
<td>Naval Airmen Course.</td>
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<tr>
<td>H.M.A.S. HOBART</td>
<td>8.12.69 to 17.12.69</td>
<td>Higher rank course for Senior Cadets.</td>
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<tr>
<td>H.M.A.S. VAMPIRE</td>
<td>&quot;</td>
<td>General Seamanship.</td>
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<tr>
<td>H.M.A.S. STALWART</td>
<td>&quot;</td>
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<tr>
<td>H.M.A.S. BRISBANE</td>
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<tr>
<td>H.M.A.S. MELBOURNE</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>H.M.A.S. WATSON</td>
<td>8.12.69 to 17.12.69</td>
<td>Gunnery Course.</td>
</tr>
</tbody>
</table>

Weekend training was conducted in the following ships and Establishments:

- **H.M.A.S. WATSON**
  - 10.10.69 to 12.10.69
  - 19.10.69 to 26.10.69

**H.M.A.S. STALWART**
- 17.10.69 to 19.10.69
- 26.10.69 to 29.10.69

The Division was honoured to have Rear-Admiral G. J. B. Crabb, G.B.E., D.S.C., Flag Officer Commanding H.M.A. Fleet carry out an Admiral's Inspection of over 200 Officers, Instructors and Cadets on board H.M.A.S. Melbourne on Wednesday, 12 December. The Cadets comprised those undergoing a period of continuous training in H.M.A. ships in the Sydney area.

On Sunday, 19 October on the occasion of the Annual Seafarers' Service, 100 Cadets acted as flag bearers in St. Andrews Cathedral.

A number of Boards were convened in H.M.A.S. WATSON to examine officers and instructors for promotion and also to determine the suitability of applicants seeking appointment to the Cadet Force.

The Senior Officer was invited to be the Inspecting Officer for the annual passing out parade of the Mosman High School Army Cadet Unit on Thursday, 16 October.

The Senior Officer was invited to be the Inspecting Officer for the annual passing out parade of the Moosan High School Army Cadet Unit on Thursday, 16 October.

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(Sgd.) L. MACKAY-CRUZE
Commander, R.A.N.R.
Senior Officer.

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Queensland Division Sea Cadets

During the seven days 12-19 January, 48 Cadets, with accompanying Officers and Instructors, from the eight Units of the Sea Cadets Corps in Queensland were in H.M.A.S. Moreton, Brisbane, for their first ever "Combined Muster".

Representatives from Units as far north as Cairns were brought into the Depot to take part in a comprehensive programme of competition and training which should benefit the Units for many months to come. All individual competitions were counted towards an overall award and it was pleasing to see this — the President's Cup — won by a country Unit. T.S. Bandaree, who also won the Naval Association Trophy for skiff rigging and the Chief Petty Officer Instructors' Trophy for Rope-work.

The Paluma Cup for an S.L.R. shoot was won by T.S. Toolooa, the South Coast Unit. The Naval Association Trophy for Whaler Rigging was won by T.S. Paluma, Stafford, Brisbane, while T.S. Coral Sea, the Townsville Unit, took out both the Mayne Trophy for Whaler Pulling and the Officers' Trophy for Sports.

Highlights of the week were trips in the patrol boat, H.M.A.S. Adroit; a range practice with the S.L.R. and a hotly contested rope-work competition.

A visit was made to the Metropolitan Fire Brigade's new damage control training centre at Roma Street, Brisbane, which includes a full scale simulated ship's engine room, cargo holds and deck fittings.

One of the most pleasing features of the Muster was the way members of far distant Units combined in co-operation and friendly competition.

The friendships made and the appreciation gained of the Division as a whole could be the real benefits to come from this most enjoyable week.

Army Cadets Join Sea Cadets in Brisbane

During the Annual Continuous Training Period for the Brisbane Sea Cadets Unit T.S. Paluma, four Army Cadets were brought into H.M.A.S. Moreton to learn something of the training carried out by their nautical counterparts. Sergeants Truscott and Spenceley, (Marist Bros. College, Ashgrove), Maxwell (C.E.G.S., Brisbane) and Cuffeys (The Southport School) were soon receiving instruction in boat handling, pulling, sailing and helm orders, and one of the greatest thrills came with a chance to handle the helm on H.M.A.S. Adroit during a run in Moreton Bay. Two of the lads were aboard a 40-ft. workboat which stood by a number of skiffs caught by a particularly vicious storm which swept Brisbane, and, undeterred by the blinding rain and high winds assisted the crew in the pickup operations.

Later in the A.C.T. period, the Unit was visited by Captain I. Hauber, the Training Officer for the Cadet Brigade Headquarters. Displaying their newly found skills, the four Sergeants cooperated in the assistance of two Naval Cadets to make up a whaler crew and took their visiting officer out on the river.

It is hoped that both sides in the experiment will now have a better understanding of their Service counterparts.
Twenty-six years ago one of the most disastrous sinkings ever recorded in the War at Sea occurred.

At 2.40 p.m. on the afternoon of 12 February, 1944, the 7,290 ton troopship Khedive Ismail and four other troopships, escorted by the old cruiser, H.M.S. Hawkins, and two destroyers, H.M.S. Petard and Paladin, were proceeding in convoy from Mombasa to Colombo. The convoy was in the vicinity of Addu Atoll in the Indian Ocean, in what was then considered a relatively safe area.

One minute later—2.41 p.m.—a terrific explosion shattered the Khedive Ismail's stern, more explosions followed in quick succession.

In less than two minutes the ship lunged to the bottom, taking with her 1,240 souls. Left struggling in the water were 21 persons—the only survivors.

The Khedive Ismail is well remembered by many thousands of Australian troops, having transhipped them at Bombay or Colombo from the much larger troop carriers Queen Mary, Queen Elisabeth, Mauretania and Aquatania for the run-up to the Red Sea to Suez and the Middle East.

One minute later—2.41 p.m.—a terrific explosion shattered the Khedive Ismail's stern, more explosions followed in quick succession.

At the time of the Greek debacle, in April, 1941, the Khedive Ismail was there to evacuate many hundreds of hard-pressed Australian and other Allied troops from the beaches, withstanding concentrated Stuka dive-bombing on the return passage to Egypt.

By 1944 it looked as it would if a torpedoes hit the ship, she would sink. For the first few days nothing untoward happened. The meager force of three escort vessels for such an important convoy was insufficient to afford complete protection, nevertheless they scurried around as high speed in an attempt to cover ahead, astern and both flanks.

There was no warning of immediate danger.

Undetected by the escorts, the Japanese submarine I-27 had crept in to close range—poised ready for the kill, and which at half a minute's notice was the first torpedo struck, quickly followed by others.

Laughter turned to fear as the cries of the injured mingled with the shattering of glass and the hiss of escaping steam. I-27 had done her deadly work only too well.

The few who were on the upper deck barely had time to jump into the water as the Khedive Ismail's bow reared up and she slid beneath the surface 1 min. 30 sec. after the first torpedo struck. Life on board was similar to any other wartime convoy. The morning of 12 February, 1944, dawned bright and sunny, with the sea as calm as a mill pond.

Shortly after the midday meal some 400 of the passengers crowded into the main lounge on the promenade deck for a concert. On the other deck well deck a game of solomotto—popular with the naval ratings—was in progress. Others were in their cabins or on the mess decks having a siesta. A few were in the writing rooms writing letters home—destined never to be posted—or playing cards.

For the first few days nothing untoward happened. The meager force of three escort vessels for such an important convoy was insufficient to afford complete protection, nevertheless they scurried around as high speed in an attempt to cover ahead, astern and both flanks.

Hardly anyone was on the promenade deck and this fact contributed greatly to the loss of life.

By 2.40 p.m. the concert was in full swing and gay laughter filled the air. There was no warning of immediate danger.

Undetected by the escorts, the Japanese submarine I-27 had crept in to close range—poised ready for the kill, and which at half a minute's notice was the first torpedo struck, quickly followed by others.

Laughter turned to fear as the cries of the injured mingled with the shattering of glass and the hiss of escaping steam. I-27 had done her deadly work only too well.

The few who were on the upper deck barely had time to jump into the water as the Khedive Ismail's bow reared up and she slid beneath the surface 1 min. 30 sec. after the first torpedo struck. Life on board was similar to any other wartime convoy. The morning of 12 February, 1944, dawned bright and sunny, with the sea as calm as a mill pond.
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By the time the last bubble had subsided in those dreadful few minutes, only 23 people—one naval officer, four nursing sisters, two W.R.N.S., three petty officers, two army surgeons, two East African soldiers and nine sailors—remained struggling on the surface.  
The only debris left floating from the Khaedive Ismail was two upturned lifeboats and two rafts. The survivors—17 men and six women—managed to reach them safely, where the injured, including a girl who had been hit by the ship's mast as she went down, and the women were helped on them. The rest remained in the water, hanging on to the sides.  
As the sea calmed the small band thought of what the future had in store for them. They were not pleasant thoughts. Undoubtedly the submarine was still close by—lurking beneath the depths. Would she surface and machine-gun the party, as other Japanese submarines had done, or would the commander take pity and make them prisoners?  

Sea Empty  

Around the survivors the sea was empty. The convoy, with many thousands of lives in their keeping, had sped away from the danger area at high speed.  
When it was considered the convoy was at a safe distance the senior officer ordered the two destroyers, Peard and Paladin, to return. Kneeling through the water the two ships sped back to the deck. Their high bow waves brought a cheer from the survivors in the water. They had been there an hour and a half.  
The cheers turned to fear when it was realised the destroyers had picked up the submarine on their radars and were racing in to attack. Would they be blown to bits by their own ships?  
Down went the depth charges—the concussion from the exploding T.N.T. hammering those in the water. The disturbance, however, was sufficiently far to avoid serious injury. After the first attack the Paladin swung around and headed for the survivors. Receiving to, her sailors lost no time in hauling the bedraggled 23 aboard. The ship was quickly under way again as the last one was dragged over the side.  

It was at this moment the submarine broke surface. The depth charges had done their job. She was a large ocean-going submarine of over 2,000 tons. All hands sounded curses her.  

"Don't ram"  

Gathering speed, the order "Stand by to ram" was given. The survivors were told to lay full length on the deck. At the last minute, the Peard, in a better position, signalled "Don't ram."  
Full port helm was applied, but Paladin was not quick enough. The two crafts scraped together. Under the water the submarine's hydrophones caught a ragged tear along the destroyer's starboard side. She had been ripped wide open and as the water poured in she settled deeper in the water.  
The Jap was full of fight and at close range a gunner in the coming tower opened fire with a machine-gun. Paladin's gunners were quick to return, swiftly knocking the gun out of action.  
Water pouring in quickly put the submarine out of action. Motionless, the destroyer was in danger of sinking. Rudderheads were shored up and every thing moveable on the upper deck was thrown overboard to prevent the ship capsizing.  
As soon as Paladin and the submarine had drawn clear Peard's guns opened fire, pouring a withering hail of fire into the sub—stopping her dead in her tracks. Peard then alongside Paladin, taking off Khaedive Ismail's survivors and two-thirds of the destroyer's crew.  
No sooner had she done this than the submarine management to get under way.  
Manoeuvring into position, Peard let go with a torpedo. Aim was true and it struck the sub below the conning tower. A 50-ft. column of water and wreckage gushed into the air. When it settled the sub. had gone. Khaedive Ismail had been avenged.  

Paladin was in dire straits. A wireless message brought a salvage vessel racing to the scene. However, a Jap sub torpedoed her. Then a rescue tug was sunk. It was left to Paladin's sister destroyer Peard to take the stricken ship in tow.  

A day after the two ships arrived the Khaedive Ismail's survivors were transferred to the cruiser Hawkins and taken to Colombo.  

The sinking and large loss of life, unusual in a large troop convoy, was a major calamity.  

It touched off a spate of submarine activity in the Indian Ocean by both Japanese and German U-boats. The effort was short-lived, however, as Allied counter-measures very soon became effective.
To the Editor

Clarence Street Post Office
Box C178
"The Navy"

Dear Sir,

I heartily agree with Mr. Bryden-Brown in the Nov.-Jan. 1969-70 issue of "The Navy". I am in all respects agreeable with this suggestion of the writer but would like to take the subject one step further and add that some of our ships could also be named after some of Australia's more prominent people, that is, those who played a part in the foundation of this fair country of ours, and no doubt there a quite a range to choose from. Why not with this idea?

Yours faithfully

[Sgd] A. B. MocUer

8/17 Hipwood Street
North Sydney 2060
2 December, 1969

The Editor
"The Navy"
Box C178
Clarence Street Post Office
Sydney, N.S.W. 2000

Dear Sir,

I would like to put my thoughts on the Navy's project to construct a light destructor. These ships should be completed by 1978. Again, the names of the new Patrol vessels are neither traditional names and are more in keeping with the names of the British ships of this class. From a public relations point of view I feel it would be a good thing if future warships were given names which were distinctively Australian, traditional (where possible) and of interest to the general public. These names would not only include cities, towns and rivers, but would also cover Aboriginal tribes, famous Australians, and Australian birds and animals.

Yours faithfully

[Sgd] S. H. Scarlett

45 Darnley Street
Gordon, N.S.W. 2072
4 December, 1969

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Clarence Street Post Office
Sydney, N.S.W. 2000

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It is also evident that Australia has some ships coming to their end. In fact, we have five early post-war ships (They are Trubruk, Anzac, Queensland, Quiberon and Quickmatch). We only have eleven modern ships in commission. (They are Perhak, Hobart, Brisbane, Parramatta, Yarra, Stuart, Derwent, Swan, Torrent, Vendetta and Vampire.) By 1980 the five early post-war ships will be out of commission. This entitles us to build these all-purpose destroyers. These names would not only include cities, towns and rivers, but would also cover Aboriginal tribes, famous Australians, and Australian birds and animals.

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LIGHT DESTRUCTORS. Length should be about 360 feet. The beam would be about 38 feet, while the draft would be about 16 feet. It should carry a Wessex 31-B helicopter. The complement should be about 200 men and its weight should be about 3,000 tons. The armament should consist of two single-turreted 5"/54 cal., dual purpose, anti-aircraft, shore bombardment guns, one quad rail "Seasam" missile launcher—which are anti-aircraft missiles, one single-rail "Hara" anti-submarine missile launcher, four triple anti-submarine torpedoes/tubes.

On the next page I have filled in details of the ship and a diagram of my creation.

Yours truly

[Sgd] J. P. Gauci
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