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The Minister for The Navy
The Honourable Lance Barnard, MP

This year Navy Week occurs at a time when the world is enjoying more freedom from international tension than it has known since the early 1930s. The prospects for continued stability throughout the remainder of this decade are good. In the past year or two, because of the low-threat environment, the emphasis in the Royal Australian Navy has moved away from combat activities to forward planning. This does not mean, however, that the Navy can relax its operational standards. Indeed, a high state of operational readiness is being maintained under the stimulus of frequent and intensive international and local exercises involving all types of Fleet units.

Along with a desire for the highest possible technical and operational standards goes a concern for the morale of those who serve in our Navy. My Government places a high value on the profession of arms, and in our first year of office we have swiftly set about improving pay and conditions throughout the Armed Services.

This time of peace gives us an ideal opportunity to look into the future to evaluate any possible threats to Australia and the best defensive posture to take. But at the same time, we will maintain the highest possible technical and human standards within the Navy, which has served our country so well since it was founded by a Labor Government 60 years ago.
The primary task of the defence forces of Australia has always been the
defence of Australia. The community decides what resources — manpower,
material and finance — should be devoted to the defence of our country. The
Navy League has an essential role in educating the community in this regard.

To me, it is self evident that an island continent can only be threatened
from the sea or the air above the sea and I believe that the main Australian
defence effort should be devoted to maritime forces.

At present we can foresee no threat to Australia for the next ten years but
it has not proved possible in the past to forecast threats with any confidence
even two years ahead — some of you will remember hearing in 1938 a radio
announcement of “peace in our time” — just a year before the outbreak of
the Second World War.

Naval ships take many years to design and build. From the original
statement of a foreseen requirement to delivery to the Fleet takes from 8-10
years for a destroyer type vessel. Put another way, unless past experience is
wrong (and we are able to get a long warning period), if we have to defend
Australia, the Navy will do so with the ships, aircraft and submarines in the
then current Fleet.

I hope that the Navy League of Australia will do all in its power to ensure
that the Fleet is always of sufficient size and capability to defend our island
continent should we ever be called upon to do so.
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THE NAVY

Annual Message
from the Federal
President of the
Navy League
of Australia

Commander F. G. Evans
MBE, VRD, RANVR.

Just twelve months ago, in the President's Annual Message to members, I expressed satisfaction at the attention being given to the Navy and to maritime defence. It is difficult to express such confidence today.

As members of an organisation which lists maritime security at the head of its objectives, we must all be concerned when we see this security placed at risk by a weakened navy.

The effectiveness of the armed forces of any country depends upon the will of the people to support them, and I frankly disbelieve that Australians are so apathetic that they would permit our defence forces to suffer a prolonged period of neglect.

Nevertheless the desire to live a peaceful life and to be undisturbed in our daily activities is strong in most of us. Predictions that our country is unlikely to be under major threat for some years to come — fifteen seems to be the magic number — contribute to our ease of mind but at the same time create an atmosphere in which it is only too easy to put off decisions which ought to be made, without undue fuss.

It takes a conscious effort to remember that we live in a highly volatile world in which situations can and do change with great rapidity; in which many nations large and small have the means to back their national interests and aspirations; and in which Australia, large in area, with attractive resources and a small population, is one of the most vulnerable of all countries.

I believe that the Navy League has contributed much to Australia through its cadet organisation and this will continue. We have the desire and the ability to contribute still further in the wider area of national defence — by making first ourselves aware of the problems involved, and then others; of resisting complacency; by being critical when we consider it necessary; and constructive where possible. By being vigilant and adhering to our motto which is — "Keep Watch".
Australia is an island continent. With an area of three million square miles, it is the world's largest island and it has a coastline exceeding 12,000 miles. Flanked by two great oceans — the Pacific Ocean to the east and Indian Ocean to the west — with no lands to the south until the Antarctic is reached and a chain of islands of various countries to the north, Australia is remote from the rest of the world. Most of its 13-million population is concentrated in a few major cities on the eastern seaboard.

Australia has always been a trading nation whose prosperity and very existence depends on free use of the oceans. Over 90 per cent of its exports and imports go by sea.

The country's geographical isolation is both an advantage and a disadvantage from the defence aspect. On the one hand, an invader cannot march into the country. On the other hand, he must come either on or over or under the sea. On the other hand, Australia is not self-sufficient and its capability to sustain itself is directly related to the degree of freedom it has in its use of overseas trade routes.

The long coastline, the great areas of ocean which separate Australia from the rest of the world and its dependence on sea trade emphasise the importance of maritime forces in the defence of the country.

Australia's population base is relatively small and the requirements of any of its defence forces must be considered against the availability of the country's manpower and other resources. Despite the magnitude of their potential task, the Navy must necessarily be modest by world standards in terms of manpower and equipment.

**ROLES**

The roles of the RAN are:

- To organise, train and equip naval forces, including naval aircraft, for timely and sustained combat operations at sea.
- To detect and destroy enemy naval forces and sea commerce.
- To establish and maintain superiority in areas necessary for naval operations, including the protection of sea lines of communication.
- To conduct naval offensive operations against enemy forces and installations.
- To conduct naval reconnaissance and surveillance, anti-submarine warfare and other tasks as directed by the Minister for Defence.

HMAS MELBOURNE, the flagship of the Royal Australian Navy. She carries four Sky Hawk jet fighters, six Tracker aircraft and two Westland Wessex anti-submarine helicopters.
submarine warfare, the protection of shipping and hydrographic and oceanographic surveys, e to provide naval support for land operations.
e to provide military sea transport support for the Australian Services, and
e to provide seaward defence of ports and anchorages.
In peacetime, the primary role is to maintain operational effectiveness of the capabilities required in the above roles, including the maintaining of an effective standard for joint operations with the ARMY and the RAAF and, in addition, wherever possible to contribute to national development and to assist the civil population.
To carry out the roles assigned to it, the Navy must have a balanced and viable force with the capability to respond to a threat quickly, effectively and, if need be, alone.

THE FLEET
The Navy is comprised of over 50 ships as well as a fleet air arm and over 17,000 men and women. Major units of the fleet are the aircraft carrier, three destroyer squadrons and a submarine squadron. The offensive and defensive capabilities of these major units are backed by a mine countermeasure squadron, patrol boat squadrons and various support, training, oceanographic and survey ships.

The flagship of the Royal Australian Navy is the aircraft carrier, HMAS MELBOURNE, which carries Douglas Skyhawk jet fighter aircraft, Grumman Tracker anti-submarine aircraft and Wessex 318 anti-submarine warfare and SAR helicopters. More modern and larger Sea King helicopters are on order to replace the Wessex 318 helicopters. Various mixtures of aircraft can be carried to vary the ship's capability for strike, aerial defence or anti-submarine operations. HMMS MELBOURNE was first commissioned in 1955 and is due to be phased out of service in the early 1980s. A major study, which is considering Australia's future maritime air power requirements, including a replacement for MELBOURNE, is at present in progress.

Three US-built guided missile destroyers, HMA Ships PERTH, HOBART and BRISBANE, comprise the First Australian Destroyer Squadron whose main task is air defence but they also have formidable anti-submarine warfare and surface gunnery capabilities. The DDG's principal weapons are the Tartar guided missile system, 5 inch automatic guns and the Ikara anti-submarine system. All of these ships saw action in Vietnam where they served with ships of the US Navy's Seventh Fleet.
The Second Australian Destroyer Squadron includes the recently modernised Australian-built Daring Class destroyers, HMAS VAMPIRE and HMAS VENDETTA. These all-purpose gun ships have formidable surface gunnery as well as anti-aircraft capabilities. A third Daring Class destroyer, HMAS DUCHESS, is being refitted as a training ship.
The Third Australian Destroyer Squadron consists of six Australian-built River Class destroyer escorts, HMA Ships YARRA, PARRAMATTA, STUART, DERWENT, SWAN and TORRENS, the last two having been commissioned in 1970 and 1971 respectively. These destroyer escorts are principally anti-submarine warfare ships and all are fitted with Ikara, 4.5" guns and the Seacat missile system for close-range air defence.
The First Australian Submarine Squadron comprises the four Oberon Class submarines, OXLEY, OTWAY, ONSLOW and OVENS. The first of these was commissioned in 1967. Two more Oberon Class submarines are being built in the United Kingdom.
Four Ten Class minesweepers and two minehunters make up the First Australian Mine Countermeasures Squadron — HMA Ships CURLEW and SNIPER (minehunters). HAWK TEAL, IBIS and GULL. Of British design and construction, the ships were modified in the United Kingdom before joining the Australian fleet in 1962. Originally, all
The guided missile destroyer HMAS PERTH, the flagship of the Australian Fleet, HMAS MELBOURNE.

six ships were fitted as mine sweepers but CURLEW and SNIPE have since been converted to mine hunters.

Twenty patrol boats have been built and the Australian Patrol Boats in recent years as the patrol boats form the First Second and Third Australian Patrol Boat Squadrons and the PNG Patrol Boat Squadron. Their tasks include patrol duties, reconnaissance, survey work, sea air rescue and training in the waters around Australia and Papua New Guinea.

The support ships include the fleet tanker HMAS SUPPLY and the destroyer tender HMAS STALWART.

The latter is the largest naval vessel wholly designed and built in Australia and it provides mobile maintenance support for the fleet.

It was announced in July 1973 that the former fast troop transport HMAS SYDNEY, which will be paid off when the latter is the largest naval vessel wholly designed and built in Australia and it provides mobile maintenance support for the fleet.

It will be surprising if, in the light of Australia's geography, trade and economy, all of which clearly point to the importance of the oceans to our way of life, maritime forces are not provided in sufficient strength to maintain our sea communications.

A Grumman S-2E Tracker four-seat anti-submarine attack aircraft lands aboard the flagship of the Australian Fleet, HMAS MELBOURNE.

PLANNING

While there is no direct military threat to Australia or its sea communications at the present time, there is, nevertheless, a continuing need to maintain a balanced naval capability. This includes designing, ordering, building and equipping ships and training officers and men so that the maritime forces will be ready to react to any future threat or likely threat to Australia.

It takes a long time to build a ship and it takes years to train the officers and men to man them and operate their highly technical weapons and equipment.

Naval planners are required to assess what forces will be required in the future. Like all planners, they are required to take the first step in acquiring new equipment. Long lead times inherent in designing and constructing a large warship mean that up to a decade or more may elapse before such a ship can be brought into service.

Although it can never be certain what threats these warships will have to face in the future, the decisions to build larger ships possessing a wide range of capabilities have to be made in time to ensure that the major units of the battleships will be available to meet all contingencies. Small ships can be built comparatively quickly and consequently, the determination of requirements for these ships can wait more accurate assessments of likely future operations.

SUMMARY

The RAN of today has been built up by events and decisions of the past. Its future will be largely shaped by decisions to be made today.

It will be surprising if, in the light of Australia's geography, trade and economy, all of which clearly point to the importance of the oceans to our way of life, maritime forces are not provided in sufficient strength to maintain our sea communications.
I feel a rare pleasure writing for the readers of "THE NAVY", since Australia and Uruguay seem to have some things in common: their capital cities, Canberra and Montevideo, both lie slightly over parallel 35 South, although opposite in the globe; Uruguay and Australia have similar resources: agriculture, cattle raising and wool; both countries are relatively young and were discovered and civilised by Europeans ... and, lately, some Uruguayans have settled in Australia, as a counterpart, perhaps, of the Australian eucalyptus that was introduced in Uruguay last century.

To begin with, let's summarise the history of the Plata River region and that of Montevideo. Although the river was discovered by the Spanish navigator Juan Diaz de Solis in 1516 and Magellan and Sebastian Cabot explored it in 1520 and 1527 respectively, it was only in 1580 that the Spaniards succeeded in settling on its shores, founding the city of Buenos Aires (earlier settlements were razed by the Indians). As problems arose, it did not take a long time for the metropolitan colonial authorities to understand the strategic importance of the only sheltered bay that the river had across from Buenos Aires. By the side of the hill called Monte (Mount) Video, this was the perfect site for the defence of the Spanish possessions against the pirates, smugglers and the ever-threatening ships of England and Portugal. Conversely, it would be a poisonous thorn in the side of the wealthy colony, should it fall to an enemy.

Although the orders for founding a city there were issued by the King of Spain many years earlier, the stronghold of St Philip of Monte-Video was established during 1726: an advanced safeguard for Buenos Aires - a watchful eye over the "wide-as-a-sea" river. Thus, Montevideo was born mainly as a Military Post and a Naval Station. The Governors of Monte-Video were high rank army or navy officers and the jurisdiction of the Naval Station reached as far as the Malvinas (Falkland) Islands, which were later annexed by the UK.
were supplied, watched and protected by ships based in Montevideo. The city was sheltered by the big stones of strong ramparts over which the muzzles of a hundred cannons kept guard. Montevideo was also a supply port and Prize Court for the Spanish privateers that ran after the English on the South Atlantic. Small as it was, our city also had its own corsairs when, in 1805, some merchants fitted for war a handful of ships in order to retrieve the money sent to Spain but captured by Commodore Sir Graham Moore off the Portuguese coast. Several brigs and sloops, manned by Montevideans (Oriente, Reina Luisa, San Fernando, Dolores) to mention a few, pursued and seized a number of British ships, off the African coasts or near India.

The War for Independence started in 1811, and naval forces appeared for the first time in 1816 when our national hero, General Jose Artigas, began the organisation of two squadrons to fight against the Argentinians and authorised privateering to combat the Portuguese. This was a very clever plan, in line with the bright military conceptions of Artigas, and it worked very well. The squadrons dominated the great streams that flow into the Plata River: the ships of Commander Justo Yegros ruled the Uruguay River, and Commander Pedro Cambell was the master of the Parana River with his schooners.

As for the corsairs, they swept the seas in all directions, and were a very serious menace to Portuguese shipping. Between 1816 and 1821, numbering around 50 brigs and schooners with beautiful names (Republica Oriental, Inresistible, Artigas, Fortuna, Republica, Confederacion, Valiente, Congreso, Invencible, Leonor Oriental, Intrepido) and with daring captains as Dieter, Leech, Doutant, Almeida, Chase, Daniels, Cathill, Mutter, Murphy and Jewett, they seized more than two hundred Portuguese ships off the coasts of Brazil, Africa, Caribbean, Madagascar, Spain and Portugal within firing range of the forts of Oporto and Lisbon.

Provided with “Letters of Marque and Reprisal” issued by Artigas, they sent their prizes to Montevideo, Colonia (Uruguay), Buenos Aires, the West Indies, Venezuela, Norfolk, Charleston, Savannah, Providence and, specially, Baltimore. And the corsairs carried on their private war against Portugal even after Artigas was defeated in 1820.

Independence was won, at last, on 25 August, 1825, after an almost continuous war since 1811. The Uruguayan flag was hoisted over the old Citadel where, during the previous 100 years, the flags of five nations had flown — Spain, England, Portugal, Argentina and Brazil. But independence did not mean peace international and civil wars
Best wishes to all Navy personnel from

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The Navy was neglected during the peaceful years that followed independence, and around 1832 four schooners (AGUILA, LOBA, ESTRELLA DEL SUR, CONSTITUCION) were the only vessels in active service. However, in 1839 Uruguay declared war against the Argentinian dictator Juan Manuel de Rosas and the need for a fleet became apparent. The war lasted until 1852 and Montevideo was besieged for nine years, inspiring the Alexander Dumas book "Montevideo or the New Troy".

During the early period of the war some squadrons were organised, dominating the rivers Uruguay and Parana and the approaches of Montevideo: LOBA, EURASIA, RIVERA ESTRELLA DEL SUR, BERNA, 18 DE JULIO, ATREVIDO and RONDEAU, were the names of some of the ships, and Fourmantin, Read, Sciarano, Hynes, Dagrummet, Pages, Dupont, were some of their captains. A handful of these schooners integrated the Franco-Uruguayan fleet that took by storm the strategic island of Martin Garcia, that commands the passages to the Uruguay and Parana Rivers.

Later on, a more important fleet was organised to fight against the strong force that Rosas put under the orders of Admiral William Brown, and several hard-fought battles kept Montevideo free from blockade. The commanders of the Uruguayan fleet were John H. Coe until 1842 and, from that date, Giuseppe Garibaldi, who, returning to Italy in 1847, gained world fame as the hero of the war against Austria and the unification of his country. The captains of our ships during this period were Shannon, Masson, Dupuy, Martinez, Beazley, etc. and their ships were brigs, sloops and schooners: SARANDI, PALMAR, CONSTITUCION, YUCUTUJA, MONTEVIDEO, 25 DE MAYO, EMANCIPACION, INTERPEA, RESISTENCIA, LIBERTAD, LEGIONARIO, REPUBLICANO, TERRIBLE.

Near the end of the war (1851), our Navy had its first steamship, named RIO URUGUAY. Incidentally, during this war the first battle with steamers took place: some French and English side-wheelers were used in the battle of Obligado (1845), forcing entry into the Parana River by bombarding the batteries that the Argentinians had erected on the cliffs that dominated the crossing. The steamers demonstrated their superior manoeuvring ability by going up, down or across the stream with ease, while cannoning the
The most distinguished officers of the gunboats rendered outstanding services during many years of the history of our Navy; they performed many varied missions, in war and peace: logged many sea miles and were the cradle for many of Uruguay's naval officers.

During this period and up to around 1905, in addition to some small steamers belonging to the Navy (FLORES, FORTUNA, RAYO, LAVALLEJA, GUARDA, INGENIERO and CORSARIO), some 20 merchant ships were fitted for patrol and transportation tasks during several civil wars that were waged during those years.

The most distinguished officers of that time were Bayley, Escabini, Miranda, Romero, Risso and enemy. This experience was followed with keen interest all over the world.

Ten years after this long conflict, a civil war compelled the Government to fit the steamships TREINTA Y TRES, VILLA DEL SALTO and GENERAL ARTIGAS, but only for the duration of hostilities. From 1885 to 1870 Uruguay, Argentina and Brazil were engaged in a war against Paraguay, and new ships had to be requisitioned for transportation of supplies and troops. Up to the turn of the century, new civil wars meant new steamships for patrol duties. Those better known include: MONTEVIDEO, COQUIMBO, RAYO, GUARDA, GENERAL ARTIGAS, PRESIDENTE, RIO NEGRO, REPUBLICA, CHAPICUY, LABRADOR, FE, VIGILANTE and TANGARUPA.

Since 1884, the core of this heterogeneous fleet became a more stable force: the 'gunboats', as people fondly used to call these ships, with a collective term rather than by their individual names. During the administration of General Máximo Santos, tenth President of the Republic, the Uruguayan Navy received, for the first time, six steamers more suitable for naval service: in 1884 two ships commissioned, the Gunboat GENERAL ARTIGAS (273 tons) built in Trieste, Austria-Hungary, for our Government and sailed to Montevideo by Uruguayan officers, and the Gunboat GENERAL RIVERA.

This last ship deserves a special paragraph. She was entirely built (hull and machinery) by the Arts and Crafts School of Montevideo, and her hull was hauled by soldiers and people through the main avenue of the city — a distance of 2½ miles in 22 days — to a shipyard for launching. Among the many commissions performed by this gunboat, one should be emphasized: during training trip to the Strait of Magellan, challenging strong storms and alarming temperature variations.

Two years later another gunboat was incorporated into our small fleet: the GENERAL SUAREZ (formerly TACTIQUE, of the French Navy), of 365 tons. These three gunboats rendered outstanding services during many years of the history of our Navy; they performed many varied missions, in war and peace: logged many sea miles and were the cradle for many of Uruguay's naval officers.

The cruisers MONTEVIDEO and URUGUAY were very active on patrol during World War I, keeping guard over the Uruguayan waters bordering the Atlantic Ocean, and Plata River. In 1918, the cruiser MONTEVIDEO took Dr Baltasar Brum, the Foreign Affairs Secretary, to the United States. The trip was made across the Atlantic Ocean, returning through the Pacific and the Strait of Magellan. A similar trip was made the following year by the cruiser URUGUAY carrying to Mexico the corpse of the well-known poet Amado Nervo, who died in Montevideo where he was the Mexican Consul.

Between the two World Wars, our fleet underwent few changes. Older
ships were broken up, and few additions were made: in 1930 the CAPITAN MIRANDA (Surveying Vessel, 516 tons) arrived at Montevideo from Cadiz, Spain, where it was built to the specifications of our Navy in 1936 at the Ancona Shipyard, Italy. Finished the three Patrol Ships PAYSANDU, SALTO and RIO NEGRO, each of 150 tons, ordered by our Navy. They were brought to Montevideo by Uruguayan crews in an epic crossing due to the very heavy seas and the low freeboard of these small ships.

At the beginning of World War II, it was again the Cruiser URUGUAY that patrolled our territorial waters, and was an eyewitness of the battle between the German pocket battleship GRAF SPEE and the Allied cruisers EXETER, AJAX and PAYNE. The first aircraft transferred from the Army to the Navy in 1951, and in 1952 a group of twelve Gruman F6F "Hellcats" was equipped with the most modern equipment available at that time.

In 1912, Ensign Atilio Frigerio, obtained his pilot's licence after training in Italy and upon his return to Montevideo advocated the need for a naval air service. As a result of his efforts, the Aeronautic Service was created in 1925 with Atilio Frigerio as its first commanding officer.

In the beginning Army aircraft were used to train Navy pilots, but in 1930 the first aircraft for the Navy arrived: three Italian CANT flying boats. Two years later Libertad II, 12:1; PT-23 and a Grumman Widgeon J4F, a twin-engine amphibian, increased the small force.

Banco Ingles (English Bank), a very treacherous obstacle to the navigation in the middle of the Plata River; some patrol launches (PR-10, 11, 12); a PT-26, another PT-23 and a Grumman Widgeon J4F. During World War II, in 1943, a provisional post was established at "El Sauce" Lake, near Punta del Este, on the Atlantic Ocean, as a base for the seaplanes that daily patrolled our territorial waters from Montevideo to the frontier with Brazil. In 1947 the Naval Air Force Base "Capitan Curbelo" was commissioned in this place, with four landing strips beside its installations for seaplanes.

Near the end of 1949 ten TBM "Avenger" landed in "Capitan Curbelo" Base, flown from Dallas, Texas, by Uruguayan crews. The following year a further six "Avengers", together with three "North American" SNJ were delivered.

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Finally legislation creating the Naval Academy was enacted and since that year this institution has functioned uninterruptedly. Here, officers for the Navy, Merchant Marine and Naval Prefecture are trained.

Besides the Naval Academy and the Specialisation School of the Naval Air Force already mentioned, three other teaching institutions are currently functioning — Naval War School (Post-graduation courses), Navy Specialisation School (for preparing specialised sailors) and the Navy Instruction Centre (for voluntary military training).

In 1956 the first PBM A-810 Martin 'Mariner' was flown from the United States, more SNJ trainers were added and the first helicopters for the Naval Air Force were placed in service: two Bell 47Gs.

At present, the Navy has aircraft from Grumman, Beechcraft, North American and Piper, as well as helicopters from Bell and Sikorsky.

At the beginning, the Navy pilots were trained in the Air Force School (Army) and specialised in foreign countries, mainly in the United States, but since 1950 the Navy has had its own School at the 'Capitan Curbelo' Base.

THE NAVAL ACADEMY

Since the very beginning of our independent life, the idea of a Naval Academy was ever present. In 1829 the first plan was prepared, followed by another three years later.

In 1863, under the administration of President Bernardo Berro a law was passed creating the Nautical College, but its life was very short. It was re-established ten years later and many officers graduated prior to 1879 when it was closed due to reductions in Government expenditure.

In 1882 the National Maritime School opened its doors, however, three years later lack of funds forced the closure of the institution. In 1889 a new Nautical School was established and continued until 1894 when it too was closed for economic reasons.

A new project was discussed during 1889 and in 1902 a floating school was created using an old gunboat, but this school only lasted one year.

THE NAVAL SHIPYARD

The Navy has had its own Dry Dock since 1911, and it is also available to merchant ships. Its main dimensions are: Length 141.30 metres, breadth 19.50 metres, water level over stocks 5.44 metres; height of stocks 1.30 metres.

Its workshops are capable of performing high quality work on all kinds of boilers, machinery, turnery (including big shafts), mechanical adjustments, foundry, electricity, carpentry, construction and maintenance of metallic structures, hull maintenance and repair, adjustment and repair of internal combustion engines, repair and maintenance of refrigerating equipment and cold storages, dynamic balancing of rotors, electromagnetic detection of fissures in metallic parts, furnace for thermal treatment, metallisation, equipment for welding in an inert atmosphere, etc.

PERSONNEL

A total of 546 officers and 4,898 men are on active service in Venezuela, including the Navy units, the Naval Prefecture and the Naval Fusileers Corps (Marines).
Navy Week In Australia

Navy Week is one week in each year when Australians from coast to coast are urged to pay grateful tribute to those who have served and those now serving Australia at sea.

During this week it is fit and proper that a nation of free men and women give well-deserved honour and recognition to the patriotic and victorious achievements of its men of the sea. It is the week for Australians to re-dedicate themselves to those principles of freedom and self-government which they cherish. It is a week in which grateful citizens should salute their Royal Australian Navy and make sure that it is adequate to fulfill its contribution to our national security.

In the Royal Australian Navy the month of October has always held special significance. The 21st commemorates the 168th anniversary of the victory of the Battle of Trafalgar. Fought in the Atlantic, off the southern coast of Spain, it was the last great naval battle to be fought under sail alone.

Sixty years ago, on 4 October, 1913, the Australian Fleet steamed into Sydney Harbour. Navy Week, 1973, was planned to coincide with the anniversary of the Fleet's entry. The arrival of the ships in 1913 was an event Australians had looked forward to for half a century. They were their own ships, paid for by their own money and manned in large proportion by their own men; the nucleus of what they hoped would be their own Fleet.

The Squadron comprised the Battle Cruiser AUSTRALIA; Light Cruisers ENCOUNTER, SYDNEY, MELBOURNE and the Destroyers DARWIN, PARRAMATTA and YARRA.

It is appropriate at this time to recall the words expressed by the then Prime Minister of Australia, The Honourable Sir Joseph Cook:

"Since Captain Cook's arrival, no more memorable event has happened than the advent of the Australian Fleet. As the former marked the birth of Australia, so the latter announces its coming of age, its recognition of the growing responsibilities of nationhood, and its resolve to accept and discharge them as a duty both to itself and to the Empire. The Australian Fleet is not merely the embodiment of force, it is the expression of Australia's resolve to pursue, in freedom, its national ideals, and to hand down unimpaired and unsullied the heritage it has received, and which it holds and cherishes as an inviolable trust. It is in this spirit that Australia welcomes its Fleet, not as an instrument of war, but as the harbinger of peace."

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*Persons commencing subscriptions to "The Navy" magazine within Australia during the quarter commencing APRIL (i.e. sub. for 1½ years) should remit $2.70; JULY (sub. for 1½ years) $2.30; and OCTOBER (sub. for 1½ years) $1.90.

Subscriptions for shorter periods than 12 months cannot be accepted.
SUNDAY, 21ST OCTOBER
at 10.30 am
Interested Members of the Public are Cordially Invited to Attend
(CAR PARKING FACILITIES WILL BE AVAILABLE IN GARDEN ISLAND DOCKYARD UNTIL 11.45 am. AT WHICH TIME ALL VEHICLES MUST HAVE DEPARTED)

BY: THE CHAPLAIN

We will meet to worship together as an outward demonstration of our essential unity as Christians.

Together we shall thank God for those who have given so much in securing the protection and safety of our Country, and pray that we may be responsive to His will and guidance in the years to come.

We are grateful that leaders in the Churches in Sydney have agreed to share in this Service and bring the distinction of their presence to this occasion.

The Right Reverend N. MacLeod, Moderator of the Presbyterian Church in New South Wales will preach the occasional sermon. Participating clergy will include His Lordship Bishop Kelly, representing Cardinal Freeman, Roman Catholic Archbishop of Sydney. Reverend Colin W. Ritchie, President of the New South Wales Methodist Conference and Archdeacon L. W. Long, representing the Most Reverend M. L. Loane, Archbishop of Sydney.

Music for the service will be provided by the East Australia Area Band of the Royal Australian Navy and musical items will be rendered by the choir from the Society of Saint Gerard Majella. So far as is known, the first Service to be held in this Church was in 1902, and was a thanksgiving Service at the end of the South African War. The first stained glass windows were installed in 1904. Since then the Church has been beautified by many Memorials, all of which tell their own poignant story. For many years the Church has been used for all Church Services held in Garden Island. Protestants and Roman Catholics have come to feel that it is their Church. An ecumenical spirit has always existed in the working relationships between serving Chaplains. But this has grown in the new atmosphere of unity and trust which we believe is God's will for His Church. It is appropriate therefore that we should together thank God for His grace and pray for His guidance in the future.

There are a number of groups which hold their Annual Church Services here — amongst them are Sydney Legacy, the Naval Association of Australia, the Naval Reserve Cadets, Sea Scouts and Sea Rangers. We hope that some from these organisations as well as interested members of the public will join with us in this Service.

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OPEN DAY — Sunday
21st October, 1973
12.30 pm-5.30 pm

Programme of Events

12.30 pm Gates open.
12.40-5.00 pm Ships open for Inspection.
1.00 pm Physical Training display — grassed area near main entrance gate.
1.30-2.30 pm Band concert — grassed area near main gate.
1.40 pm Submarine diving and surfacing; also helicopter demonstrating sonar dunking. Location: Entrance of Captain Cook Dock.
2.20 pm Clearance diving and helicopter display — mock battle. Location: Eastern side of Dockyard.
3.00 pm Physical Training display — grassed area near main entrance gate.
3.30-4.30 pm Band concert — grassed area near main gate.
3.40 pm Submarine diving and surfacing; also helicopter demonstrating sonar dunking. Location: Entrance of Captain Cook Dock.
4.20 pm Clearance diving and helicopter display — mock battle. Location: Eastern side of Dockyard.
5.00 pm Band marching display — grassed area near main entrance gate.

Certain fixed displays will be situated in tents erected close to the grassed area near the main gate. The displays will include —
Navy Cooking
Naval Reserve Cadets — exhibit of activities and membership inquiries.
Diving gear and ordnance relics from Vietnam.

Torpedo Recovery vessels will carry visitors for a brief cruise taking in the Sydney Opera House. These vessels will operate during the afternoon from the Office Steps near the Floating Dock.
Films of naval interest will be screened continuously in “Surfside 6”, a pale green wooden building situated at the Southern end of the Cruiser Wharf.

5.30 pm — DOCKYARD CLOSED

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The Dockyard (Except where shown) and certain Ships alongside will be open for inspection from 12:30 PM to 5:00 PM. Times of active displays are shown on this map.

Other Ships will be berthed at the Overseas Terminal, Circular Quay, Kirribilli Dolphins and Buoys off Cremorne & Kurraba Points.

NOTE: POSITION OF SHIPS ON THIS MAP ARE SUBJECT TO CHANGE
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PROGRAMME OF EVENTS

arranged for

NAVY WEEK, 1973

(Certain events and activities listed hereunder are subject to change as the Navy Week Programme had not been finalised at time of printing.)

NEW SOUTH WALES

MONDAY, 22 OCTOBER and
TUESDAY, 23 OCTOBER
Lunch Hour

12.45-1.15 pm

MONDAY, 22 OCTOBER to
TUESDAY, 23 OCTOBER
Lunch Hour

12.45-1.30 pm (Every Day)

MONDAY, 22 OCTOBER to
TUESDAY, 23 OCTOBER
Lunch Hour

9.00 am-5.00 pm (Every Day)

MONDAY, 22 OCTOBER to
TUESDAY, 23 OCTOBER
Various Times

Navy Bands will play during the Lunch Hour period at —

MONDAY, 22 OCTOBER
HYDE PARK NORTH AND CIRCULAR QUAY

TUESDAY, 23 OCTOBER
MARTIN PLAZA AND AUSTRALIA SQUARE

THURSDAY, 25 OCTOBER
HYDE PARK NORTH

MONDAY, 29 OCTOBER
AUSTRALIA SQUARE

WEDNESDAY, 31 OCTOBER
HYDE PARK NORTH

THURSDAY, 1 NOVEMBER
HYDE PARK NORTH

FRIDAY, 2 NOVEMBER
AUSTRALIA SQUARE

Lunch Hour

2.30-3.10 pm

7.00-10.30 pm

10.30 am

Navy Band leads Waratah Princess Parade from Hyde Park to Sydney Town Hall.

Navy Band recital — Wynyard Park.


United Religious Service. Garden Island Dockyard Church (general public invited to attend). Refer article near centre of magazine for detailed information.

Garden Island Naval Dockyard and vessels of the Royal Australian Navy and visiting navies open for public inspection (refer programme of events near centre of magazine).

Navy physical training display — Hyde Park.

Navy Diving display (diving tank in Hyde Park).

Navy Clearance divers will operate from launches in Farm Cove (Opera House side).

Vietnam ordnance, photographic and diving displays and exhibit of torpedoes — Tent in Hyde Park.

Roselands Community Shopping Centre.

Navy apprentices from HMAS Niimba will demonstrate construction of fibreglass canoes and painting of ships' crests, etc.

Navy Displays of photography, hydrography, knots and splices.

Navy Band leads Waratah Princess Parade from Hyde Park to Sydney Town Hall.

Navy Band recital — Wynyard Park.


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Navy Displays of photography, hydrography, knots and splices.
VICTORIA

SUNDAY, 30 SEPTEMBER
11.00 am
Naval Association Service at Christ Church, Toorak Road, South Yarra.

MONDAY, 1 OCTOBER
2.00-4.00 pm
Naval Reserve Cadet Training Ships LATROBE and YALLOUR open for public inspection.

MONDAY to FRIDAY
WEDNESDAY, 3 OCTOBER
10.30 am-5.30 pm
Navy Week Golf Tournament at Waverley Golf Club.

THURSDAY, 3 OCTOBER
12 Noon
Navy Week Boats Tournament, Fitzroy.

THURSDAY, 3 OCTOBER
1.00 pm
Navy Band recital and PT Display, National Mutual Plaza Collins Street, Melbourne.

FRIDAY, 5 OCTOBER
8.30 pm-1.00 am
Navy Band recital — Melbourne City Square.

SATURDAY, 6 OCTOBER
10.45 am
Cooking Demonstrations by the Navy at the SEC Showrooms, Flinders Street, Melbourne.

TASMANIA

SATURDAY, 29 SEPTEMBER
THURSDAY, 4 OCTOBER
10.00 am
Navy League Ball, Launceston.

FRIDAY, 5 OCTOBER
10.30 am
Wreath Laying Ceremony, Hobart.

SUNDAY, 6 OCTOBER
3.15 pm
Navy Week Ball — HMAS LONSDALE, Port Melbourne (by invitation only).

SATURDAY, 7 OCTOBER
10.00 am
Parade and Wreath Laying Ceremonies at Launceston and Burnie.

Navy Band recital — Southland Shopping Centre, Cheltenham.

Navy Week Service, Melbourne Synagogue, Toorak Road, South Yarra.


Navy Week Mass — St Patrick’s Roman Catholic Cathedral, Melbourne.

St Paul’s Anglican Cathedral Seafarer’s Service (attended by the Governor of Victoria).

Shrine Memorial Service (Parade will assemble at 3.00 pm on forecourt of shrine and after service will reassemble (4.00-6.00 pm) at HMAS LONSDALE, Port Melbourne.)

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Mariners’ Service, St Georges Church, Hobart.
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QUEENSLAND
SATURDAY, 29 SEPTEMBER
Warana Spring Festival Aquatic Event.
SUNDAY, 30 SEPTEMBER
10.30 am
Naval Parade and Commemoration Service, Central Park, Gladstone
12.30 pm
Navy Bowls Day at Wavell Heights Bowling Club, Brisbane
5.25 pm
Sunset Ceremony by RANR Band (Organiser L. D. Miles, Phone 59 2142)
MONDAY, 1 OCTOBER
WEDNESDAY, 3 OCTOBER
11.00 am
River Trip aboard RAN Landing Craft.
12.30 pm
Navy Golf Day at Nudgee Golf Club, Brisbane (Organiser G. Joyce, Phone 66 7783)
NAVY DAY
THURSDAY, 4 OCTOBER
(Navy Day School Talks at selected Schools throughout Queensland)
12 Noon
Navy Day Women's Luncheon at Naval Club Brisbane. Sponsored by Naval Wives Assn. Phone 31 1611 — Miss E. Nutt. Cost $2.00
7.00 pm
7.30 pm
Navy Week Dinner at Queens Hotel Townsville. Contact D. Wilson, Phone 71 4838
FRIDAY, 5 OCTOBER
7.30 pm
Ex Navalmen's Dinner RSL Club Cairns. Reservations R. L. Garnaut, Phone 51 2131
7.30 pm
T/S PALUMA Open Night — Naval Reserve Cadets. Gibson Park, Stafford, Brisbane
8.00 pm
Maritime Supper Dance at HMAS MORETON, Brisbane. Sponsored by RAN and Missions to Seamen — Cost $5.50 Single. Reservations Mrs C. Udell. Phone 31 1611 or Naval Memorial Club, Phone 29 3651
SATURDAY, 6 OCTOBER
7.30 pm
Navalmen's Reunion at RSL Club, Gladstone. Organiser J. F. Temmarsh, Phone Gladstone 72 1204
7.30 pm
Navalmen's Luncheon at RSL Club, Gladstone. Organiser J. F. Temmarsh, Phone Gladstone 72 1204
7.30 pm
Warana Spring Festival Aquatic Event.
SUNDAY, 7 OCTOBER
10.30 am
Navy Church Parade, St Saviour's Church at England, Gladstone
10.15 am
Naval Commemoration Service, Anzac Square, Brisbane (Medals to be worn).
10.45 am
March from Anzac Square to St John's Cathedral, Ann St, Brisbane — RAN, RANR, NRC. Ex Navalmen and women headed by the Band of the RANR
11.00 am
Seafarers' Service — St John's Cathedral, Ann Street, Brisbane
12.30 pm
Reunion Luncheon — Naval Memorial Club, 120 Edward Street, Brisbane (All Welcome). Smorgasbord. Cost $1.60. Reservations Phone 29 3651

Page Thirty-eight
SOUTH AUSTRALIA

THURSDAY, 27 SEPTEMBER

- HMAS TORRENS arrives.
- HMAS TORRENS Chief Petty Officers' Cocktail Party.
- Official Reception in HMAS TORRENS.
- Navy Week Service. St Francis Xavier Cathedral.
- Navy Week Service. St Peter's Cathedral.
- Navy Week Golf Tournament. (Open to all past and present Naval personnel.)
- Commemoration Service and Wreath Laying at State War Memorial. Rear Admiral A. G. McFarlane will represent the Naval Board.
- Naval Officers Club Dinner at Naval and Military Club. Guest of Honour — Rear Admiral Stevenson.
- Historical Display at State Public Library mounted by SA Chapter Naval Historical Society.

MONDAY, 1 OCTOBER

- Navy Week Golf Tournament. (Open to all past and present Naval personnel.)
- Commemoration Service and Wreath Laying at State War Memorial. Rear Admiral A. G. McFarlane will represent the Naval Board.
- Naval Officers Club Dinner at Naval and Military Club. Guest of Honour — Rear Admiral Stevenson.
- Historical Display at State Public Library mounted by SA Chapter Naval Historical Society.

MONTH OF OCTOBER

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Visit by Japanese Ships
Two training ships of the Japanese Maritime Self Defence Force carrying a total of 160 cadets will visit Melbourne, Sydney and Darwin during September/October.

The destroyer KIRIZUKI and the frigate KATORI will call at Melbourne from 19-23 September, Sydney from 25-29 September and at Darwin from 10-12 October.

Two chartered aircraft will bring the Squadron Commander, Admiral Ishino, his official party and cadets on a morning visit to Canberra on 28 September where the Admiral will make official calls and later lay a wreath at the Australian War Memorial.

The party will also visit the Royal Australian Naval College, Jervis Bay.

The Minister for Defence, the Honourable Lance Barnard, has announced that Rear Admiral Stevenson, the present Chief of Naval Personnel, will be appointed Chief of Naval Staff for three years from 23 November, 1973. He will be promoted Vice-Admiral on taking up this post.

He will succeed Vice-Admiral Sir Richard Peck, KBE, CB, DSC who will retire from the Navy on 22 November, 1973 after three years as Chief of Naval Staff.

In making the announcement, Mr. Barnard paid tribute to the outstanding career of Vice-Admiral Peck, in both war and peace, since 1928. During the war he had served with distinction receiving both the OBE and DSC, in recognition of his services. Later his commands included the Tenth Destroyer Flotilla and the RAN Flag ship HMS MELBOURNE. Senior appointments followed, including the posts of Deputy Chief of Naval Staff, Flag Officer Commanding HMA Fleet and Second Naval Member of the 'Navy Board.

Rear Admiral Stevenson, 54, entered the Royal Australian Naval College during World War II. Post-war appointments included command of HMNZS ROYALIST and HMAS SYDNEY and MELBOURNE, Director of Plans Navy Office, Naval Officer-in-Charge Western Australia, Deputy Chief of Naval Staff, and Flag Officer Commanding the Australian Fleet. He attended the Imperial Defence College in 1966. He was awarded the CBE in January, 1970.

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THE NAVY
Aug/Sept/Oct 1973

Appointment of CHIEF OF NAVAL STAFF

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THE NAVY
Aug/Sept/Oct 1973
Currents being refitted so that she may assume a training role. HMAS DUCHESS will replace HMAS SYDNEY and ANZAC.

The Government's announcement, that HMAS SYDNEY is to be retired immediately, gives rise to questions regarding the wisdom of making this decision before finalising plans for SYDNEY's replacement.

HMAS SYDNEY now fulfils two roles — fleet training ship and troop carrier. In the former role, she is supported by the destroyer HMAS ANZAC. In addition, HMAS DUCHESS is now in Williamstown Dockyard undergoing modifications to enable her to replace HMAS QUEENBOROUGH (which was discarded last year) and HMAS ANZAC. DUCHESS will not be able to provide training capacity to replace SYDNEY & ANZAC.

In an age when training requires ever increasing emphasis, it is hardly likely that the training abilities of SYDNEY are not required. Indeed, such is not one of the reasons given by the Government for SYDNEY'S retirement. SYDNEY'S strengths as a training ship included her spaciousness and flexibility of programme. When SYDNEY was not required as a troop carrier, she was available for training, and vice versa. The nation cannot afford to have another first line warship downgraded to training ship without replacement in the line.

The question of replacing SYDNEY in her troop carrying role is more complex. There have been reports of various approaches under consideration, with probably the least practical, that of a fleet of passenger aircraft, being mentioned recently in a national newspaper. Of course, aircraft would have to be supported by a ship, of some sort, to give the necessary 'heavy lift' for vehicles. SYDNEY'S strengths in her troop carrying role are her range, seaworthiness, ability to operate helicopters, assault craft, and 'heavy lift' — the ability to load, on her flight deck, or in her hangar, a large number of all but the heaviest military vehicles. In short, SYDNEY can carry troops, equipment and vehicles, and land them in those parts of Australia where there are no airfields capable of handling heavy aircraft.

Disadvantages are her ageing, and the old argument that 'all the RAN's troop carrying eggs are in the one basket'. Furthermore, there are the disadvantages of using a ship in a role for which she was not designed. These are best qualified by comparing the troop carrying capacity of the converted carrier HMS BULWARK with that of the purpose built USS IWO JIMA (LPH 2):—


**IWO JIMA** Displacement: 17,500, Speed: 20, Crew: 528, Troops: 2,090, LCVP: 32, Helicopters: 32

IWO JIMA carries twice the number of troops with half the crew of BULWARK. IWO JIMA's poor heavy lift capacity is counter balanced by her higher helicopter compliment. BULWARK's high speed, necessary for fleet operations in her aircraft carrier days, is now unnecessary. As a converted aircraft carrier, SYDNEY suffers from disadvantages similar to those of BULWARK. SYDNEY'S capacity as a troop carrier has not been developed to the same extent as that of BULWARK. This applies not so much to equi-
ment as to the degree of training of her complement and troops. HMAS SYDNEY’s assault troops are especially trained Royal Marine Commandos, allocated to the ship for the full commission, whereas SYDNEY embarks Army personnel as necessary for exercises (as, for example, for the recent expedition to New Zealand).

In considering replacements for HMAS SYDNEY, a prime objective must be the advantages of the present SYDNEY, whilst eliminating her disadvantages. A need for her replacement must be confirmed and her role defined.

Up to the present, SYDNEY’s troop carrying role has been predominantly that of transporting troops to and from Vietnam and Singapore. A series of assault exercises, which have received much publicity, have demonstrated SYDNEY’s potential as an assault ship. It is in this role that there is a need for improvement and replacement. Australia has a long coastline, and a very small population. The answer to this problem is the mobility of the relatively few troops we do have. Provided there are large airfields in the vicinity of their destination, aircraft can move the troops themselves, but the soldiers would have to wait for their equipment and supplies. A replacement for SYDNEY would fill the role of providing mobility on the Australian Continent admirably. The mobility conferred upon Australia’s defence forces by such a replacement is essential.

It is essential that mobility be considered in the context of the Continental defence of Australia. The Malaysian Government must not allow their opposition to the use of such mobility in South East Asia to Papua New Guinea to influence them into restricting the mobility of the defence forces within the Australian Continent.

Before turning to the type of vessel needed to replace SYDNEY, consideration must be given to the Army’s needs. The Army has a fleet of 48 vessels, the largest of which is 1400 tons dead weight. The most significant vessels are in process of turning over to naval manning. These are the eight new BALIKPAPAN Class Landing Craft (Heavy), respectively not regarded by the Army as entirely successful. These vessels are suitable for coastal and island work in the Queensland Area. They lack the seaworthiness necessary to operate on the more exposed Australian Coast, and their carrying capacity is very limited. Some will be used for inshore hydrographic work.

The remainder of the Army’s craft are essential, but small. There is a definite need for a seagoing ship, or ships, capable of transporting troops in battalion strength. Whilst the ARA (or CMF) would not need the vessel or vessels all the time, the RAN would need the remainder of the new vessels’ time for the training role.

When considering types of ship to replace SYDNEY, the question of one big ship, or a number of small ships, must be resolved. This is the old problem of achieving the optimum economy of scale or having all ‘one’s eggs in the one basket’. The RAN can either use the minimum number of sailors to carry the maximum number of troops and equipment (ie build one big ship), or build a number of smaller ships, requiring more sailors to transport the same number of troops, and achieve flexibility — if one ship is sunk, or under repair, the whole capability is not lost.

As replacements for SYDNEY, there are three basic possibilities —

1. One LPH of the IWO JIMA Type, described above.
2. One LPD, of the Royal Navy’s INTREPID or US Navy’s AUSTIN Classes.
3. Two LSTs of the USN’s NEW PORT Type.

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THE NAVY
Page Forty-eight

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THE NAVY
Page Forty-nine

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Page forty-nine
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CONTRIBUTIONS INVITED
The editor invites persons to submit articles, photographs and drawings (black ink) for inclusion in the magazine, but regrets that no payment can be made for contributions submitted. Contributions should be addressed The Editor "The Navy", Box C178, Clarence Street Post Office, Sydney, N.S.W., 2000, Australia.

The Editor does not hold himself responsible for manuscripts though every effort will be made to return those with which a stamped and addressed envelope is enclosed.

CONTRIBUTIONS INVITED
Junior "SALTS" at Sea in HMAS TORRENS

Able Seaman Graham Potts of the Naval Reserve Cadets prepares to hoist signals aboard HMAS TORRENS. Graham is from the Training Ship BENDIGO in Victoria.

CONTRIBUTIONS INVITED

THE NAVY
Aug/Sept/Oct
Page Fifty-one

THE NAVY
Aug/Sept/Oct, 1973
Great Holiday Ideas

Whether you’re hound for Morocco or Mt Stromlo, the ACT Tourist Bureau can make your journey so much smoother. Naturally we’re experts on Canberra, from day tour suggestions to major convention organisation but we also arrange travel to anywhere in the world. We’ve got a million great holiday ideas. The service is absolutely free. That’s the way a Travel Agency works — that’s the way we work.

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The Navy

Naval Reserve Cadets got a taste of Navy life, when they sailed from Port Adelaide to Sydney as "crew members" aboard HMAS TORRENS in July.

During their four-day voyage, 30 cadets from three States helped regular Navy sailors in the general running of the ship.

TORRENS, the newest of six Australian-built River-class destroyer escorts, is part of the Third Australian Destroyer Squadron.

The 2,700-ton ship carries a normal ship's company of 250 officers and men and has a top speed of more than 30 knots.

The cadets came from South Australia (7), Victoria (10) and New South Wales (13).

Ties between the Naval Reserve Cadets and the Navy are very strong. Both organisations have an interest in the sea and maritime affairs as well as a desire for interesting and stimulating activities in a sea environment.

Most of the Reserve training work is done by volunteer officers and instructors.

More than 2,500 cadets belong to 45 units throughout Australia. The aim is to achieve a healthy youth organisation with a strong Naval flavour, offering to the boys fun, adventure, challenge and activity.

Units develop local character by drawing their strength and support from local communities. Lads also develop self-reliance and a sense of values.

Other sea-minded organisations, such as the Navy League, help the Cadet programme remain successful.

Many branches of the League have provided powered, sailing and pulling craft, as well as giving financial support. In Victoria, the State branch has recently acquired the 57-foot yacht Winston Churchill for use as a training craft.

When RAN vessels reach ports of call, cadets often visit them while ships' officers attend Cadet meetings.

Able Seaman Underwater Control Raymond Wall from Launbera, New South Wales is shown how to keep a steady course at the helm of HMAS TORRENS.

A navigation lesson on the bridge of HMAS TORRENS. An attentive student from the training ship CANBERRA. Cadet — Petty Officer Michael McDonald.
Join the NAVAL RESERVE CADETS

If you are between the ages of 13 and 18 years:

The Naval Reserve Cadets are administered by the Commonwealth Naval Board.

The Naval Reserve Cadets 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.

Uniforms are supplied free of charge.

Cadets are required to produce a certificate from their doctor to confirm they are capable of carrying out the normal duties and activities of the Cadet Corps. If injured while on duty, Cadets are considered for payment of compensation.

Parades are held on Saturday afternoon and certain Units hold an additional parade one night a week.

The interesting syllabus of training covers a wide sphere and includes seamanship, handling of boats under sail and power, navigation, physical training, rifle shooting, signalling, splicing of wire and ropes.

Instructional camps are arranged for Cadets 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 Senior Officer in your State, using the form provided below.

<table>
<thead>
<tr>
<th>SENIOR OFFICERS, NAVAL RESERVE CADETS</th>
<th>VICTORIA: C/- Room 6, 2nd Floor, 528 Collins Street, Melbourne, 3000.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEW SOUTH WALES: Staff Office Cadets, HMAS Watson, Watsons Bay, NSW, 2030.</td>
<td>TASMANIA: C/- 3 Winnmarleigh Street, Taroona, 7008.</td>
</tr>
<tr>
<td>QUEENSLAND: C/- 39 Pinecroft Street, Camp Hill, Queensland 4152.</td>
<td>AUSTRALIAN CAPITAL TERRITORY: Industry House, National Circuit, Barton, 2600.</td>
</tr>
<tr>
<td>WESTERN AUSTRALIA: C/- 182 Coode Street, Como, 6152.</td>
<td>NORTHERN TERRITORY: Mrs V. M. Slide, 12 Allan Street, Fannie Bay, 5790.</td>
</tr>
<tr>
<td>SOUTH AUSTRALIA: C/- Box 1529M, GPO, Adelaide, 5001.</td>
<td></td>
</tr>
</tbody>
</table>

TO: The Senior Officer, Naval Reserve Cadets.

I am interested in joining the Naval Reserve Cadets and would be pleased to receive further information.

NAME: ..............................................................

STREET: ........................................................

SUBURB: ......................................................

STATE OR TERRITORY: ....................................

POSTCODE: ..................................................

PHONE No.: .................................................

AGF: ...........................................................

(Please Print Clearly)

Please address your envelope to the Senior Officer in your State or Territory — see list of addresses above.
At 10.50 am, 23 July, the radio crackled into life, "MAYDAY, MAYDAY, FISHING BOAT ALECIA ON FIRE ... THREE MILES SOUTH BABEL ISLAND ... DROPPED DINGHY OVER, THE SIDE ... GETTING INTO BOAT NOW".

Lieutenant John M. Riley, Commanding Officer of the Attack Class patrol boat HMAS ARDENT, immediately ordered full speed and the ship turned north heading for the scene some 50 miles away. An "Operational Immediate" signal was then sent to COMAUSFLT, NOIC VIC and the Marine Operations Centre in Canberra notifying them of ARDENT’s intentions and estimated time of arrival on the scene.

Before ARDENT reached the stricken craft the highly efficient Marine Operations Centre had radioed the patrol boat full information about ALECIA’s crew, safety equipment and fire fighting capabilities. This vital information helped ARDENT plan her fire fighting operations.

During the two hours it took "Riley’s Raiders" to arrive on the scene the crew members broke out the ship’s fire-fighting gear, donned fireproof clothing and prepared themselves for the rescue.

Another fishing craft, the TELAKA (from Lady Barron on Flinders Island), arrived alongside the burning vessel before the Navy ship, but could do little to render aid. TELAKA helped the ALECIA crew pour what little foam she had on board to combat the fire. ALECIA was then taken under tow by TELAKA. The manoeuvre unfortunately proved useless and the tow-rope was slipped to give ARDENT additional room for manoeuvring.

ARDENT arrived alongside the stricken vessel at 1 o’clock just before one of ALECIA’s fuel tanks exploded in a shower of burning oil and black smoke. ARDENT’s crew members started to spray foam over the burning 38-foot wooden-hulled, cray fishing boat but the foam could not penetrate to the heart of the fire because of the glassed-in wheelhouse.

A boarding party from ARDENT, consisting of Lt Gordon Hunt (on loan from the RN), ERA Stephen Crawford, ABMTP-1 Alan Deem and LSMTPD Wayne Brown jumped onto the burning deck from the fo’c’sle as Lt Riley held the patrol boat in position.

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Once on board the four men broke the wheelhouse glass and some protective woodwork and then poured gallon after gallon of foam into the stricken craft.

Lt Gordon Hunt, a gunnery officer stationed aboard the Navy Training Establishment at Western Port, Victoria, HMAS CERBERUS, helped direct the rescue operations before leading the boarding party onto ALECIA

Lt Hunt said: “By the time we reached ALECIA, the boat was half under water and the heat was so great that the fire had burnt through her hull and the water in her was ablaze.

When we were on board, ALECIA started to sink, so we had to get off very smartly. We didn’t want to leave just then because we were trying to set water pumps in operation to try and clear some of the water out of the lower decks.

Lt Riley had to keep ARDENT positioned at ALECIA’s bow because she was carrying another 45 gallons of diesel oil and some high pressure propane gas bottles used for cooking. He said: “I felt that by staying in front of the ship it lessened somewhat the dangers of being sprayed with burning oil from exploding fuel cells and possible shrapnel from detonating high pressure gas bottles.”

Despite the efforts of all concerned ALECIA went down about 35 minutes after ARDENT’s arrival.

When ALECIA went to her watery grave the Navy ship departed for Lady Barron on Flinders Island to reunite the two men with their families. ALECIA’s skipper, Mr. John McCarthy and his crew member Mr. Alwyn Mansell both praised ARDENT’s efforts to save the boat.

Mr McCarthy said he was much at “home” in treacherous waters as he is in his own living room.

Lt Riley often monitors the fishermen’s radio frequency just in case there is a MAYDAY call.

ARDENT’s complement of 18 men regularly go through rescue drill procedures to keep them at the peak of readiness for such emergencies. The ship has frequently rescued small craft in difficulty, but the ALECIA fire was her first real drama.

With almost 30 years of sea experience in three navies including three and a half years in command of HMAS ARDENT, Lt. John Riley is as much at “home” in treacherous waters as he is in his own living room.

ARDENT’s primary duty is fisheries surveillance which is keeping a lookout for vessels illegally fishing in Australian territorial waters. HMS ARDENT’s patrol is Victorian, Bass Strait and island waters and the East Coast of Tasmania.

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THE NAVY
Aug/Sept/Oct 1973
Page Fifty-nine
“The Civilian Arm of the Navy”

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.

The League supports the Naval Reserve Cadets who are administered by the Royal Australian Navy, which Service provides technical sea training for boys who intend to serve in the Naval or Merchant Services, also to those seafaring boys who do not intend to follow a sea career, but who given this knowledge will form a valuable reserve for the Naval Service.

We invite you to swell our ranks and so keep up to date with Maritime Affairs to help to build an ever-increasing weight of informed public opinion. The Navy League will then become widely known and exercise an important influence in the life of the Australian Nation.

The League consists of Fellows and Associates. All British subjects who support the objectives of the League are eligible for membership. Members receive copies of the League’s magazine “The Navy.”

DIVISIONS
Victoria — Room 6, 2nd Floor, 528 Collins Street, Melbourne, 3000.
Queensland — 39 Pinecroft Street, Camp Hill, Queensland, 4152.
Tasmania — 3 Wimmerleigh Street, Taranna, 7006.
South Australia — Box 1529M, GPO, Adelaide, 5001.
Western Australia — 182 Coote Street, Como, 6152.
Northern Territory — C/- Mrs V. M. Slade, 12 Allen Street, Fannie Bay, 5790.

THE NAVY LEAGUE OF AUSTRALIA
Application for Membership

To: The Secretary,
The Navy League of Australia, (Division).
Sir,
I am desirous of becoming a Member of the Navy League of Australia with whose objects I am in sympathy.
(Mr)
(Mrs)
(Miss)
(Rank)

Please Print Clearly.

Street:
Suburb:
State:
Postcode:
Signature:
Date:

I enclose a remittance for $4.20 being my first annual subscription.

AFTER COMPLETION, THIS FORM SHOULD BE DISPACHTED TO YOUR DIVISIONAL SECRETARY. NOTE LIST OF ADDRESSES ABOVE.

Victoria — Room 6, 2nd Floor, 528 Collins Street, Melbourne, 3000.
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Northern Territory — C/- Mrs V. M. Slade, 12 Allen Street, Fannie Bay, 5790.
Pyrotechnic Signal

For Divers

A pyrotechnic signal which can be released by a diver working below the surface of the water and which is fitted in a combined bracket and nylon pouch which can be hung on the diver’s belt has been developed in Britain.

The signal is designed for operation down to a depth of 30 metres in fresh or salt water. After release it floats to the surface where a red flare of 5,000 candle power burns for approximately 30 seconds.

The nylon pouch is secured around the signal and the bracket by velcro tape.

To operate, the tape is pulled, the signal freed from the pouch and the operating sleeve given a three-quarter turn and pulled clear of the body of the signal. Freeing the signal from the pouch allows water to enter one compartment of the signal, activating the battery and opening a hydrostatic switch. Separating the sleeve from the signal breaks a safety wire and short circuits the system as a safety measure. The signal is then released to float to the surface at approximately one metre per second. When the water pressure is sufficiently reduced (about one metre below the surface) the hydrostatic switch closes, thus completing the firing circuit. The flare burns after a four second delay.

The signal can be supplied with white or green flares as an alternative to the standard red. Fluorescent green dye marker can be added if required.

Length of the signal is 250mm; diameter is 45mm.

(Palms-WMMX Ltd, High Pott; Salisbury, Wiltshire, England; Australian Agents: Palms-Wessex (Australia) Pty Ltd, 406 Church Street, Richmond, Vic 3121.)
CHANGE OF ADDRESS

Important notice to Subscribers to "The Navy" and Fellows of the Navy League of Australia.

It would be helpful to the Editor, Federal Secretary and Post Office if you would kindly complete the form provided below prior to moving from the postal address registered with the Navy League, thereby ensuring that "The Navy" reaches you on time. Fellows of the Navy League should also advise their Divisional Secretary of any change in status or postal address.

NOTICE OF CHANGE OF ADDRESS

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

(PLEASE PRINT CLEARLY)

Mr. | Name: ____________________________  Miss |
Rank: ________________________________

Present address: _____________________________________________________________

I will be moving from the above postal address on ____________________________ to reside at: ____________________________

New address: ________________________________________________________________

(please include your postcode)

I am a *subscriber or **Fellow of the | | ____________ Division of the Navy League
(* delete inapplicable words)

Signature: ____________________________

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One tree doesn't make an orchard

But it's a good start. The Kingfish oilfield in Bass Strait is a major producer, even by world standards. With its neighbours, Halibut and Barracouta, it produces over 60% of Australia's current oil needs. But what about next year? And the year after? Bass Strait will still be producing — but Australia's thirst for oil energy is growing fast. At about 6% a year, a higher rate than the world average. And no oil well lasts forever.

To maintain our present degree of self-sufficiency in oil, Australia needs to discover the equivalent of a Kingfish field every two years. To do that means an exploration expenditure of $200 million every year. Oil search is very costly and very risky — and very important for Australia.
Like Leonardo, we care intensely about it.

Five hundred years ago a man called Leonardo da Vinci turned his bountiful genius to the task of achieving man-made flight. To Leonardo, the flight of a bird was an inspiration, a marvel, a riddle he was never to solve. The science of aerodynamics defied even Leonardo's ingenuity. It was left to men of other generations to unlock the secrets of the bird's wings, to separate the functions of lift and thrust between wings and engines, to fly higher and faster than the bird. And having created the marvel for ourselves, still some of us stand in awe of it, as Leonardo did. We count the people of our airline among these. For as, flight is a phenomenon full of wonder. We want to share it with you the first time or the next time you fly.
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An artist's impression of the landing helicopter assault ships (LHA's) building for the US Navy.

The keel was laid last August for the fourth in a series of five giant amphibious assault ships being produced at Pascagoula, Miss, for the US Navy by Ingalls Shipbuilding division of Litton Industries.

Setting of the keel marked the start of hull erection on the 820-foot vessel, which is already well into fabrication and assembly stages. Meanwhile, hull erection on the first three vessels continues while fabrication and assembly is underway toward laying of the keel later this year for the fifth ship, final in the series.

Designated as Landing Helicopter Assault ships (LHA's), the new vessels, designed by Litton and the first of their kind for the Navy Fleet, will transport a battalion of marines and landing craft.

The lead ship in the series, TARAWA (LHA-1), is in an advanced stage of hull erection and will be launched in December.

CONTRIBUTIONS INVITED

The editor invites persons to submit articles, photographs and illustrations black and white for inclusion in the magazine, but regrets that no payment can be made for contributions submitted. Contributions should be addressed to The Editor, The Navy, Box C17, Clarence Street Post Office, Sydney, N.S.W. 2000, Australia.

The Editor does not hold himself responsible for the views expressed. Contributions will be returned only if accompanied by prepaid postage.

Best wishes to The Navy from:

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32 JETTY ROAD, GLENELG

Best Wishes and Compliments to All Naval Personnel from:

John McKell & Sons
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15 TINPSOM STREET
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Self-Contained Rocket Line Thrower

A ready-to-fire compact rocket line thrower is of a novel design that does away with the separate pistol, rocket, lines and cartridges of conventional equipment. Instead, the unit, developed by a British firm specialising in marine life-saving equipment, comprises a moulded plastics container/launcher 13 in long and 7 4 in (330mm and 190mm) in diameter, into which are packed a rocket, firing mechanism and a 300yd (275m) line of 3/8 in (12.5mm) circumference with a breaking strain of 600lbs (272kgf).

The complete “Speedline International” weighs only 10 lbs (4.5kg) and has a calm-weather range of over 250yds (about 230m). Its compactness and lightness make the line thrower easy to operate and stow.

For operation, a transparent plastics cover is removed and the looped end of the line, indicated by a multi-lingual label, is secured to a heavy line or holdfast. An arrow on the handle points in the direction of aim and the unit is balanced so that, when the handle is grasped close to the arrow, the container is at the correct firing angle. A squeeze trigger in the handle is secured by a clearly and multi-lingually labelled split pin. Once the pin has been removed, the unit is ready for firing. Should the line not be fired after all, the pin, which is secured by a loop to the handle so that it cannot be lost, can be replaced easily.

Clear pictures on the body of the container show the correct firing procedure. Date stamps on both the rocket and cartridge/firing mechanism can be read without removing the cover.

So far the equipment has been approved by a number of National Authorities.
A Close Liaison, The Navy Department and...

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Nautical Notes from all Compass Points

By "Sonar"

CANADA Promotion

Rear Admiral Douglas S. Boyle became Commander of Maritime Command, with headquarters in Halifax, during August, succeeding Rear Admiral Robert W. Timbrell, who retired after 36 years of service. Admiral Boyle was chief of personnel at National Defence Headquarters, Ottawa. Before coming to Ottawa in January, 1971, he was Commander of NATO's multinational naval force in the Atlantic.

Blowpipe Missile

Canada's armed forces are to be equipped with the man-portable Blowpipe missile weapon system, described as the "only shoulder-launched weapon capable of engaging both aircraft and ground targets". Shorts, who designed the Blowpipe system, already have it in quantity production for the British Army and Royal Marines. The Canadian contract (the size and value of which has not been announced) is the first of what Shorts predict will be a number of export orders for both troope operation and in naval application, with multiple launchers fitted even on patrol and similar small craft.

Marine Work Horses for All Seasons

Rotork Sea Trucks, similar to these undergoing acceptance trials for the

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Nautilus Notes

November/December/January, 1973/74

THE NAVY

Royal Navy off the South coast of England are fulfilling an important role in Canada assisting in the transport of large quantities of oil and other petroleum products (see photograph). 'SHELL' are using two of these craft as pushers - specially adapted with quick release 'pusher' linkages on the bows - for shallow-draught barges on a tanker-to-shore shuttle service under extremely adverse weather and tide conditions to supply Fort Chimo, an important settlement in the Arctic.

The Rotork Sea Truck is a versatile 'workhorse' of three tons capacity and has an air-ram effect under the bows which enables the craft to ride on a cushion of foam, thereby reducing 'drag' and improving considerably the load speed stability factors.

FRANCE

New Construction


Builder: Societe Francaise de Constructions Navales.

This new transport is a sister to the ARIEL KORRIGAN, ALPHEE ELFE and FAUNE delivered by these builders to the French Navy from 1964 to 1971.

Main particulars are as follows:

Length overall: 40.50 metres, 132ft 10in.
Moulded breadth: 7.45 metres, 24ft 5in.
Depth: 3.30 metres, 10ft 10in.
All draught: 2.85 metres, 9ft 4in.
Propelling set: Two MGO diesels x 865 hp.
Speed: 16 knots.
Passengers: 400.

New Tugs

Orders for Chantiers and Ateliers de la Perriere (Lorient) —

Two 1,000 hp tugs for the French Navy:

 Hull number 379 to be delivered at Toulon on January 1, 1974.
 Hull number 380 to be delivered at Brest on May 1, 1974.

Main particulars are:

Length overall: 28.25 metres, 92ft 8in.
Length between pp: 25.30 metres, 83ft 1ft.
Moulded breadth: 7.60 metres, 24ft 1in.
Depth: 4.00 metres, 13ft 1in.
Loaded draught aft: 4.30 metres, 14ft 1in.
Propelling set: One MGO diesel MGO diesel x 1,000 hp (1,350 rpm) with Messian reduction gear and Kort nozzle.
Bollard pull: 18T.
Bollard pull: 18T.

NATO

Exercise Dawn Patrol 73

An extensive NATO naval and air exercise, involving surface ships, submarines and aircraft of five nations, has been conducted throughout the Mediterranean from June 5 to 15, 1973.

This test of NATO forces called DAWN PATROL had been scheduled by Admiral Richard G. Colbert, United States Navy, Commander-in-Chief, Allied Forces Southern Europe (AFSOUTH) whose headquarters are in Naples, Italy.

The manoeuvres involved more than sixty warships and some two hundred aircraft. Forces from Greece, Italy, Turkey, the United Kingdom and the United States participated in operations involving air defence, anti-submarine warfare, amphibious operations and surveillance.

A highlight of the exercise was a multi-national amphibious landing on June 12.

The five participating NATO countries provided ships ranging in size from aircraft carriers to fast patrol boats. Allied tactical aircraft operated from NATO countries in the Southern region. Carrier-based planes flew missions providing further air cover and ground attack capability. Maritime patrol aircraft also took part.

Exercise Swift Move

A combined NATO Striking Fleet Exercise named Swift Move has been completed in the Norwegian and North Seas. And Soviet warships showed a keen interest.

More than 20,000 men, 34 ships and 250 land and sea-based aircraft from Canada, Denmark, the Federal Republic of Germany, the Netherlands, Norway, the United Kingdom and the United States participated in the exercise.

Soviet interest in the NATO exercise became evident when a Kresta II Class guided missile cruiser was seen in the area, while a Kammin Class guided missile destroyer, an intelligence gathering trawler and a fleet tug continued to shadow the task groups.

A Soviet Juliet Class submarine was sighted on the surface near the exercise.

Exercise Swift Move was one of a series of regularly scheduled NATO training exercises designed to test the readiness and effectiveness of the NATO Striking Fleet Atlantic to provide support to alliance nations of the Atlantic community.
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NAUTICAL NOTES

Launch of New Survey Ship
HMS HERALD, the Royal Navy's new ocean survey ship, was launched on Thursday, October 4, from the Leith shipyards of Robb Caledon Shipbuilders by Mrs. Mary Hall, wife of the Hydrographer of the Navy, Rear-Admiral Geoffrey Hall. When completed, the 3,000 ton ship will join the Navy's survey fleet in its work throughout the world — work which has become ever more imperative with growing use of the new and still bigger breed of deep-draught supertankers. The new ship, based on the earlier Hecia class of ocean survey vessels but incorporating a range of improvements, will have a ship's company of 127.

She will be part of the world's oldest and most professional survey fleet — in line of succession to HMS CHALLENGER, which laid the foundations of modern oceanography during her three-year global journey of a century ago.

Britain Requires 32 More Jindiviks
Britain has confirmed that it has a requirement for a further 32 Australian-designed Jindivik pilotless target aircraft, valued in excess of $4m, to be built in the Department of Supply's Government Aircraft Factories (GAF) in Melbourne.

The order — to be spread over four years — would be regarded as a further example of the contribution made towards Australian offset policy objectives by British defence procurements in Australia.

This latest order would bring the total number of Jindiviks to 466, including 278 for other countries: Britain (226), the US (42) and Sweden (10). Export earnings total about $25m.

In Australia, orders include 163 for the Joint UK-Australia Weapons Project at Woomera and 25 for the Royal Australian Navy.

Jindivik (the "Hunted One") can fly at more than 1000 km/hr at altitudes up to 21,000m. It has a variety of wing configurations, with a maximum span of nearly 10m.

Cameras fitted at the wing tips film a missile approach and accurately calibrate and assess the missile behaviour.

The current production model is the Mk 3B, which, with its variants, is designed to represent a high-speed low-level aircraft threat in the development of the latest generation of guided missiles and the training of guided-missile crews.

Various structural changes have been made to meet this requirement — control equipment has been redesigned to take advantage of more compact and lighter solid-state electronics, and fuel management techniques are being studied to permit high-acceleration manoeuvres.

The Mk 3B also incorporates towed target systems, so that the aircraft itself is no longer the target.
NAUTICAL NOTES

On a signal from the ground, Jindivik will stream one or two targets which are specially equipped with infra-red or radar augmentation devices to simulate a threatening formation of aircraft. These targets can be winched back to Jindivik in flight.

**New Branch for Fleet Air Arm**

Because of the Royal Navy's expanding use of helicopters, the aircrewman branch of the Fleet Air Arm is to be re-formed. This decision was made known to the Fleet recently.

Naval ratings have been employed on specific aircrew duties for many years, but after World War II the aircrewman branch lapsed because of the limited numbers required and a system of loaning ratings from their parent branch was introduced. Increased helicopter operation has meant that this is no longer satisfactory. About 250 ratings are now needed for such duties as sonar operators, search-and-rescue winchmen and missile airmen. Ratings currently on aircrew duties will be offered transfers to the new branch and others will be recruited from among junior ratings of other branches. They will be given basic flying training in one of the branch roles and will be cross-trained in other roles later.

**New Military Hovercraft**

At the Royal Navy Equipment Exhibition at Greenwich in September the British Hovercraft Corporation revealed details of new hovercraft especially developed for coastal defence forces and mine countermeasures.

**Hoverborne Strikepower**

The British Hovercraft Corporation, based upon the well proven BH 7 and the twin-propeller SRN6 Mk 6A Fast Interceptor, has developed a lengthened version of the standard BH 7 and is capable of carrying a wide variety of weapons and personnel to counter threats from small ships. The weapon system could include four ARM or Active General Dynamics Standard surface/surface missiles backed by a 76mm Oto Melara dual purpose radar controlled gun with HSA combined fire control and surveillance radar.

Maximum speed for this 90-ton craft in ideal conditions would be 68 knots. The SRN6 Mk 6A, a prototype of which is about to be launched, is designed primarily for use as an offshore interceptor and in this role it is capable of carrying an Hispano Suiza twin 30mm gun backed by a 7.62mm general purpose machine gun.

Based upon the highly successful SRN6, this craft has increased power, performance and manoeuvrability.

**Mine Countermeasures**

For mine countermeasure operations, the fully-amphibious hovercraft offers distinct advantages over conventional displacement vessels.

Firstly, it is virtually immune to underwater explosions as the shocks from these tend to be absorbed by the air cushion beneath the craft.

Secondly, since the craft does not employ underwater propulsion or have any solid structure immersed in the water, it transmits only a minimal underwater signature thus reducing its vulnerability to moored and influence-type mines.

**Tanker for Royal Fleet Auxiliary**

The fifth of the Navy Department's new small fleet tankers, RFA BLACK ROVER, was launched on Thursday, August 30 by Mrs Trewby, wife of Vice-Admiral G. F. A. Trewby, Chief of Fleet Support. The ship is driven by a single four-cylinder, medium-speed marine diesel engine with a power output of 1,600 b.h.p. and is capable of carrying 500 long tons, vessels of this type have been designed for shipboard operation by both Navy and the USMC.

Cost of developing two prototypes is estimated by USN sources at $44,400,000, a quarter of which has already been spent, and the Navy hopes this will be followed eventually by approvals to build two production prototypes, and phase in a production run of 70 helicopters of the type.

**Lightning Test Laboratory**

The Navy officially opened its first lightning test laboratory on May 9 at the Naval Air Test Centre, Patuxent River, Maryland. Called the 'Lightning and Precipitation Static Environment Laboratory', the facility will test Navy aircraft and components by exposing them to extreme weather conditions in a controlled environment. Using high voltage generators, the lab is capable of producing lightning flashes of more than two million volts. The lab covers some 47,000 square feet of floor space and can accommodate as many as three C-130 aircraft at one time. The electrically shielded test area can be completely enclosed and darkened to permit observation and photography of the various effects of high-voltage on aircraft. The 'Lightning Lab' is the only one of its kind in the Department of Defence, and is operated by the Electronic Warfare and Reconnaissance Branch of the Weapons Systems Test Division at NATC Patuxent River.
First "Cains" Equipped Flight

USS INDEPENDENCE (CV-62) The first carrier launch of an aircraft equipped with the new "Cains" (Carrier Aircraft Inertial Navigation System) was conducted recently by a modified S-2E from the deck of this aircraft carrier.

The Cains system is the airborne equivalent of the Inertial Navigation Systems which provide highly accurate navigational information for nuclear-powered submarines and aircraft carriers.

Prior to take-off, the aircraft Cains system is set using a radio data link with the ship’s own Inertial Navigation System. The Cains system then computes the aircraft’s position on the flight deck and aligns itself with the earth’s latitude and longitude co-ordinates. During flight, Cains gives a continuous readout of the plane’s geographical position, velocity and altitude. The Cains system is also being tested for use in the Navy’s new F-14 and S-3 aircraft, as well as the E-2C "Donald Duck" Eliminators for US Navy.

Major Contract for Marconi Deep Sea Helium Speech Processors

The United States Navy is buying British systems capable of overcoming the deadly "Donald Duck" effect which oxygen-helium has on deep-sea divers’ speech. The systems, worth with spares, a total of £23,000,000, were developed for the Royal Navy by Marconi Space and Defence Systems Limited, a GEC-Marconi Electronics company from Admiralty Research Laboratories designs.

The "Donald Duck" effect results from divers having to breathe an oxygen-helium mixture in depths of greater than 600 feet where air cannot be used safely. The mixture being much less dense than air produces changes in the speed of sound, and therefore in the pitch of a speaker’s voice. This rise to an extent where it becomes completely unintelligible to the listener in emergency situations, the lack of effective communications can mean life or death to the diver.

The Marconi system, designated the Type 023, was developed from Admiralty Experimental Diving Unit and the Naval Research Laboratory, and is currently being evaluated, with favourable results, in a series of medical research dives of up to 1000 feet by the Smithsonian Institute in the USA. It operates on a "Time stretching" principle, where each sound is digitally analysed, and the significant portion, typically about one third, is reconstructed at a slower rate, while the rest is rejected. This has the effect of lowering the frequency to about a third of its transmitted value, and thus creating full intelligibility.

More Gas Turbine Ships

The Navy is planning to introduce as many as 50 ships with gas turbine propulsion systems into the fleet within the next seven years. Included in that number will be the DD-963 Spruance class destroyers (see photograph), patrol frigates and patrol hydrofoils. Additionally, consideration is being given to using modified versions of the powerful, economical and highly responsive gas turbine engines, such as those propelling the fastest jetliners, on combatant ships of every variety. Development of the Gas Turbine Systems Technician (GST) recently announced, is intended to provide the skilled personnel necessary to run these sophisticated propulsion plants of the future.
Diving Programme Initiated

The Navy has inaugurated a research programme to study hydrogen as a breathing gas for diving. Five volunteer divers are engaged in a series of pressure chamber dives which include breathing a mixture of 97 per cent hydrogen and three per cent oxygen for periods of two hours at a simulated ocean depth of 200 feet.

This diving programme covers a series of 24 dives, with eight using a hydrogen-oxygen mixture, eight on helium-oxygen and eight using nitrogen-oxygen as the breathing mixture. Comparisons will be made of the effect of these various gas mixtures on the same diver subjects.

Called Project Hydrox II, the series of dives is a follow-up to exploratory dives by animals and men with non-explosive mixtures of hydrogen and oxygen. Since this mixture could become explosive when mixed with room air, a special control system has been specifically developed for the same handling of the gas.

The experimental Hydrox II dives should greatly add to the information on the use of hydrogen-oxygen breathing gas mixtures and thereby provide a better indication of its potential use in Navy deep diving operations. Data gathered could serve as the basis for further experiments designed to prove the ultimate depth limits for divers with this mixture.

New Hydrofoil Being Built

The Boeing Aerospace Company is building two high-speed, missile-carrying, hydrofoil patrol boats (PHMs) for the Navy.

Patterned after the Navy's successful Tucumcari, a 58-ton boat carrying hydrofoil and superstructures, this PHM is to be a 47-metre (154-foot) fast patrol boat which has been specifically designed to meet Venezuelan requirements. A maximum speed of over 27 knots is provided by twin MTU (Motoren und Turbinen-Union) diesel engine installations. Each boat will have a crew of 20 housed in conditioned accommodation.

Three of the craft (including INDEPENDENCIA) will be armed with Otomat anti-ship missiles. The other three will have Oto Melara 76mm guns and smaller weapons. The six boats have been designed specifically to meet Venezuelan requirements. The launching of ARV INDEPENDENCIA follows the launching on June 1 of the first Venezuelan craft, ARV CONSTITUCION. Both vessels are due to be delivered in 1974. The total value of the contract is over six million pounds.

WESTERN GERMANY

Wings for the German Navy

At a special ceremony at the end of March, members of the Federal German Navy received their British "wings" on successful completion of the Basic Observer Course at the Royal Naval Observer School.

The wings were presented by Captain J. B. Robathan, RN Commanding Officer of RNAS Culdrose, and Captain von der Heide, Commander German Naval Air Wing No 5 at the Naval Air Base at Kiel, flew from Germany to witness the presentation. Eleven Senior Rates of the FGN were also awarded Certificates of Competency after six months of courses on Sea King maintenance during the course.

This is the second such course for students from the German Navy and the third and last course joined students from the German Federal Republic, according to which twenty fast patrol boats would be built for the Bundesmarine under the supervision and responsibility of the French DMA.

Particulars are as follows—

Welded steel hull of “COMBATANTE II” type
Light alloy main hullkeads and superstructures.
Displacement: 234 tons light, 250 tons full load
Main dimensions:
Length overall: 47 metres, 154ft 2in.
Length between pp: 44 metres, 144ft 4in.
Breadth: 7 metres, 23ft 1in.
Maximum draught, fully loaded: 1.90 metres, 6ft 3in.
Armament: Four MM EXOCET launchers for anti-surface missiles supplied by the French Ste Nationale Industrielle Aerospatiale (SNIAS) set on main deck; one 3" automatic quick-firer OTO-MELARA Mk CS 1 (62 calibres) bow; one 40mm BOFORS aft (70 calibres).

Complement: 30 including 4 officers, 14 petty officers and 12 rating petty officers. 14 petty officers and 9 hands. Propelling set: four MTU diesels Mk MD 172 x 3000 hp each (1790 rpm) four shafts.
Electricity supply: Three diesel-driven 90 kw generators 450 volts AC. 3 phase. 60 periods.
Speed: 35 knots.
Autonomy: 3 days at cruising speed.
Best wishes to all Members of HMAS Cerberus

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The History of the Name
ARChER

BATTLE HONOURS

BALTIC, 1854-55.
HELIGOLAND, AUGUST 28, 1914.
ATLANTIC, 1943-44.
BISCAY, 1943.

By A. M. Shannon
RANR

THE NAVY
November/December/January, 1973/74
I have endeavoured to give an accurate and brief history of the name ARCHER.

ARCHER was used by the Royal Navy from 1801 to 1946, and then the name was given to the Fast Destroyer Boat belonging now to the Royal Australian Naval Reserve, Sydney Port Division. Between 1814 and 1849 an order by the Royal Navy for a 1st Class Steam Gun Vessel to be built at the Deptford Dockyards and to be named ARCHER was cancelled. No other information is available on this proposed ship.

I wish to preface this history by pointing out that while there is undoubtedly a wealth of material existing on these ships, limited time available to me, has prevented any sort of exhaustive investigation into their histories. However, the present account is compiled from the various sources that were available to me. With time available for a comprehensive search into the records on these ships, I doubt if any more interesting history of the name ARCHER could have been compiled.

HMS ARCHER (1801-1815)
Type: Gun Brig
Displacement: 179 Tons
Builder: Perry of Blackwall
Launched: April 2, 1801
Armament: 12 Guns

There were many Gun Brigs or Gunboats built by various shipyards around the coastline of England. There were no classes in these ships although the majority of these were the same with slight variations. HMS ARCHER was built by the Shipbuilder Perry of Blackwall which was situated on the Thames.

To give some idea of the size of HMS ARCHER the following are the dimensions of another Gun Brig of the same tonnage:
- Length of Gun Deck: 80 ft
- Length of Keel: 66 0
- Breadth: 22 7
- Depth: 9 5
- Complement: 50 Men

The armament of 12 guns could have been made up as follows:
- Ten 18 pounders
- Two 18 pound Carroonades

For information the carronade was first made at Carron Works in Scotland in 1774. It was lighter and shorter than the long gun (cannon), and the advantage of a carronade was that being light it could be mounted where a heavy gun could not, and since it threw a much larger shot than a long gun (cannon) of the same weight, at the short ranges then, usually it did more damage, and the smashing effect of its shot was increased by the charge being smaller and the muzzle velocity less. HMS ARCHER took part in various actions during the English-French War.

On January 3, 1804 HMS ARCHER (Lieutenant J. Sherriff) was off Boulogne on the French Coast where she captured the French lugger No 127 64 which was armed with only two guns.

As a ship in the Squadron commanded by Captain E. W. R. Owen in HMS IMMORTALITE (36 Guns), HMS ARCHER (Lieutenant J. Price) on July 19, 1804 while stationed off the Boulogne Roads together with the ships HMS HARPY and HMS BLOODHOUND were ordered to run in and open fire on the French Ships. These French Ships were attempting to stand off from land because of the bad weather in the Boulogne Roads. Fire was kept up for several hours to the annoyance of the enemy without achieving any results.

In August, 1804 a considerable British Squadron, composed of nearly twenty vessels cruised off Boulogne under the command of Rear Admiral T. L. L. in HMS LEOPARD (50 Guns). HMS ARCHER was a member of this Squadron.

Early on the morning of August 25, 1804, the Brigs HMS BLOODHOUND (Lieutenant H. Richardson) and HMS ARCHER (Lieutenant J. Price), got into distant action with some Luggers which were rounding Cape Gris-Nez very near to shore.

On April 24, 1805 HMS ARCHER was a member of a British Squadron under the command of Captain R. Honeyman in HMS LEDA (38 Guns). In the action that followed on April 24 and 25, HMS ARCHER captured two Dutch Schuyts. These were Gunboats armed with 18 guns. 1 howitzer and 16 men.

HMS ARCHER was sold on December 14, 1815.

HMS ARCHER (1849-1866)
Type: Wooden Single Screw Sloop
Displacement: 973 Tons
Builder: Deptford Dockyard
Launched: March 27, 1849
Armament: Two 68 pounders, twelve 32 pounders

Dimensions: Length 161.6 ft, Breadth 34 ft.

This ship was built at the Deptford Dockyard which is situated on the

Acknowledgements

I wish to acknowledge that the information contained in this story has been compiled from the following:

A History of the Royal Navy by Sir William L. Clowes
Modern History of Warship by E. H. Hosey
Naval Operations by J. Cobett and H. Newbolt
Carrier Operations in World War II by J. J. Brown
HM Destroyers by Lieut Cmdr P. K. Kemp RN (Retd)
Destroyers by Captains T. D. Manning CRE RNR
Perry of Blackwall
Luggers of the Royal Australian Navy by G. L. Macandie
Brassay's Naval Annals - Various years
Illustrated London News
The National Maritime Museum
The Imperial War Museum
The Ministry of Defence, Naval Historical Library
The Sydney Sun
British Destroyers by E. J. March
British Naval Aircraft Carriers by T. C. Harford
The Swordfish Saga by B. J. Hurian
HMS ARCHER (1849-1866) by J. T. Gowlland
HMS ARCHER (1857) by W. G. D. Blundell

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HMS ARCHER was designed as a Torpedo Cruiser or Scout. She had to be faster than the large protected and armoured Cruisers, their armament might be light. However, because of their speed which was barely equal to that of the more powerful Cruiser of the First Class, these Scouts were unsatisfactory. This Class of Ship was, however, useful for many other duties in connection with protection and destroying of commerce, visitation and search of Merchant Vessels, and service in the Colonies.

The ARCHER Class Torpedo Cruiser may be regarded as one of the forerunners of the modern Scout Cruisers. The Hull was of extremely light construction and unprotected, the armament was relatively heavy, consisting of six 6 inch Breech Loading Guns and eight above-water and two under-water Torpedo Tubes.

This ship was somewhat unusual in being a Torpedo Cruiser, a vessel built to utilise the newly invented Whitehead Locomotive Torpedo. This design was not a great success, being rather too small for the armament, and not a good sea boat.

The ARCHER Type Ship was described in the "Times" of December 21 1885.

"This vessel is the first of the six vessels of the Scout Class which were contracted in May of this year to be built for the Admiralty. These vessels were given to Messrs Thomson as the result of a competition into which 38 firms were invited to engage. The ARCHER is 225 feet long between her perpendiculars or about 240 feet overall. Her beam is 36 feet and her depth 19 feet. Her displacement is about 1630 tons in what is called her normal sea-going condition or 1810 tons when fully equipped with all the coals and stores she can carry.

The speed of the vessel is expected by the Admiralty to be more than 16½ knots. her builders, judging by the exceedingly successful results of the speed trials of the SCOUT, are looking forward to nearly 18 knots in this vessel. She is propelled by twin screws, and has engines specially calculated for the job. The boilers are four in number and of the Navy Type, having tubes in the ends of the furnaces; the total weight of the machinery is 46 tons, a weight which in an ordinary merchant steamer's machinery would only be capable of being accompanied by about 2200 indicated horsepower.

The gun armament of the ARCHER consists of six 6 inch breeched rifles, mounted on central pivoted carriages and eight machine or rapid-firing guns. The Torpedo armament consists of ten tubes, one forward and one aft, each firing in a fore and after direction above the water, two on each broadside under cover of the poop or forecastle, and one on each broadside on the poop. In the forecastle part of the ship there were also a few under-water tubes, one on each side. The protection afforded to the guns and torpedoes is partly by means of a shield over the rear of the guns or torpedoes to protect the men firing, and partly by means of plating one inch thick on the ship's side. The ship herself relies upon her very extensive system of subdivisions for her protection, the part near the waterline in particular being minutely divided. The coal bunkers are also arranged to give protection to the boilers, engines and magazines, and the whole of the vital parts are covered by a watertight deck, a little below the waterline.

The vessel has very strong steering gear, placed under the water and acting on a rudder of nearly 100 square feet of area. It is expected that the time to turn a complete circle with both screws going ahead will be as little as four minutes, and that the diameter of the circle will not exceed 300 yards. With one screw going ahead and the other astern, the time will be about the same but the circle will naturally be much less. The amount of coal upon which the ARCHER can carry is sufficient to drive her at 10 knot speed for 7000 nautical miles or for about 2500 nautical miles at full speed.

When the war with Russia started the Admiralty considered the most suitable vessels for the proposed service were vessels of the ARCHER Class and also fast sea-going Torpedo Vessels. In their Lordships' opinion, five ARCHERS and two sea-going Torpedo Vessels would in a time of war with the Imperial Squadron on the Station give a very fair offensive and defensive protection.

HMS ARCHER took part in the Naval Manoeuvres in 1888. She was the inshore vessel of the second line of the blockade of the western side of Beresheaven in south-west Ireland where she was attacked by three torpedo boats. This was on the night of the inshore vessel of the second line of the blockade of the western side of Beresheaven in south-west Ireland where she was attacked by three torpedo boats. This was on the night of the inshore vessel of the second line of the blockade of the western side of Beresheaven in south-west Ireland where she was attacked by three torpedo boats. This was on the night of the inshore vessel of the second line of the blockade of the western side of Beresheaven in south-west Ireland where she was attacked by three torpedo boats. This was on the night of the inshore vessel of the second line of the blockade of the western side of Beresheaven in south-west Ireland where she was attacked by three torpedo boats. This was on the night of the inshore vessel of the second line of the blockade of the western side of Beresheaven in south-west Ireland where she was attacked by three torpedo boats. This was on the night of the inshore vessel of the second line of the blockade of the western side of Beresheaven in south-west Ireland where she was attacked by three torpedo boats. This was on the night of the inshore vessel of the second line of the blockade of the western side of Beresheaven in south-west Ireland where she was attacked by three torpedo boats. This was on the night of the inshore vessel of the second line of the blockade of the western side of Beresheaven in south-west Ireland where she was attacked by three torpedo boats. This was on the night of the inshore vessel of the second line of the blockade of the western side of Beresheaven in south-west Ireland where she was attacked by three torpedo boats. This was on the night of the inshore vessel of the second line of the blockade of the western side of Beresheaven in south-west Ireland where she was attacked by three torpedo boats. This was on the night of the inshore vessel of the second line of the blockade of the western side of Beresheaven in south-west Ireland where she was attacked by three .
They are hardy vessels and consequently they are too great, and the forecastle itself is not strong enough for the weight of men when on the forecastle, the only vessel of the class which appears to have experienced anything like a heavy sea, it is reported that on one occasion when going 10 or 11 knots against a moderate head wind, the forecastle broke in the fore-hatch, which was batten down three inches. It is more difficult to devise a remedy for the shortcomings of the ARCHER Class under steam: it would obviously be unreasonable to rely on a speed at sea equal to that of the measured mile. The Admiralty tables point out that more than about two-thirds of full power developed under fixed and most favourable conditions can be expected in continuous steaming. The measured mile power and speed is a standard performance, but the outside sea, when the vessel is running at full speed, becomes involved in the leakages with superheated steam, and the boiler-house is to lie still or crawl about the engine-room of a man-of-war. It is a poor preparation for a sudden sacrifice which are easily afforded in a merchant ship, where there are ample space and good ventilation. There is no necessity to keep machinery below the water line.

The two ships of this class, HMS ARCHER and its sister ship HMS MOHAWK would discover many weak points and afford a much-needed opportunity of training for engineers and firemen. I would not replace the additional vessels of the ARCHER type.

HMS ARCHER was on the China Station in this class, the ship went to Korea where the Japanese Troops had insulted her. They were powerfully armed, good coal endurance, and a high speed on the measured mile. It has always been objected that we have attempted too much within the limits laid down for displacement and that we have carried reductions of weight too far in hulls and engines. It is true that all the ships are overloaded with armament and overcrowded with men; it would be easy to reduce the weight of armament by substituting 4 inch for 6 inch guns.

The trials of HMS ARCHER were carried out on the measured mile, each gun had 120 rounds of ammunition, two 12 pounder 12 cwt Quick Firing Guns on PVI mountings, each gun had 120 rounds of ammunition, two 21 inch torpedo tubes mounted singularly and four 21 inch torpedoes were carried. The projectiles carried were 4 inch — 72 common shells, 168 lyddite 28 practice, 12 40mm — 60 common shells, 140 lyddite 20 practice.

The Superheater gave an economy of about 10% at full speed, 15% at low power, and the steam beyond the water line is a poor preparation for a sudden sacrifice which are easily afforded in a merchant ship, where there are ample space and good ventilation. While it is a poor preparation for a sudden sacrifice which are easily afforded in a merchant ship, where there are ample space and good ventilation. While it is a poor preparation for a sudden sacrifice which are easily afforded in a merchant ship, where there are ample space and good ventilation. While it is a poor preparation for a sudden sacrifice which are easily afforded in a merchant ship, where there are ample space and good ventilation.

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This class of ship was the first to be fitted with a 20ft motor boat, also had a 25ft Mon Laguna Whaler and a 13ft dinghy.

During the First World War, HMS ARCHER served with the Grand Fleet until October, 1916. During this period she saw action in the Battle of Jutland. It was in this action that HMS ARCHER won her Battle Honours.

HMS ARCHER was a member of the 1st Division of the 1st Destroyer Flotilla. This Flotilla was led by Captain Blunt in the light cruiser HMS FEARLESS.

On August 28, 1914, a British light cruiser HMS ARETHUSA was damaged by a German Warship SMS STRASSBURG in an early action in the Battle of Heligoland. On the second battle between these two ships, HMS ARCHER in company with HM Destroyers 1067, 1070 and 1071 attacked and destroyed the Torpedoes, and forced her to turn away.

Although, by her turn, she succeeded in evading the torpedoes, she was no longer willing to face the Destroyer attacks and disappeared into the faze at high speed.
HMS ARCHER was originally built as the Merchant Ship MORRACLAND. She was commissioned into the Royal Navy on November 17, 1941. The most numerous type of Aircraft Carrier to see action with the Royal Navy was the Escort Carrier, converted from Merchant Hulls, into the Royal Navy on November 17. The converted from Merchant Hulls, into the Royal Navy on November 17. The converted from Merchant Hulls, into the Royal Navy on November 17. The converted from Merchant Hulls, into the Royal Navy on November 17. The converted from Merchant Hulls, into the Royal Navy on November 17. The converted from Merchant Hulls, into the Royal Navy on November 17. The converted from Merchant Hulls, into the Royal Navy on November 17. The converted from Merchant Hulls, into the Royal Navy on November 17.

The conversion of North Africa took place on November 8, 1942, and on December 5, HMS ARCHER arrived off the coast with an additional 35 Army Fighters which she flew off to the Free French Line. Four of these were crashed on landing.

HMS ARCHER (Captain J. I. Roberton RN) joined the Battle of the Atlantic in May 1943 and on the 30th of the same month a Swordfish of her 819 Squadron became the first aircraft to sink a U-Boat with rockets. U-752 being the victim. Three of her Swordfish had been fitted with the rockets before the last port with this convoy.

A Swordfish piloted by 21 year-old Sub-Lieutenant H. Horrocks RNVR had gone 15 miles from the U-Boat when he sighted a U-Boat on the surface, presumably proceeding in one engine and charging her batteries with the other. Fortunately there was considerable low cloud, and HMS ARCHER carried Swordfish and Martlets. One U-Boat was destroyed for certain and the announcement reported that two more had been shot up. Close air cover was also provided at the beginning of the convoy's passage by the Canadian Eastern Air Command and in the later stages by the Coastal Command. The Battle began when a U-Boat on the surface moving towards the convoy was sighted by one of HMS ARCHER's aircraft. It was attacked with depth charges and forced to dive, so that it was unable to get into attacking range. The next morning a submerged U-Boat was attacked by another naval aircraft, many miles from the convoy, and was probably destroyed. There were several such incidents. Later, another naval aircraft attacked a U-Boat on the surface from the convoy and destroyed it, leaving its crew in the sea to be picked up by HMS ESCHAPE. After this incident the U-Boats had had enough and the convoy was unimpeded from then on. This communiqué was about the action described previously on the sinking of U-752.

From May 1943 to July the same year HMS ARCHER covered three Trans-Atlantic convoys and made one Anti-Submarine sweep.

As mentioned previously HMS ARCHER was handed over to Messrs Alfred Holt as the Merchant-EMPIRE LAGAN on March 15, 1945 and returned to the United States Navy on January 8, 1946. Her name was changed to ANNA SALT. In 1949 it was used for training and was returned to the United States Navy in 1949. It then changed to TASMANIA in 1955, and finally to UNION RELIANCE in 1961. She was finally scrapped at New Orleans in March 1962.

HMS ARCHER was once a World War II American Liberty Ship carrying cargo. In December 1942, it was transformed into an Escort Carrier of the ARCHER class.

HMS ARCHER was once a World War II American Liberty Ship carrying cargo. In December 1942, it was transformed into an Escort Carrier of the ARCHER class.

One of them, Sitmar Line's FAIRSKY was once a World War II Aircraft Carrier.
of naval purposes. It is a normally braced bi-plane of metal construction with the wings fabric covered, and it is able to carry either a load of bombs, or a single 18-inch single-screw torpedo. It is slung between the divided undercarriage legs, or rockets.

This carrier-based Torpedo-Spotter Reconnaissance Aircraft had a crew of three for reconnaissance or for operational strikes, and was built by Fairey Aviation Company Limited, Hayes Middlesex.

The Swordfish was powered by a 750hp Bristol Pegasus XX9 9 cylinder radial air-cooled engine driving a Fairey type 3 blade airscrew.


Weight: Empty 4,649lbs. Loaded 6,100lbs.

Performance: Maximum speed 139mph at 4,750ft. Cruising Speed 104.125mph at 5,000ft. Climb 10 minutes to 5,000ft. Range 456 miles with normal fuel and one 1,610lb torpedo. Maximum range for reconnaissance with no bomb load and extra fuel (236 gals) 1030 miles. Service ceiling 10,700ft.


Armament: Six 0.50-calibre machine guns in the wings.

HMAS Archer (1968)

Type: Attack Class Patrol Boat.

Displacement: 140 Tons.

Builder: Walkers Ltd. Maryborough, Queensland.


Dimensions: Length 107ft o/a: 100ft w/l. Breadth 20ft. Depth 7ft 6ins.

Armament: One 4060 Bofor Gun, two 0.5 Browning Machine Guns, one 2-inch Rocket Flare Launcher.

Complement: 19 (3 Officers, 16 Sailors).

Patrolling is important to a country’s security and safety. And it is also important to guard against intrusions into fishing waters.

The 20 Attack Class Patrol Boats are the ships to which much of this task falls. At present, they are deployed around the Australian coast and in Papua New Guinea.

Five of the Patrol Boats are based at Manus Island and they are crewed by sailors recruited largely from the mainland and Islands of Papua and New Guinea.

The other twelve ships carry a wide range of equipment. Included is high definition navigation radar, HF and UHF radio equipment, gyro and magnetic compasses and echo sounder. They are armed with a 40 60mm Bofor gun, machine guns and light automatic weapons.

They have proved their versatility and usefulness by acting in support of the Royal Australian Navy’s surveying ship HMAS MORESBY during survey operations. This has resulted in a significant increase in HMAS MORESBY’s output.

The Patrol Boats are fully air conditioned and there is sufficient freezer space on board to provide meals with quality food, even whilst at sea for extended periods. The ships have many facilities of their larger sister ships to make the crew comfortable.

The 20 boats were built by Queensland Contractors, with the first being commissioned in November 1967.

HMAS ARCHER was commissioned into the Royal Australian Naval Reserve on November 9, 1968, under the command of Lieutenant-A. V. Horne, RAN.

She is powered by two Paxman 16 cylinder YJC Diesels capable of producing in excess of 3,000 horse-power, driving twin screw and giving the ship a speed of 21 knots at 1,350rpm. HMAS ARCHER has attained the speed of 24.9 knots. Its construction is of steel hull and aluminium superstructure.

Since being commissioned as a Training Ship for the Royal Australian Naval Reserve HMAS ARCHER has been used continuously in an extensive training programme.
Right:
Showing the Patrol Boats on the Ships under Construction.

Below:
HMAS ARChER on the bottom of the Captain Cook Dock.
Canadian order for...

BLOWPIPE MISSILE

Shorts have won a multi-million pound order from the Canadian Government for Blowpipe, the shoulder-launched weapon which can be fired against aircraft and ground targets.

The announcement was made at the Paris air show and coincided with a visit of Minister of State for Northern Ireland, Mr. David Howell. The value of the order and the number of weapons concerned has not been revealed — at the request of the Canadian Government.

But it is understood that the order is a valuable one. Blowpipe is already in quantity production for both the British Army and the Royal Marines.

A Shorts spokesman said the new order followed a closely-detailed study of the weapon by the Canadian armed forces. He added that a number of countries were showing interest in naval applications of Blowpipe, by which multiple launchers could be fitted to the smallest craft.

New World-wide Opportunities

Mr. Howell said Shorts now stood poised to exploit new world-wide opportunities predicted for the international aerospace industry, thanks to its management and skilled workforce.

He said it was fitting that the show — one of the two most important in the aerospace calendar — should see the unveiling of full details of the SD 3-30 airframe, which Shorts hope to have flying in the late summer of next year. Speaking of the wide range of work which Shorts carries out, he said: "The company's world-wide standing is evidenced by its collaboration work on international aircraft, including wings for the Fokker Fellowship jet liner and components for the Boeing 747 and Lockheed Tri-Star. "It's international status is further marked by its overseas sales of the Skyvan and exports of its highly successful Seacat and Tigercat missile systems."

LIGHTWEIGHT GUNFIRE CONTROL SYSTEM

Two international leaders in naval weapon control systems have collaborated to create one of the most cost-effective, lightweight gunfire control systems available today.

The two companies, Marconi Radar Systems Limited and a GEC Marconi Electronics company and Sperry Gyroscope, are well established in this field and between them account for many of the advances in weapons achieved since World War II.

Designed for any size of warship from fast patrol boats upwards, the System is capable of maintaining rapid and accurate control over small and medium calibre guns against air, surface or shore targets.

The System is fully automatic thus keeping manning requirements to a minimum; with only one man required to operate the fire control system is an essentially supervisory role.

This new gunfire control system incorporates a Marconi Tracking Radar and a Sperry Predictor. The Marconi Radar Type ST802 has been selected from the Marconi 90 Series of weapon radar systems. It is an autonomous X-Band tracking radar designed specifically to function in naval gun/missile systems. The Sperry Predictor is based on the Blackburn designed 1412 general-purpose computer which is entering service with many navies including the Royal Navy as part of the Exocet missile system.

By using equipment designed specifically to meet the requirements of modern naval weapon systems Marconi and Sperry offer a solution to the gunfire control problem with the emphasis on high performance and reliability together with ease of operation and maintenance.

SUPPORT THE BLOOD BANK

Best wishes to all Navy Personnel from the

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(Mine host: Bruce McFarlane)

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ADELAIDE

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The requirement for a submarine launched air-flight missile has been known for some years now but it is worth restating requirements for such a system.

In recent years, there has been a strong accent on the use of submarines in the prime role of submarine killer, and their weapon systems have tended to become specialised for this purpose. By its ability to move in three dimensions and so take advantage of oceanological conditions, the submarine can operate in hostile waters with the minimum risk of revealing its presence. Also, it can detect shipping at long range.

With the appearance of the helicopter as one of the most popular anti-submarine weapons, it is necessary to give the submarine weapons system an anti-aircraft capability, in addition to its other roles of engaging surface skimmers, either in offensive action or self defence, and in policing action in peace or small local wars where forcing ships to stop for examination is one example.

SLAM is a compact, self-contained space-stabilised launcher, aimer and tracker system based on Short Bros' man-portable Blowpipe missile designed primarily for military use. It is under naval development by Vickers for close-range defence and attack against helicopters, fixed-wing aircraft and surface vessels, and due to go to sea this year.

Originally conceived in the marine field for submarine applications, either for installation in new construction or as retrofit — with the Oberon class particularly in mind, SLAM is equally well-suited for inclusion in the weapon outfit of small craft such as fast patrol boats, hydrofoils and hovercraft.

The basic missile, Blowpipe, is a supersonic, close-range (up to 3,000yds) weapon of simple but effective design which, in its sealed canister, has a maintenance-free life of six years.

Missile guidance is on the line-of-sight radio command principle already in proven service with many navies in Short's Seacat.

The ability to use the weapon down to a very short range is imparted by the automatic gathering system which employs flare-sensing to bring the missile onto the line of sight. This facility is switched out at a fixed time from launch when the system reverts to visual tracking.

The warhead of Blowpipe is primarily of the blast type, but has an armour-piercing capability. Impact and short-range proximity fuses are carried in the nose of the missile.

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SLAM SEA TRIALS

Initial SLAM sea trials were undertaken during October, 1972 from an "A" class submarine. For the purpose of these trials, the launcher assembly and pressure vessel were installed within a special housing fitted to the front of the submarine fin. Normally, as with the Oberon and 500 ton class submarines, the SLAM assembly is housed entirely within the existing fit and no external modification is necessary.
The SLAM system is designed on the modular principle so that differing requirements can be accommodated without major redesign. It can be as easily retrofitted to existing craft as integrated with new construction.

The pre-production SLAM unit is currently undergoing system tests at Barrow in preparation for guidance firings at a UK range. Some interesting development work is being carried out in conjunction with UMIST (University of Manchester Institute of Science and Technology) on the servo control system. Particular problems have been posed in pressure vessel manufacture using aluminium but this unit is now complete and entering the system test phase. The problem of providing positive action switches on the hatch and locking bolts of the pressure vessel has been overcome using a unique design developed in conjunction with Honeywell Switches, and it is hoped that the spin off data can be applied to other switch applications in the deep sea environment in which Vickers are heavily involved.

SPECIFICATIONS
(Submarine-launched version)
Environment: Wind up to 37 km/h (20 knots), Wave impingement up to 2500 k.g/m² (60 lb/ft²), Temperature 0 deg C to 55 deg C, Water pressure without pressure vessel protection 7000 k.g/m² (10 lb/in²), Sea state up to State 4
Shock: Designed to meet shock levels laid down by the British Ministry of Defence (Navy), Vibration: Designed to meet Defence Specifications DEF 133 Section N2
Ship motion: Roll rates up to ±10 deg/sec

Training range: 350 deg
Elevation angle ±40 deg + 90 deg
Accuracy: Spatial pointing accuracy of ±0.5 deg.

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Studies have been completed for fitting a surface version of SLAM to fast patrol boats.
Ships MELBOURNE, BRISBANE, and STUART, together with long-range four-nation exercise named RIMPAC, participated in a maritime patrol aircraft from No 11 Squadron RAAF. Participated in a maritime patrol aircraft from No 11, anti-submarine and anti-air vessels/aircraft from Canada and units of the United States Navy and the sweeper HMAS CASTLEMAINE to the Maritime Trust of Australia. Victoria - should be included in the appropriate that the CASTLEMAINE preserve and exhibit items of history - because of its association with Williamstown. The ship was launched in 1941 and named after local cities corvettes built in Australia in World War II and named after local cities Victoria. The ship is proposed Museum.

Navy to Navy Talks With USN

The talks took place in Canberra during September, and participants discussed a range of subjects of practical common interest, including plans for development of forces, concepts of operations by future ships, comparisons of effectiveness of ship types, the practicalities of operations with other forces, and the sharing of resources, particularly training resources and personnel exchanges.

Visit by Japanese Squadron

Vice Admiral J. Ishino, Commanding Officer of the Japanese Maritime Self Defence Force Squadron is welcomed to Melbourne by Commodore D. H. D. Smyth, Naval Officer in Charge Victoria (see photograph). The Squadron comprising the destroyer KIRIZUKI and the frigate RATORI, were in Melbourne for a three-day goodwill visit during September prior to calling at Sydney and Darwin. More than 10,000 people were shown over the ships during a one-day public inspection in Melbourne.

Naval Board Appointment

Captain M. P. Reed will become Chief of Naval Technical Services on January 22, 1974, on the retirement of Rear Admiral B. W. Mustard. Captain Reed will be promoted Rear Admiral on taking up his appointment.

Survival Trials Successful

The arduous raft survival trials for the Defence Department in Darwin Harbour have been successfully completed, and the 55 sailors and soldiers who took part have now returned to their normal duties.

The tests were held for the Armed Forces Food Science Establishment to find a more acceptable survival ration to replace the water and glucose pack presently used in service life rafts. Officers of the Department of Health, Northern Territory, Science and Works assisted Defence Services personnel with the planning and conduct of the trial.

The men were embarked in five 20-man Naval pattern inflatable life rafts which were moored offshore in a remote part of the harbour. A shore support camp was set up to make daily medical checks on the men during the four-day afloat phase. Their medical condition and subjective reactions were recorded. No food or water was given on the first day but on subsequent days each man received a ration of 400 calories and 2000 ml of water.

Best wishes and a welcome to all Naval Personnel from Noske Flour Mills Pty Ltd

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The weather was mainly hot and clear except for a brief rain shower on the first night, accompanied by 30-knot winds. They then had to endure choppy seas for the next 12 hours. The 24-hour post trial phase began on September 18, and the men rehydrated and slowly resumed their normal physiological functions.

Moral remained high throughout the four days and overall the men were satisfied with the overall performance of the trials data will be completed.

Crew size of the Navy's newest and most modern destroyer escort ships may be substantially reduced and verbal speed commands from the bridge eliminated as a result of new automation in the engine room.

Lilton Industries Guidance and Control Systems Division, Woodland Hills, Calif, is designing a new integrated automation system that will make it possible to operate the main engines and other power plants of the ships with computers, thereby requiring only half the present-day engine room personnel.

Lilton recently awarded a $232,000 contract from the Navy Ship Systems Command for Phase I of a two-part programme to design and develop a modified engineering plant system for one of the Navy's DE-1052 Knox-class destroyer escort ships. There are 46 of these ships in service or designated for the fleet. During the next 5 months, the Litton division will prepare the overall system designs and specifications and initiate the detailed design of the automated system.

The 18-month Phase 2 portion of the programme, which has a total value of $2.29 million, calls for completion of design, fabrication, installation, test and evaluation of this system, which will automate the steam generator plant, electrical power plant and auxiliary systems. The entire installation of the automated ship control system will be performed by National Steel and Shipbuilding Company, San Diego, under subcontract to Litton's Guidance and Control Systems Division.

The Knox-class escort the Navy is constructing is the largest group of destroyer type ships built to the same design by the United States since the end of World War II. These ships have a full load displacement of 41,000 tons and a speed of 27 knots. The ships have been built by three private US shipyards.
BELGIAN ANTI-SUBMARINE ESCORTS

Another major export order, worth nearly 300,000 pounds sterling including spares, has been won by the Controls Division of Vosper Thornycroft. The contract has been secured against stiff competition, and follows a year's negotiation.

Vosper Thornycroft will supply propulsion machinery control systems for four ASM (Anti-submarine) escort ships being built for the Belgian Force Navale. The warships, to be built by Cockerills (Antwerp) and Boeckx N.V. (Temse) for commissioning in 1976-78, will incorporate CODOG (combined diesel or gas turbine) twin screw propulsion; in each ship one diesel will drive its respective shaft or a single gas turbine can drive both shafts. Gas turbines will be Rolls-Royce Olympus. Cockerills Seraing will supply the diesels, and the controllable pitch propellers will come from the Dutch firm, Lips NV. The vessels, each of about 2,000 tons displacement, will be used to strengthen NATO's maritime defences under the Channel Command.

The basic design for the control systems will be that developed by Vosper Thornycroft over a decade of Olympus. Cockerills Seraing will monitor electronically. A refined and developed system was produced for the Mark 7 frigate (Libya). Recent orders for six Vosper Thornycroft Mark 10 CODOG frigates for Brazil gave an opportunity for the Controls Division to update the system to incorporate the latest technological advances. The Belgian controls will be based on those for the Mark 10 frigates.

As it is a requirement to design the control system for the ASM escort ships to achieve optimum ship manoeuvring performance within the design limitations of machinery and transmission system; hybrid computer simulation of the ship and propulsion systems will be carried out to derive the essential controlling parameters, and to investigate different control schemes which would enable these parameters to be met.

Features of the system include:

1. A hybrid design utilising the advantages of solid state electronics for signal processing with pneumatic signals.
2. Use of power demand levers instead of proportional (speed proportional to setting) levers. Each lever is spring-based to a central detent position corresponding to unchanging power; power changes are demanded by movement of the lever forward or aft of centre. The sense of the demand reverses as the zero power position is passed. The signals initiated by the lever are converted to control terms for engine speed and propeller pitch in an electronic control unit. An advantage of this type of control lever over the proportional type is that it simplifies changeover from one remote control station to another.
3. A modular form of packing engineered in accordance with the Versatile Console System (VCS) concept. Each module is responsible for a specific control task and is independent of other modules, except under engine changeover condition, so that withdrawal of a particular module has a minimal effect upon the system.
4. Use of potentiometers as input devices. Modern high precision types are used, resulting in a simple system of high reliability at a comparatively low price.
5. Built-in test facilities. A solid state voltmeter is provided which is connected to over 100 test points on the electronic control unit. This is accomplished with little extra wiring.

With compliments and best wishes to all Naval Personnel from:

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November/December/January, 1973/74
THE NAVY

Page Forty-five
The New Jane


The arrival of the new Jane's Fighting Ships is an annual event awaited with pleasurable anticipation by this, and many other, enthusiasts. This year's book, with the retirement of Ray Blackman from the Editorship after over twenty years, and his succession by Captain John Moore, RN (Retd), promised to be an exceptional event. A number of changes were apparent at once. The practice of drawing all silhouettes to one scale, at the beginning of each national section, has been discontinued in favour of drawings to varying scales designed to present broadside elevations of smaller vessels in a way which permits presentation of a larger amount of detail and useful for recognition purposes. The drawings are included with individual ship classes and are often more informative than the available photographs.

Whist this new approach to silhouettes has the disadvantage of being useless for assessing the relative size of ships, the old system meant that some silhouettes were too small to permit practical use. A number of changes (e.g. 1914 at seq editions), again to varying scales, are included by type in the new edition for recognition purposes. On the whole, the change is a sound move, particularly as the elevations included with each ship class.

Useful additions are a brief listing of ships deleted at the beginning of each national section, and an index by class of ship. The numerical summary of strengths of individual maritime forces, with its tendency to be misleading because of its simplicity, remains.

A major improvement is the grouping, by individual country, of the naval aircraft and missile sections. This will be a great asset when considering the relative maritime strengths of individual nations.

This year's Jane's covers a wide and increasingly complex subject exceptionally well, with its usual crop of new photographs, its updated ships data, and the apparent layout introduced by Blackman to such advantage, some years ago. The book makes the study of its complex subject as simple and absorbing as possible.

Australia's own DDL appears in some detail, for the first time and only for the study of trends in escort and design throughout the world that many Australian readers of Jane's will find the most interesting. Politically inconvenient though it may be, it is an uncannily true picture of medium powers, with large (and often also small) coastlines are concentrating on new escort vessels of more than three thousand tons. Air defence and surface-to-air missile systems are effective against modern aircraft and conventionally powered submarines, but not against modern ships. Argentina, Brazil, the Netherlands, France, Italy, China and other others examples ofotype medium-sized naval powers who have recognised this fact.

Again in the context of Australia's geographical region, sections for some navies are in need of revision. That for Pakistan does not include the six small submarines ordered from Italy, nor the four Type 12 frigates to be acquired from Britain. The Indian section has omitted the two additional "Foxbat" type submarines now under construction. The Thai section omits a photograph of their new 1500 ton frigate (armed with depth-charges). The section applicable to the Imperial Iranian Navy makes only brief reference to the further substantial expenditure planned for new naval construction. The Australian Section shows the eight new landing craft as building, although the first ship (RAKEKIAN) was completed eighteen months before the book was published.

The China Section gives details, including a photograph, of the new 3500 ton ocean going escorts they are constructing or have constructed. The already substantial (31) ocean going submarine force is to grow. The section shows clearly that China is developing "blue-water" power.

Drawings of the new aircraft carrier KIEV complete with angled deck and heavy missile armament forward, are a major feature of the excellent Russian Section of the book. Photographs of the new ten thousand ton cruiser NIKOLAYEV are another major "scope". As with other Russian designs, propulsion standards appear to have been sacrificed in favour of higher weapon pay load. The Editor is to be complimented upon the comprehensive treatment of this Section, for which detailed photographs and documents must be extremely difficult.

As in previous years, the United States Section differs in layout from that used for other nations. This is regrettable, as it otherwise superb section (compiled by Mr Norman) is difficult to read in conjunction with the other sections of the book. Surface fighting vessels continue to be broken up into separate sections -- surface combatants, ocean escorts, and guided missile support ships. How our own VAMPIRE and VENDETTA would be classified. The new silhouette system, despite its overall usefulness, has not been adopted in the United States Section. Useful features of the US section include data on which ships are in operational service, descriptions of the strategic and tactical thinking behind new ship types, and simple (so far as such things can be) descriptions of electronic navigational, operations and weapons control systems.

Turning to the United States ships themselves, a feature of considerable interest to Australians will be the increased speed of the patrol frigates (shown as 29 knots this year, as compared with 25 knots in last year's edition). This is a feature of a type still in the design stage, and one which may well make the PF a realistic candidate for future replacement programmes. The United States escort force continues to have an average speed of 25 knots, a manifest need to replace older vessels at a much greater rate. It is estimated that another 18 frigates will be built per annum, to a class total of 50. None of the SURLANCE Class have yet been launched. The last of the KNOX Class destroyer escorts will be completed by the end of the year, leading to an unavoidable step of several years during which no new escort vessels will be commissioned.

The Sea Control Ships are still only in the design stage, but details of interest are of particular interest in view of this type's candidate as a replacement for HMAS MELBOURNE.

The Patrol Ships and Craft Section, with its full details of not only the ships but the new bases and installations, will be of particular interest to Australian readers, for there are not many technical publications available which ships are in operational service. The book provides an invaluable data source. As with other sections, improvement in the presentation of which obtaining details and photographs must be extremely difficult.

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Finally, this reviewer cannot close without reference to the price. Although the book is available in Melbourne at just under $45, this writer arranged by mail, with a United Kingdom retailer, to have a copy by surface mail at $26.24 post paid. Books enter Australia duty free.

The Battleship Era

By PETER PADFIELD


Our copy supplied by Hicks Smith & Sons Pty Ltd, 301 Kent Street, Sydney, Australia. $8.09.

Reviewed by Lieutenant Commander B. R. Heidel, RANR (Retd).

The book's dust jacket is the confirmation of that which I thought was true of any book that took place in warships between the Napoleon Wars and the First World War. It was a period of storms, of revolution and of bewildering. Then in the Second World War, naval warfare took a form that was not expected by people who had come to think of battle fleets as the fundamental factor in war at sea. There has been a great production of naval historical literature for this period, but it is a section demonstrates that consists almost entirely of accounts of particular battles, wars and episodes. Fortunately, there are a few serviceable short histories or practical handbooks on the development of modern naval warfare.

For these reasons Mr Padfield's book is very useful. It consists of a survey article beginning with developments in the late 19th century ending with the sinking of the great Japanese battleships in the Second World War. It is an all round history, which includes discussions of naval architecture, gunnery, fleet actions, the politics and economics of war, and the hopes, fears and ambitions of naval men. Mr Padfield is moderate in his praise or blame of individuals, but very enthusiastic in using all available source material. He has included some references in the Public Record Office and some fragments of political leaders like Lloyd George, the French and Italian leaders, and of lower-deck historians like Locker, Zelman. He never loses his way. His story has a beginning in technology, continues with theories of warfare associated with students and aircraft. He introduces interesting personalities, such as Percy Scott, the pioneer in modern gunnery, and Trench the tactician and running creator of the German Navy. Above all, he stresses the importance of seamanship, morale, seamanship and courage.
member of the Mersey Docks and Harbour Board and the Pilotage Committee, and is also the ex-Senior Partner of a family shipping firm in relating with some veracity a complex situation such as that found here, a good working knowledge of police methods and court procedure is almost mandatory and in this respect the author has used very effectively the help willingly given him by members of the Constabulary.

The story concerns a 7,000 ton ship, the SAMARAI, which ran aground during transit of the long, narrow approach channel to the Port of Liverpool and, after breaking her back, became a total loss. The obvious question is, how did this happen? The weather was good with no fog: no other ship was within a mile of her, and she had a First Class Mersey Pilot on the bridge. Was it negligence on the part of the ship's Master or her crew? Perhaps an ill-judged manoeuvring instruction given by the Pilot caused the quarter-master to put her on the hard. Or was it a straightforward case of barratry?

Many documentary and instructional films and books are given a fictional or distinctly narrative cast in order that their message may be more readily understood and absorbed. It is less usual for the reverse to occur albeit for the same reasons. However, this is almost exactly what Arthur Behrend has done. His tale is a skilfully woven tapestry comprising unequal quantities of third-person narrative, interpersonal dialogue, combined with courtroom style straight reporting. The whole effect is one of surprising authenticity and in fact, as the book draws to a close, one cannot help but hark back to the Introduction and speculate, despite an elaborate disclaimer to the contrary, whether or not the entire incident contains more than a modicum of truth.

This book encompasses a subject often touched upon in fiction and its reviewer was greatly impressed by its overall excellence. Because of undoubted background authenticity, its incidental instructional value cannot be overlooked and it is for reasons such as these that I heartily recommend this easily digested work of fiction.

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Rank
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THE NAVY
November/December/January, 1973/74

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Page Forty-nine

THE NAVY
November/December/January, 1973/74
A dozen very special ships of the Royal Navy, designed to save lives and generally smooth the path of mariners everywhere, are on patrol throughout the world. The surveying vessels of the British Hydrographic Department gather the information which goes into the 'Hydrographic Library', used by mariners for all kinds of work. The ship's results are engaged in hydrography and make the results available.

**Earth's Crust**

The ocean survey ships, in addition to bristling with the most modern aids of radio fixing, are armed with 35-foot surveying boats and helicopter. Their tasks? Measuring variations in gravity, the earth's magnetic field and the temperature and salinity of seawater. Some special projects include the study of the earth's crust; cameras show what is happening on the seabed and immediate subsurface.

**Vast Areas**

A spokesman for the Hydrographic Department emphasises that the survey of vast areas of water which are completely uncharted, particularly in areas of the Far East and Africa, is crucial. The ocean survey ships are there, either producing charts giving complete information or updating existing ones.

How well known are areas like the Atlantic? There is still plenty of work to be done.

Modern mariners, particularly those in charge of the modern giant tankers, must have absolutely up-to-date charts. They cannot afford to be maroons in the waters they navigate. The most common risk is, of course, running aground. We exist to eliminate the risk.

The Hydrographic Department which produces the maps and material gathered by the survey ships, prides itself on a completely global approach.

The Department's findings are available on a scale agreed in the Hydrographic Department.
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“The Civilian Arm of the Navy”

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.

The League supports the Naval Reserve Cadets who are administered by the Royal Australian Navy, which Service provides technical sea training for boys who intend to serve in the Naval or Merchant Services, also to those sea-minded boys, who do not intend to follow a sea career, but who given this knowledge will form a valuable reserve for the Naval Service.

We invite you to swell our ranks and so keep up to date with Maritime Affairs to help to build an ever-increasing weight of informed public opinion. The Navy League will then become widely known and exercise an important influence in the life of the Australian Nation.

The League consists of Fellows and Associates. All British subjects who support the objectives of the League are eligible for membership. Members receive copies of the League’s magazine “The Navy”.

DIVISIONS
New South Wales — Box 1719,
Victoria — Room 6, 2nd Floor, 528 Collins Street, Melbourne. 3000
Queensland — 39 Pincroft Street, Camp Hill, Queensland. 4152.
Tasmania — 3 Wannarleigh Street, Taranna. 7006
South Australia — Box 1529M,
GPO. Adelaide. 5001
Western Australia — 182 Coode Street, Como. 6152
Northern Territory — C/- Mrs V. M. Slide. 12 Allen Street. Fannie Bay. 5790

THE NAVY LEAGUE OF AUSTRALIA
Application for Membership

To: The Secretary,
The Navy League of Australia,
Division.

Sir,
I am desirous of becoming a Member of the Navy League of Australia with whose objects I am in sympathy.

(Mr)
(Miss)
(Rank)

Please Print Clearly.

Street
Suburb
State
Postcode

Signature
Date

Enclosed is a remittance for $4.20 being my first annual subscription.

AFTER COMPLETION. THIS FORM SHOULD BE DISPATCHED TO YOUR DIVISIONAL SECRETARY. 
NOTE: LIST OF ADDRESSES ABOVE

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THE NAVY
November/December/January, 1973/74
**SEALIST INTERNATIONAL RIFLE COMPETITION 1972**

**Standings**

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<thead>
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<th>Country</th>
<th>Score</th>
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<tr>
<td>Britain</td>
<td>1 RCSCC Amphiwn, Nanaimo, BC</td>
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<tr>
<td>2nd Place</td>
<td>2 RCSCC Athabaskan, Fort Saskatchewan, Alta</td>
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<tr>
<td>3rd Place</td>
<td>3 RCSCC Kamloops, Kamloops, BC</td>
</tr>
<tr>
<td>4th Place</td>
<td>4 RCSCC Bicknell, Richmond, BC</td>
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<tr>
<td>5th Place</td>
<td>5 RCSCC Captain Vancouver, Vancouver, BC</td>
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**Canadian Results**

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<th>Officers</th>
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<tr>
<td>2 RCSCC</td>
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<tr>
<td>3 RCSCC</td>
<td>276</td>
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<tr>
<td>5 RCSCC</td>
<td>140</td>
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**SEA CADET INTERNATIONAL RIFLE COMPETITION 1972**

**Sea Cadets and Wrenettes over the past year**

The Sea Cadets and Navy League Cadets were established for the ensuing year and showed that the Wrenettes' numbers had increased by 15%. The Sea Cadets number increased by 3.726 to 179 Corps. The numbers had increased by 15% over the past year. Policies concerning the Corps were established for the ensuing year. The strength figures for the past year showed that the Wrenettes numbers had increased by 15%. The strength figures for the past year showed that the Wrenettes numbers had increased by 15%. The strength figures for the past year showed that the Wrenettes numbers had increased by 15%.

**Standings**

<table>
<thead>
<tr>
<th>Country</th>
<th>Place</th>
<th>Corps</th>
<th>Cadets</th>
<th>Officers</th>
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<td>1st</td>
<td>1 RCSCC</td>
<td>370</td>
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<tr>
<td>2nd Place</td>
<td>2 RCSCC Athabaskan, Fort Saskatchewan, Alta</td>
<td></td>
<td></td>
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<td>3rd Place</td>
<td>3 RCSCC Kamloops, Kamloops, BC</td>
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<tr>
<td>4th Place</td>
<td>4 RCSCC Bicknell, Richmond, BC</td>
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<tr>
<td>5th Place</td>
<td>5 RCSCC Captain Vancouver, Vancouver, BC</td>
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</table>

**Canada Annual Meeting**

It was Annual Meeting time again for the National Council of The Navy League of Canada. This year the Meeting was held in Victoria, BC. March 22 and 23. Among other business, the members reviewed the programmes of the Sea Cadets. Navy League Cadets and Wrenettes over the past year. Policies concerning the Corps were established for the ensuing year.

**Victoria**

Commodore Dacre H. D. Smyth, Naval Officer in Charge Victoria TS LATROBE, from Yarralin, Victoria, received the award (see photograph) for being the best improved Cadet unit in Victoria.

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**TASMANIA**

**Ulverstone Sea Cadets Want New HQ**

Ulverstone sea cadets want to build a new headquarters costing at least $25,000. They have applied to the Ulverstone Council for the land on which to do so.

The land they want, however, is controlled by the Devonport Marine Board and their application should have gone to the Board. The meeting was held in Victoria, BC.

**NEW SOUTH WALES**

**RANR Patrol Boat Visits Coffs Harbour**

The Royal Australian Naval Reserve Patrol Boat HMS ARCHER visited Coffs Harbour on September 1, with a special cargo for Naval Reserve Cadets of TS (Training Ship) VENDETTA based at Coffs Harbour.

**Sea Training — HMAS VENDETTA**

Three officers and 29 Naval Reserve Cadets from TS (Training Ship) VENDETTA, Coffs Harbour, arrived in Sydney during August, to spend 10 days on board the unit's namesake, the Daring Class destroyer HMAS VENDETTA.

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The Naval Reserve Cadets 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.

Uniforms are supplied free of charge.

Cadets are required to produce a certificate from their doctor to confirm they are capable of carrying out the normal duties and activities of the Cadet Corps. If injured while on duty, Cadets are considered for payment of compensation.

Parades are held on Saturday afternoon and certain Units hold an additional parade one night a week.

The interesting syllabus of training covers a wide sphere and includes seamanship, handling of boats under sail and power, navigation, physical training, rifle shooting, signalling, splicing of wire and ropes, general sporting activities and other varied subjects.

Instructional camps are arranged for Cadets 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 Merchant Marine or the Royal Australian Naval Reserve, but there is no compulsion to join these Services.

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

SENIOR OFFICERS, NAVAL RESERVE CADETS:
NEW SOUTH WALES: Staff Office Cadets, HMNLS Watson, Watsons Bay, NSW, 2030.
QUEENSLAND: C/- 39 Pinecroft Street, Camp Hill, Queensland, 4152.
WESTERN AUSTRALIA: C/- 182 Coode Street, Como, 6152.
SOUTH AUSTRALIA: C/- Box 1529M, GPO, Adelaide, 5001.
VICTORIA: C/- Room 6, 2nd Floor, 528 Collins Street, Melbourne, 3000.
TASMANIA: C/- 3 Winmarleigh Street, Taroona, 7006.
AUSTRALIAN CAPITAL TERRITORY: Industry House, National Circuit, Barton, 2600.
NORTHERN TERRITORY: Mrs V. M. Slide, 12 Allen Street, Fannie Bay, 5790.

TO The Senior Officer,
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I am interested in joining the Naval Reserve Cadets and would be pleased to receive further information.

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