Instruments for every industry

PRESSURE GAUGES
Bourdon and Capsule. Beryllium Copper and Steel. Ranges from 0-10" H.O. to 0-20,000 p.s.i.

MERCURY-IN-STEEL
DIAL THERMOMETERS
Actuated by direct-acting double-helical Bourdon Tubes. Any range within -40 F. to -1200 F.

VAPOUR-PRESSURE
DIAL THERMOMETERS
Fitted with Beryllium Copper Bourdon Tubes. Various ranges within -40 F. to -400 F.

PRESSURE GAUGE STOP COCKS
The body and plug are precision machined from solid-drawn brass bar and lapped together to give the best possible seal. Finally being pressure-tested to 100 lbs. p.s.i.

The handles are of plastic in either red or black, and are set at 15° from the body to give ample finger clearance.

NATIONAL INSTRUMENT CO. PTY. LTD.
MELBOURNE • SYDNEY • BRISBANE • ADELAIDE • PERTH

B 0379 M 7068 W 4840 21 3728

Greatly reduced off-season Return rates:
Homeward Back
Tourist One-class £270 Stg. £300 Stg.
Cabin Class £155 Stg. £170 Stg.
First Class £190 Stg. £210 Stg.

Some of the 1,400 people who attended a barbecue at H.M.A.S. "WATSON". Watson's Bay, on 6th February. The barbecue raised more than £200 for the fund to build the chapel, and was organised by the International Fellowship of Yachting Rotarians.
Sea rescue idea for moon rocket

NEW YORK—Two astronomical engineers have disclosed plans for a "space lifeboat" in which astronauts could escape if their main rocket were disabled.

Their idea is basically the same as that used in the rescue of passengers from stricken ocean liners.

The engineers are Mr. Robert Haviland and Mr. Harold Bloom, both of the General Electric Company's Missile and Space Vehicle Department.

One of the devices which they have designed is essentially a small rocket which would be equipped to shelter three men in space for one week.

The Navy League of Australia

President: Surgeon-Comdr. R. P. Middleton, R.N.

Patron: His Excellency, The Governor-General.


Honorary Secretary: Comdr. R. P. Millet, R.N.

Honorary Treasurer: G. D. Tancred, V.R.D., R.A.H.V.R.

Tasks for Naval Airships

They Want Up in Defence Planning After Successfully Protecting Convoys During First World War

RECENT delivery of the latest giant airship to the United States Navy at Lakehurst, New Jersey, recalls some of the early experiments with naval airships for the British forces during World War I.

One of the earliest models in 1914 had a bright coloured yellow envelope made up of cotton, with a gold-beater skin lining. The length was 110 feet and the diameter 26 feet, reports The Lord Ventry, discussing the construction in "The Navy" journal in London.

The car rigging was attached to the envelope by a long rigging band on each side of the envelope under the centre line. Each main car suspension was bridle at its upper end.

The envelope and the 70 lb. stabilising and control planes were made at the Royal Aircraft Factory, now the Royal Aircraft Establishment.

Between the car and envelope there was a longish bamboo, and the car struts were attached to this bamboo keel, which was there to help to distribute the weight of the car over as much of the envelope as possible so that the envelope which contained 39,000 cu. ft. of hydrogen gas, would not be distorted.

The pilot sat in the bow seat and steered with a wheel. A second wheel was mounted fore and aft, to work the traversing or trimming planes as they were then termed.

There was also a third wheel, so the pilot needed to be more than one pair of hands. This third wheel was mounted behind the steering wheel and was used to control the propellers, of which there were two, both being four-bladed.

These were driven by a 35 h.p. air-cooled Anzani engine which was mounted in a frame above the car.

The one virtue of this little ship was her wonderful controllability — she used to fly over a large chalk pit at Odiham, descend directly into this pit with the help of about half a dozen sailors and moor out there for days on end. She used also to take off from this same pit, rising out of it vertically even when heavier than air.

She was a school and experimental airship; and, as valve springs were constantly breaking, free balloon landings were fairly frequent. This made her even more useful from a training point of view.

This, then, was the first naval non-rigid airship ever to be built.

The British Navy was the first to use non-rigid airships. Their main task was to hunt for mines and submarines, for in 1915 it was recognised that their powers of hovering, and flying for long hours, gave airships advantages for this type of work.

Before November, 1918, brought the war to an end, numbers of Submarine Scout ships had been constructed and every single convoy they had escorted had arrived in port without losing a vessel.

The airships, which were able to keep station with the convoy, had proved to be 100 per cent efficient as goalkeepers! Not one convoy had been attacked when under airship escort, and no airship had been attacked when with convoy.

As a result of the fine work done by the British Naval Airships, the French and Italians also organised Naval Airship Services, and again there was no loss when an airship was with a convoy.

In 1917 the U.S. Navy began experimenting on similar lines, and their first pilots were taught partly in Britain and in France. They, too, found that the presence of an airship prevented a U-boat from operating, and again no ships were lost to mine or submarines when airships were about. The Naval Non-rigid Airship was one of the successes of the First World War, and the first tiny airship at Farnborough was the ancestor of a splendid race of aircraft!

During the First World War the 290 British Naval Airships flew 88,707.48 hours, covering about two and a quarter million miles. Only two of these airships were lost through enemy action, though they must have escorted several thousands of sea-going craft without losing a single one of them.

By 1941, aircraft engines were far more dependable, and so the 175-old airships used by the U.S. Navy were airborne for no less than 586,000 hours, and they must have
Tasks for Naval Airships

flown something like 22 million miles at least.

In any case, they made 83,900 operational sorties and escorted 80,000 surface craft, again without loss. Only one of the airships was destroyed by the enemy, and at that time she was on her own and would almost certainly have bagged the U-boat if her bombs had not stuck!

No successful wrecks these latter-day Naval Airships that ever since 1915 the U.S. Navy have maintained a sizeable Airship Service, and to-day certain squadrons are employed daily on anti-submarine patrols.

On June 19, 1929, the newest, and also the largest, non-rigid airship so far constructed was delivered in the course of a flight lasting 74 hours to the U.S. Naval Airship Station at Lakehurst, N.J. The new vessel, of the ZPG-3W class, has a volume of 1,516,300 cu. ft., and is 403.4 ft. in length, 85.11 ft. in diameter, 116.52 ft. in height, with a static lift of 82,990 lb., a dynamic lift of 85.11 ft. in diameter, 116.52 ft. in height, and is 403.4 ft. in length.

The new vessel, of the ZPG-3W class, has a volume of 1,516,300 cu. ft., and is 403.4 ft. in length, 85.11 ft. in diameter, 116.52 ft. in height, with a static lift of 82,990 lb., a dynamic lift of 85.11 ft. in diameter, 116.52 ft. in height, and is 403.4 ft. in length.

The launching was a test run for the sending aloft to 22 miles of two balloons five times as big — 10 million cubic feet.

The modern envelopes have lives of up to five years and are made of Dacron and Neoprene, though later fabrics are now being developed with even better gas-holding qualities and strength for weight.

The new vessels, even at high cruising speed, is greater than any other Naval Airship so far commissioned.

A ship of the 950,000 cu. ft. ZPG-2 class has remained airborne for over 10 days, making a double crossing of the Atlantic carrying full crew and supplies and equipment from the U.S. Naval Airship Station at Lakehurst, N.J. The new vessel, of the ZPG-3W class, has a volume of 1,516,300 cu. ft., and is 403.4 ft. in length, 85.11 ft. in diameter, 116.52 ft. in height, with a static lift of 82,990 lb., a dynamic lift of 85.11 ft. in diameter, 116.52 ft. in height, and is 403.4 ft. in length.

The modern envelopes have lives of up to five years and are made of Dacron and Neoprene, though later fabrics are now being developed with even better gas-holding qualities and strength for weight.

The new vessels, even at high cruising speed, is greater than any other Naval Airship so far commissioned.

A ship of the 950,000 cu. ft. ZPG-2 class has remained airborne for over 10 days, making a double crossing of the Atlantic carrying full crew and supplies and equipment from the U.S. Naval Airship Station at Lakehurst, N.J. The new vessel, of the ZPG-3W class, has a volume of 1,516,300 cu. ft., and is 403.4 ft. in length, 85.11 ft. in diameter, 116.52 ft. in height, with a static lift of 82,990 lb., a dynamic lift of 85.11 ft. in diameter, 116.52 ft. in height, and is 403.4 ft. in length.

The modern envelopes have lives of up to five years and are made of Dacron and Neoprene, though later fabrics are now being developed with even better gas-holding qualities and strength for weight.

The new vessels, even at high cruising speed, is greater than any other Naval Airship so far commissioned.

A ship of the 950,000 cu. ft. ZPG-2 class has remained airborne for over 10 days, making a double crossing of the Atlantic carrying full crew and supplies and equipment from the U.S. Naval Airship Station at Lakehurst, N.J. The new vessel, of the ZPG-3W class, has a volume of 1,516,300 cu. ft., and is 403.4 ft. in length, 85.11 ft. in diameter, 116.52 ft. in height, with a static lift of 82,990 lb., a dynamic lift of 85.11 ft. in diameter, 116.52 ft. in height, and is 403.4 ft. in length.

The modern envelopes have lives of up to five years and are made of Dacron and Neoprene, though later fabrics are now being developed with even better gas-holding qualities and strength for weight.

The new vessels, even at high cruising speed, is greater than any other Naval Airship so far commissioned.

A ship of the 950,000 cu. ft. ZPG-2 class has remained airborne for over 10 days, making a double crossing of the Atlantic carrying full crew and supplies and equipment from the U.S. Naval Airship Station at Lakehurst, N.J. The new vessel, of the ZPG-3W class, has a volume of 1,516,300 cu. ft., and is 403.4 ft. in length, 85.11 ft. in diameter, 116.52 ft. in height, with a static lift of 82,990 lb., a dynamic lift of 85.11 ft. in diameter, 116.52 ft. in height, and is 403.4 ft. in length.

The modern envelopes have lives of up to five years and are made of Dacron and Neoprene, though later fabrics are now being developed with even better gas-holding qualities and strength for weight.

The new vessels, even at high cruising speed, is greater than any other Naval Airship so far commissioned.

A ship of the 950,000 cu. ft. ZPG-2 class has remained airborne for over 10 days, making a double crossing of the Atlantic carrying full crew and supplies and equipment from the U.S. Naval Airship Station at Lakehurst, N.J. The new vessel, of the ZPG-3W class, has a volume of 1,516,300 cu. ft., and is 403.4 ft. in length, 85.11 ft. in diameter, 116.52 ft. in height, with a static lift of 82,990 lb., a dynamic lift of 85.11 ft. in diameter, 116.52 ft. in height, and is 403.4 ft. in length.

The modern envelopes have lives of up to five years and are made of Dacron and Neoprene, though later fabrics are now being developed with even better gas-holding qualities and strength for weight.

The new vessels, even at high cruising speed, is greater than any other Naval Airship so far commissioned.

A ship of the 950,000 cu. ft. ZPG-2 class has remained airborne for over 10 days, making a double crossing of the Atlantic carrying full crew and supplies and equipment from the U.S. Naval Airship Station at Lakehurst, N.J. The new vessel, of the ZPG-3W class, has a volume of 1,516,300 cu. ft., and is 403.4 ft. in length, 85.11 ft. in diameter, 116.52 ft. in height, with a static lift of 82,990 lb., a dynamic lift of 85.11 ft. in diameter, 116.52 ft. in height, and is 403.4 ft. in length.

The modern envelopes have lives of up to five years and are made of Dacron and Neoprene, though later fabrics are now being developed with even better gas-holding qualities and strength for weight.

The new vessels, even at high cruising speed, is greater than any other Naval Airship so far commissioned.

A ship of the 950,000 cu. ft. ZPG-2 class has remained airborne for over 10 days, making a double crossing of the Atlantic carrying full crew and supplies and equipment from the U.S. Naval Airship Station at Lakehurst, N.J. The new vessel, of the ZPG-3W class, has a volume of 1,516,300 cu. ft., and is 403.4 ft. in length, 85.11 ft. in diameter, 116.52 ft. in height, with a static lift of 82,990 lb., a dynamic lift of 85.11 ft. in diameter, 116.52 ft. in height, and is 403.4 ft. in length.

The modern envelopes have lives of up to five years and are made of Dacron and Neoprene, though later fabrics are now being developed with even better gas-holding qualities and strength for weight.

The new vessels, even at high cruising speed, is greater than any other Naval Airship so far commissioned.

A ship of the 950,000 cu. ft. ZPG-2 class has remained airborne for over 10 days, making a double crossing of the Atlantic carrying full crew and supplies and equipment from the U.S. Naval Airship Station at Lakehurst, N.J. The new vessel, of the ZPG-3W class, has a volume of 1,516,300 cu. ft., and is 403.4 ft. in length, 85.11 ft. in diameter, 116.52 ft. in height, with a static lift of 82,990 lb., a dynamic lift of 85.11 ft. in diameter, 116.52 ft. in height, and is 403.4 ft. in length.

The modern envelopes have lives of up to five years and are made of Dacron and Neoprene, though later fabrics are now being developed with even better gas-holding qualities and strength for weight.

The new vessels, even at high cruising speed, is greater than any other Naval Airship so far commissioned.
COMMANDO CARRIER READY NEXT YEAR

LONDON.—Although the icy grip of the cold war seems to have slackened, H.M.S. "Bulwark" will come into service early next year, equipped as a Commando carrier, ready to play her part, if necessary, in any "incidents" which may occur in distant parts of the world.

The conversion of the "Bulwark" is the result of defence policy adopted by the late Government, which foresaw the need for a ship equipped to carry a "fire brigade" to trouble spots and to be able to land and re-embark it speedily.

The first "fire brigade" force will be 42 Commando, Royal Marines, now ready and trained for this task, a modern role for which the Royal Marines' long experience of amphibious warfare ideally fits them.

To adapt the Corps for its new responsibility some reorganization has been necessary and when 42 Commando goes ashore 41 Commando, which was formed in 1942 and took part in many World War II operations in Sicily, Italy, Normandy, Holland and West Germany, will be reformed.

The original Commando was disbanded in 1946 but it was revived in 1950 as 41 (Independent) Commando for service in Korea, where it carried out a number of successful amphibious raids and tied down large Communist forces in coastal areas.

The new 41 Commando will be commanded by Lieutenant-Colonel J. T. O. Waters, R.M. It has been formed by reducing the number of Royal Marines serving in other units and will not entail an increase in the total manpower of the Royal Marine Forces.

As the "Bulwark" sets out on her new career there will be a switch of major carriers in the active fleet.

H.M.S. "Ark Royal," which has been in dockyard hands for about 18 months, is about to emerge from Devonport and H.M.S. "Eagle" is about to prepare for a modernization programme.

The work completed in the "Ark Royal" has included a thorough overhaul and the dismantling of her side lift. When she rejoins the fleet she will embark the first Sea Vixen squadron to go afloat, a squadron which commissioned at Yeovilton in July last. It will be a notable addition to the Navy's air strength.

The "Eagle's" modernization will enable her to operate more advanced types of aircraft than she does at present and her return to the fleet in due course may be expected to mark another advance in sea/air power.

HIGH-SPEED, SLIDING, SURFACING, SCREW-CUTTING, GAP BED LATHES

BROADBENT

Flat headstock, push-button control, quick, non-change gap box giving 40 different pitches and 40 changes of speed. Shown below in line height of centres.

These high-speed precision lathes by Broadbent place at YOUR service the finest and most advanced British machine-tool engineering. They are designed for simplified, cost-saving production . . . and for operational versatility which cuts capital cost as well.

Also available: Bread Lathes, Surfacing Lathes, Boring Lathes, Plant Milling Machines, Heavy-dutv Vertical Boring and Turning Mills, etc.

Quotes, Specifications and Illustrated Literature on request

LAPTHORNE'S (S.A.) LTD.}

SYDNEY: 301-305 Kent Street — BX 1611
WOLLONGONG: 200 Crown Street — B 1763
NEWCASTLE: 22 Aged St. Street — LU 1017
MELBOURNE: 53-55 Jeffcott Street — FY 363
ADELAIDE: 232 Victoria Square — W 4459
BRISBANE: 116 Ipswich Road, Woolloongabba — XA 2886
HELD for safe keeping behind a locked grille in a recess in the Wardroom of H.M.A.S. "Cerberus" is a beginning of a collection of silver plate whose history already tells a story of the growth of the Royal Australian Navy. Lacking the centuries behind the Royal Navy and their opportunities to acquire attractive silver, it becomes obvious as the inscriptions on our tankards and cups are studied that we are in debt to the Royal Navy for their assistance and support given from the day the first Australian Squadron sailed through the Sydney Heads in 1913.

It was in fact in 1859 that the Australian Station was organised as a separate command and our ties began then when Captain Loring, R.N., of H.M.S. "Iris" was ordered to assume command of the Station with the rank of Commodore. The "Iris" was no deckmodest, but an excellent foundation for the future, for even to-day when members of the first class through the Royal Australian College and Tingira boys are still serving, it is obvious that history in this instance is very close to us.

It is premature then to sigh over past glories and ships until we examine the silver more closely and read that our heritage at least reaches into the end of the previous century.

The earliest part of the collection is a silver tray and coffee set presented by the Australian Rifle Association, Skirmishing Trophy. This was first won by the Naval Brigade in 1884 and finally won outright by the Permanent Naval Force in 1891.

A silver cup donated by Sir W. J. Clarke (Bart), for the Great Gun Competition between the Permanent Naval force and the Naval Brigade was also won outright by the Naval Force in 1889.

The Colony of Victoria was proud of its Navy and the Naval Brigade who were ready to defend her against invasion. The Naval Brigade had been hampered in setting up its own traditions by being confined entirely to harbour defence.

In 1900 opportunity came with the Boxer Rebellion when two hundred members sailed to China under Captain Tickell, R.N. Commandant of the Victorian Naval Forces, to prove their worth at skirmishing.

(Continued on page 19)

Police & Steel Ltd.
43 STEPHEN STREET, BALMAIN
N.S.W.

Telephone: WB 2511

General Engineers, Boilermakers, Shipbuilders, Dredge Builders
Plans, Specifications and Estimates prepared for Mining Dredges and Plant of all kinds.
Electric Welding and Oxy-acetylene Work.

Telegram: "POOLESTEEL," BALMAIN, N.S.W.

an Australian Margarine blended to suit Australian conditions

NISAN TABLE MARGARINE

DISASTER THAT SHOCKED WORLD

Noted Captain-Author Who Participated in Rescue of "Titanic" Passengers Analyses Factors Which Led to Pognant Ocean Tragedy

THE tragic sinking of the "Titanic" in 1912 is analysed by Sir James Bisset in his recently published book, "Tramps and Ladies," which is being read in Australian bookshops now by readers interested in classic stories of ships and ocean dramas.

The earliest part of the collection is a silver tray and coffee set presented by the Australian Rifle Association, Skirmishing Trophy. This was first won by the Naval Brigade in 1884 and finally won outright by the Permanent Naval Force in 1891.

A silver cup donated by Sir W. J. Clarke (Bart), for the Great Gun Competition between the Permanent Naval force and the Naval Brigade was also won outright by the Naval Force in 1889.

The Colony of Victoria was proud of its Navy and the Naval Brigade who were ready to defend her against invasion. The Naval Brigade had been hampered in setting up its own traditions by being confined entirely to harbour defence.

In 1900 opportunity came with the Boxer Rebellion when two hundred members sailed to China under Captain Tickell, R.N. Commandant of the Victorian Naval Forces, to prove their worth at skirmishing.

(Continued on page 19)

Police & Steel Ltd.
43 STEPHEN STREET, BALMAIN
N.S.W.

Telephone: WB 2511

General Engineers, Boilermakers, Shipbuilders, Dredge Builders
Plans, Specifications and Estimates prepared for Mining Dredges and Plant of all kinds.
Electric Welding and Oxy-acetylene Work.

Telegram: "POOLESTEEL," BALMAIN, N.S.W.

an Australian Margarine blended to suit Australian conditions

NISAN TABLE MARGARINE

DISASTER THAT SHOCKED WORLD

Noted Captain-Author Who Participated in Rescue of "Titanic" Passengers Analyses Factors Which Led to Pognant Ocean Tragedy

THE tragic sinking of the "Titanic" in 1912 is analysed by Sir James Bisset in his recently published book, "Tramps and Ladies," which is being read in Australian bookshops now by readers interested in classic stories of ships and ocean dramas.

The earliest part of the collection is a silver tray and coffee set presented by the Australian Rifle Association, Skirmishing Trophy. This was first won by the Naval Brigade in 1884 and finally won outright by the Permanent Naval Force in 1891.

A silver cup donated by Sir W. J. Clarke (Bart), for the Great Gun Competition between the Permanent Naval force and the Naval Brigade was also won outright by the Naval Force in 1889.

The Colony of Victoria was proud of its Navy and the Naval Brigade who were ready to defend her against invasion. The Naval Brigade had been hampered in setting up its own traditions by being confined entirely to harbour defence.

In 1900 opportunity came with the Boxer Rebellion when two hundred members sailed to China under Captain Tickell, R.N. Commandant of the Victorian Naval Forces, to prove their worth at skirmishing.

(Continued on page 19)
DISASTER OF 'TITANIC'

(Continued from page 9)

that I had already been on duty for twelve hours. For like all the other officers and members of the crew, I was keyed up to the tenselessness of action in which fatigue is unnoticed.

When the 'California' pulled over to the scene at about 8 a.m. it was still unaware of the disaster, but then took part in the subsequent search for survivors and bodies.

Speaking of the unfortunate turning off of the 'California's' wireless at what proved to be a critical time in the 'Titanic's' short life, Sir James said it proved to ship-owners that one wireless operator was not enough to staff a transmitter for 24 hours a day.

Much of the all-page hook is devoted to other experiences in the sea life of Sir James Bisset, a former commodore of the Cunard Line.

As a young man of 21, the young Bisset in 1905 bade farewell to sail and made ready for his first job in steamship.

"Tramps and Ladies" is his second volume of his memoirs.

After going into steamboats, young Bisset served in tramps on hard voyages for two years, with a variety of cargoes.

These included a Jamaican run to carry yellow jack and malaria among the construction workers of the Panama Canal; a shipment of stallions, mares, bulls, cows, pigs and dogs for a millionaire rancher in the Argentine, and cotton from America to Manchester.

In 1907 he joined the Cunard Line as a junior officer.

There are 28 illustrations from photographs, a colour frontispiece by John Allott.

His absorbing narrative of the sinking of the 'Titanic' was taken from his notes made at the ice-laden, stormy scene of the disaster.

Sir James' book covers the era up to the time of liners such as the 'Titanic,' 'Olympic,' 'Carpathia' and similar vessels.

He promises that a sequel volume, "Commodore's Farewell," will tell of bigger ships, bigger events, and bigger responsibilities that came his way.

He acknowledges a regret that the days of the "little old tramps and the ladies of the western ocean" cannot be recalled except in memory.

"Tramps and Ladies." By Sir James Bisset, in collaboration with P. R. Stephenson. Published by Angus & Robertson. 27/6.

NEW FRIGATE ORDERED FOR INDIAN NAVY

THE second of three Leopard class frigates ordered from the United Kingdom by the Indian Navy was launched recently at Newcastle-on-Tyne. She is L.N.S. Betwa, her sister ships Brahmaputra, the first of the class acquired by India is in commission, and the third ship Beas is still under construction in the United Kingdom.

These ships are of all-welded construction, having a length of 340 feet, a beam of 40 feet, and a standard displacement of 1,900 tons. Betwa is fitted with variable pitch propellers and auxiliary 450-horse power rails and standard range diesel engines.

Her armament consists of two radar-controlled, twin 4.5 inch gun mountings, two 40 mm. Bofors, and anti-submarine mortars.

Primarily designed as a convoy escort, this class of ship is extremely versatile and could be employed effectively in either an A/S or an A/A role.

... 

SEA CADETS VISIT NEW ZEALAND

A CONTINGENT of the Australian Sea Cadet Corps was given a Civic Reception in Sydney on January 15 on the eve of their departure for New Zealand to attend an Empire Sea Cadet Training Course.

The course in New Zealand and the functions associated with it has given a great stimulus to the organisation of the Sea Cadets movement in Australia and other Commonwealth countries.

The Australian section was organised with the aid of the Navy League of Australia, and the Northern Territory.

After a short "shake down" period in HMAS "Penguin," the contingent sailed for New Zealand in the "Wanganella." After a training and instructional period the members toured both islands as guests of the New Zealand Navy League until their scheduled return to Australia on March 8.

Prior to their departure for New Zealand, the Sea Cadets were the guests of the Lord Mayor Akl. H. Jensen, at a function at the Town Hall, Sydney.

The function was attended by Rear-Admiral H. A. Showers (RTD), the President of the Navy League of Australia (N.S.W. Division), and other representatives of the Navy League.
BARBECUE AIDS NAVY CHAPEL

MORE than £1,200 was raised for the H.M.A.S. Watson Chapel Appeal at a barbecue at Watsons Bay, Sydney, on February 7.

The barbecue was organised by the International Fellowship of yachting Rotarians. More than 100 yachts were moored at Watsons Bay and Camp Cove.

Naval cutters ferried the yachtsmen ashore and later maintained a shark-watch while visitors went swimming.

Subscriptions exceeding £100 have been received towards the cost of the Chapel—almost half the target amount of £27,000.

Work is scheduled to begin on the building in April.

A Rotary spokesman said the barbecue had been a "tremendous success."

He said: "The weather was perfect and everyone told me they were having a wonderful time."

The American yacht Vim sailed up close under the bridge and the whole of the eastern (altar) wall will be glasses so that the congregation will glimpse beyond the altar North Head and the wide Pacific.

As worshippers leave the chapel at the western end they will have an uninterrupted view of the Harbour, with the Bridge in the far distance.

The whole of the eastern (altar) wall will be glazed so that the congregation will glimpse beyond the altar North Head and the wide Pacific.

About 1,500 of the visitors were shown over H.M.A.S. Watson.

H.M.A.S. Watson is one of the Navy's premier establishments. It provides training in navigation and direction finding, signal and anti-submarine branches.

It accommodates up to 500 officers and men and through it has passed thousands of trainees.

Until now it has lacked an adequate church.

The memorial chapel will be non-denominational and will be for public worship on selected Sundays.

The architects, Powell, Mansfield and Macleuran, said in a statement which Mr. Con derives, which are the allowable taxation deductions, should be sent to: "Chapel Fund, H.M.A.S. Watson, Watsons Bay, Sydney."

The latest list of subscriptions is:

<table>
<thead>
<tr>
<th>Name</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flinder's</td>
<td>£9,593/2/9</td>
</tr>
<tr>
<td>Royal Dutch Mails</td>
<td>£65</td>
</tr>
<tr>
<td>Mr. Anthony Oxley</td>
<td>£125</td>
</tr>
<tr>
<td>N.S.W.</td>
<td>£71/1/7</td>
</tr>
<tr>
<td>Rugby Union</td>
<td></td>
</tr>
<tr>
<td>Mr. R. O. Jensen</td>
<td></td>
</tr>
<tr>
<td>Mr. Ashley Bennett</td>
<td>£42/5/7</td>
</tr>
<tr>
<td>Mr. T. J. Keeling</td>
<td>£135/10/9</td>
</tr>
<tr>
<td>Mr. R. W. Spencer</td>
<td>£66</td>
</tr>
<tr>
<td>Mr. T. C. Oldham</td>
<td>£153/7/3</td>
</tr>
<tr>
<td>Mr. L. M. Burch</td>
<td>£30</td>
</tr>
<tr>
<td>Mr. L. M. Burch</td>
<td>£30</td>
</tr>
</tbody>
</table>

Previously acknowledged:

- £9,593/2/9 from Flinder's.
- £9,593/2/9 from Royal Dutch Mails.
- £65 from Mr. Anthony Oxley.
- £71/1/7 from N.S.W.
- £125 from Rugby Union.
- £42/5/7 from Mr. T. J. Keeling.
- £135/10/9 from Mr. L. M. Burch.
- £66 from Mr. R. W. Spencer.
- £153/7/3 from Mr. T. C. Oldham.
- £135/10/9 from Mr. L. M. Burch.
- £21/4/2 from H.M.A.S. "Voyager."

PHYSICAL TRAINING is the training of men (and women) in the art of progressiveness, the physical fitness and skill or teamwork through the balanced co-ordination of all muscle groups.

When carried out correctly, this will result in a better body, an adequate training of the mental reactions.

Physical Training in the Royal Australian Navy is based on the Swedish system. There are twelve sets which have proved equally effective, but the Swedish system was evolved in a hard school of experience extending over many years, and, by virtue of its method of instruction, is best suited to the Navy.

A progressive series of twelve sets of Physical Training Exercises, known as Tables, are used at the R.A.N. Physical Training School. These are primarily intended for Recruits and Cadets, but are equally suitable in establishments where ratings are undergoing a set course of instruction.

(a) Sporadic Physical Training is the training both ashore and afloat should have at least two one-hundred periods per week.

(b) Combined with Physical Training is Physical Exercise, which is the means of maintaining physical fitness in fully developed bodies.

Physical Training as Practised at Flinders Naval Depot

Tables for Physical Training are essentially to develop the physical fitness and skill of the Service. They are used to facilitate the instruction of the Service. When the Service is to be considered. All P.T. Tables should conform to the following general rules:

(i) The lesson must provide adequate exercise for all members of the body.

(ii) To avoid fatigue and other bad effects, the different sets of muscles must be brought into play successively.

(iii) There must be a definite order for the exercises.

(iv) There must be a continuous flow of movement.

To achieve the above, a table is separated into the following groups:

(i) Introductory Exercises: Are a small table in themselves, the object of which is to ease the pupils into the class, to loosen the joints and stimulate circulation.

(ii) Leg Group: The exercises are performed from the standing position and, in fact, the common act of walking depend on the strength and nervous control of the muscles of the legs. These must be kept in good condition by suitable exercises.

(iii) Sporadic Group: The exercises produce suppleness and resiliency in the rise and fall and prevent cramping and fixing of the chest cage. As the size and capacity of every man's chest varies, these exercises must be done in the performer's own time.

(iv) Supplementary Group: The supplementary group directly and completely the student group in order to relax completely the muscles which have been strongly stretched, and not merely to develop the muscles of the body. The table used for a new school is very good, the following factors must be taken into consideration:

(i) Age and physical fitness.

(ii) The amount of previous training, if any.

The standard tables used in the R.A.N. Physical Training School vary in strength from 1-12. When producing a new table for a new class, the following factors must be taken into consideration:

(i) Age and physical fitness.

(ii) The amount of previous training, if any.
Food tastes better...

Food is better with Good Beer

FOSTER'S LAGER
MELBOURNE BITTER
ABBOTS LAGER
VICTORIA BITTER

WAILES DOVE BITUMASTIC PRODUCTS
BITUROS SOLUTION AND HARD ENAMEL
THE WORLD'S BEST PROTECTION
for FRESH WATER DRINKING TANKS

J. WILDRIKE & SINCLAIR PTY. LTD.
97 PITT STREET, SYDNEY, N.S.W.
MELBOURNE BRISBANE

Fighting Fit — and Fit to Fight

As someone with a sense for the art of progress, physical training is the art of progressive body development through the balanced co-ordination of all muscle groups.

In this it includes the vocal commands (1) “Attention” and the movement to be made, e.g., 1—Arm, 2—Upward, 3—Pause, 4—Executive Word. The terminology or names of exercises must not be confused with the words of command. The former are employed as an aid to the instructor in the study of gymnastics to indicate the exact nature of the exercises. The latter are simply directions to the class for the actual performance of the exercise.

A word of command consists of three parts: 1—Caution, 2—Pause, 3—Executive Word.

The formation of a class for the performance of a table or set of exercises differs considerably with the type of school in which they are taught. The modern trend of Physical Educationists is to get away from any formal up and down, and to work in line without any form of drill movement or class discipline.

The “Team Sand Spot” system employed in Naval Physical Training has produced excellent results over many years; it has the advantage of inculcating team spirit and discipline, yet is sufficiently far removed from any form of regimentation to allow the exercises to be enjoyed and appreciated. Other factors in physical training will be the subject of a further article in "The Navy."

BOYS CHOSEN FOR ENTRY TO NAVAL COLLEGE

CABINERA — Four boys from New South Wales and four from other States have been chosen to join the Royal Australian Naval College at Jervis Bay as cadet-midshipmen under the Matriculation entry.

The names of 30 boys who will join the college under the normal entry were also announced recently.

HOST TO 185 RATINGS

BP Oil Co. was host to 185 naval ratings from units of the Royal Navy's Far Eastern Fleet who were entitled to a break December in Queensland's centenary celebrations.

Five coaches were chartered to take the sailors to the 1959 Gold Coast Surf Carnival at Palm Beach where a record crowd witnessed the Surf Life Saving Club win the surfboat "BP Endeavour."

February 1960
THE NAVY LEAGUE

The object of the Navy League in Australia, like its older counterpart, the Navy League in Britain, is to insist by all means at its disposal upon the vital importance of Sea Power to the British Commonwealth of Nations. The League sponsors the Australian Sea Cadet Corps by giving technical sea training to and instilling naval training in boys who intend to serve in Naval or Merchant services, and 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.

The League consists of Fellows (Annual or Life) and Associates.

All British subjects who signify approval to the objects of the League are eligible.

MAY WE ASK YOU TO JOIN and swell our members so that the Navy League in Australia may be widely known and exercise an Important Influence in the life of the Australian Nation?

For particulars, contact The Secretary, 83 PITT STREET, SYDNEY, N.S.W. or The Secretary, Room 8, 8th Floor, 528 Collins Street, Melbourne, C.I, Victoria

or one of the Hon. Secretaries at:
• Box 376E, G.P.O., Brisbane, Queensland
• 726 Sandy Bay Rd., Lower Sandy Bay, Hobart
• F.O. Box 90, Darwin, N.T.
• 30 Pirie Street, Adelaide, S.A.
• 62 Blaxland St., West Leederville, W.A.
• 66 Limestone Ave., Alind, Canberra, A.C.T.

THE NAVY

Advice for Sea Cadets:
The Duties of an Officer

FOR SEA CADETS and young men in other units who look forward to the rank of officer, will command this army or any special interest, for it upholds principles governing the duties of an officer.

Having a particular importance because it was given as an address in the field, somewhere in France, in 1916, by a senior officer in a lecture to School for young officers.

I HOPE you feel that you have picked up much that will be useful to you in your position as officers.

General — has asked me to say something to you on the moral side of the duties of an officer...

In laying before you some remarks on such a subject, I would begin by impressing upon you the great importance of your work.

You must realize that, however good and skilful the dispositions may be, battles must be won by ‘fighting’; the heroism, skill, and firmness of the most junior officers will have the most far-reaching results.

You are responsible for the successful leading of your men in battle; you are responsible for their safety, as far as this can be ensured, while gaining success in battle.

You are responsible for their health, for their comfort, for their good behaviour and discipline.

Finally, and not least, you are responsible for maintaining the honour of E. and, for that reason, you can ensure the security of England, and of our women and our children after us.

You bear all these responsibilities successfully if you must acquire, first, knowledge. You must know what to do and how to lead your men with success and honour, and protect them from destruction or loss, which will be suffered if you are ignorant of your work and of your profession.

Secondly, you must acquire character — that is, resolution, self-confidence, self-sacrifice — in order to inspire your men by your example, sustain their courage in danger by your example, and their endurance in hardship by your example. Now as regards the first — knowledge — remember two things: (1) Knowledge is not a Heaven-sent gift; it is the outcome of study, hard work, and thought. (2) It is an absolute necessity to you as an officer. It is the foundation of your own character, for without it you cannot gain self-confidence.

You must know your job. If you do not you can have no confidence in yourself, and the men can, and will, have no confidence in you either.

Knowledge is therefore the first great essential for your capacity to command your men...

The men must have confidence in their officer. They must feel not only that he knows his job, but also that he will set the example of courage, self-sacrifice, and elasticity, and that he will look after their welfare and comfort. It was to help you to do this that these tactics schools have been started.

Now as regards the second requirement of an officer — character. The charge of an officer is the foundation of the discipline of the man. Men can only be commanded successfully by men. Troops never possessed a discipline that was worth a damn — that could stand the great disintegrating strain of battle — who were commanded by weak, slow irresolute ‘Old Women’.

‘Old Women’ are not confined to persons who wear petticoats; nor to persons over 70 years of age. I have met men of any age between 20 and 50. Don’t be an ‘Old Woman’ whatever else you may be.

The creation of discipline and the maintenance of discipline are among your most important duties. Your orders, and the orders given by your N.C.O.’s, must always be obeyed without hesitation, with energy and with cheerfulness.

Never pass any lapse from duty, however trivial. Never pass any lapse from duty, however trivial, without taking notice of it. Drop hard on those who are disorderly, slovenliness. Never stand any rot or nonsense. Insist on great cleanliness, on great alertness, dis- the necessary orders, quickness, cheerfulness.

I don’t want you to go away, however, with the idea that the men must be treated like dogs — try very hard to. You want to curse or damn every time you notice things wrong. Sometimes a word of encouragement, or a patient listening to an explanation, or a smile when pointing out the fault will go a long way.

Remember that, though we are officers and the men are privates, we are all comrades in the great dangers and the great struggle; make the men feel that you realise this comradeship and love it!
Electric Welding

Changed Technique

of Ship Building

The introduction of electric welding has markedly changed the technique of ship construction in United Kingdom yards.

Prefabrication of large sections is now an established practice, and this has resulted in large scale investment in new cranes and other facilities for handling these large units.

Apart from this major change in general construction methods, there have been important developments in the methods of preparing material as well as in the production of steel manufactured primarily in the building of super-tankers.

In recent years increased use has been made of aluminium alloys for ships' superstructures and equipment.

Outstanding passengers liners completed in United Kingdom yards within the last few years include the following (with tonnage and owners names):

Acardia, 29,734 gross tons (P. & O.);
Olympia, 17,362 (Transatlantic Shipping Corp.);
Orsova, 26,705 (Orient Steam Navigation);
Iberia, 29,614 (P. & O.);
Savill & Albion), 25,044 (Straits Steam Navigation Co.);
Reina del Mar, 22,868 (Pacific Steam Navigation Co.).

Inshore Minesweepers for Ghana Navy

H.M.S. Ottringham, an Ingham class inshore minesweeper with a length of 106 feet, a beam of 21 feet, and a displacement of 120 tons, was recently commissioned in the Ghana Navy.

Ottringham and her sister ship, Malban, under the command of R.N. officers, will proceed in company to Takoradi, where they will be officially handed over.

Eight ratings of the Ghana Navy who have completed training in the United Kingdom, will return to Ghana in the ships.

Has World's Largest Oceanographic Fleet

The Soviet research ship Zarya (335 g.r.t.) will conduct a magnetic survey in the Indian and Pacific Oceans, which is expected to last for eight months. Part of this will probably be associated with All U.S.S.R.'s participation in the "International Indian Ocean Expeditions," sponsored by the United Nations International Council of Scientific Unions.

A further indication of the scope of the Soviet's efforts in oceanographic research is a Soviet radio report of the commissioning at Nikolaev of the large scientific research ship Vosyeykov.

The report stated that the ship has the most modern equipment for conducting meteorological and oceanographic studies. Vosyeykov is later reported to have passed through the Bosphorous on September 5 bound for Vladivostok.

The U.S.S.R. has the world's largest oceanographic fleet with at least 30 oceanographic research ships and about 60 hydrographic survey ships.

Directors of the Peninsular and Oriental Steam Navigation Co. and the Peninsular Steam Navigation Co. Ltd. have agreed on terms for P. & O. to acquire all Orient ordinary capital not already held.

P. & O. will offer £13 of deferred stock for every 10 £1 Orient shares.

The companies' respective financial advisers, Lazar, Bros. and Co. Ltd. and Robert Ben- son Lonsdale & Co. Ltd. recommend this share exchange as "fair and reasonable".

Orient shareholders are to retain any dividend paid for 1958-59.

H.M.A.S. "CERBERUS"

(Continued from page 8)

It is interesting to note here that the training ship of the Naval Brigade was H.M.V.S. "Cerberus", one of the first two ships built for the Victorian Navy, a monitor or turret ship.

About 1922 the training establishment in Victoria was moved from Williamstown to Flinders Naval Depot and given the name H.M.A.S. "Cerberus" carrying on the tradition of the silver from the old Naval Brigade was handed on to the New Wardroom.

This was the beginning of the present silver collection, and although only thirty years have passed since then, a short time in the history of any navy, this has not limited the type and number of presentations.

With Federation in 1901, it was necessary for Australia to divide the Crown Navies with the division of Permanent Naval Forces and the building of the "Tingira" and the emergence of a Royal Australian Navy would soon come. Approval came in 1911 when the designation H.M.A.S. was given.

The Inter Unit Relay Challenge Cup, presented by Reid and Ritchie and first won by Osborne House, brings us to a further historical point of interest in our early years when in 1913, through a delay in the preparation of the site at Jervis Bay, the Royal Australian Naval College opened at Osborne House, Goolong.

In the previous year, the commissioned "Sabroan", one of the old wool clipper ships, was abandoned, two of "Tingira" were re-allocated to the Wardroom, the Champion Cup, Athletic Sports was presented to "Tingira" by her officers in 1914, and a cup presented (Continued on page 20).
service, now rest here. Stokers, finally outright by the Challenge Cup, presented by
scribed with the names of many who have rendered outstanding service to the
Australia. These two cups, in competition with H.M.A.S. "Renown", who were
the Royal Visitors to Australia in 1942, marked an additional 30,000 to 40,000 naval personnel will be needed by the end of the 1965 financial year if the U.S. Navy is to maintain its present manning level. It has been estimated that an average of 400 personnel will be needed. The Navy is now concentrating on modern, snorkel-equipped, submarine at a cost of $1.2 billion.

ROCKET MISSILE

A NEW U.S. Navy liquid propellant rocket-powered missile an air-to-surface weapon is under development. The U.S. Navy has ordered a new fleet submarine at a cost of $1.2 billion.

THE NAVY

Men, Ships, Landing Equipment in American Navy Changes

40,000 additional personnel needed by 1965 to maintain present strength

In an attempt to end bottlenecks in the landing of equipment over beaches, tests of a "roll-on, roll-off" vehicle transferred to and from a surface displacement of 1.690 tons.

The principle is that a new type of vehicle discharge lighter is joined stem-to-stern with a vehicle carrier by means of a "Roll-on, Roll-off" ramp. Vehicles, with their drivers and crew, are driven across the ramp to assigned spaces in the lighter. The lighter then moves to the beach, lowers its front ramp and the vehicles are driven ashore.

The vehicle discharge lighter is specially designed, having twin 1,200 h.p. diesel engines and vertical axis propellers to meet a demand for Inter Branch Aggregate Trophy. The Mediterranean, the South Atlantic, and the Pacific were all events close enough for us to be mindful of. The name "Submarine Flotilla" given in contempt but borne with honour.

Missile Destroyer

U.S.S. Charles F. Adams (DDG-2), a new Forrest Sherman Class destroyer, designed as a guided missile ship, was launched on September 8. She will be armed with a Terrier Missile.

Charles F. Adams has a new hull design, which has been evolved from the original Forrest Sherman class hull, and the super-structure is of aluminum. The most recent developments in habitability and air-conditioning are incorporated.

OVERALL DIMENSIONS ARE: Length 431 feet, beam 47 feet, with a displacement of 3,370 tons.

It is intended that the crew will consist of 24 officers and 330 ratings.

More Manpower

According to the United States Navy Times, an additional 30,000 to 40,000 naval personnel will be needed by the end of the 1965 financial year if the U.S. Navy is to maintain its present manning level. It has been estimated that an average of 400 personnel will be needed. The Navy is now concentrating on modern, snorkel-equipped, submarine at a cost of $1.2 billion.

ROCKET MISSILE

A NEW U.S. Navy liquid propellant rocket-powered missile an air-to-surface weapon is under development. The U.S. Navy has ordered a new fleet submarine at a cost of $1.2 billion.

THE NAVY

Men, Ships, Landing Equipment in American Navy Changes

40,000 additional personnel needed by 1965 to maintain present strength

In an attempt to end bottlenecks in the landing of equipment over beaches, tests of a "roll-on, roll-off" vehicle transferred to and from a surface displacement of 1.690 tons.

The principle is that a new type of vehicle discharge lighter is joined stem-to-stern with a vehicle carrier by means of a "Roll-on, Roll-off" ramp. Vehicles, with their drivers and crew, are driven across the ramp to assigned spaces in the lighter. The lighter then moves to the beach, lowers its front ramp and the vehicles are driven ashore.

The vehicle discharge lighter is specially designed, having twin 1,200 h.p. diesel engines and vertical axis propellers to meet a demand for Inter Branch Aggregate Trophy. The Mediterranean, the South Atlantic, and the Pacific were all events close enough for us to be mindful of. The name "Submarine Flotilla" given in contempt but borne with honour.

Missile Destroyer

U.S.S. Charles F. Adams (DDG-2), a new Forrest Sherman Class destroyer, designed as a guided missile ship, was launched on September 8. She will be armed with a Terrier Missile.

Charles F. Adams has a new hull design, which has been evolved from the original Forrest Sherman class hull, and the super-structure is of aluminum. The most recent developments in habitability and air-conditioning are incorporated.

OVERALL DIMENSIONS ARE: Length 431 feet, beam 47 feet, with a displacement of 3,370 tons.

It is intended that the crew will consist of 24 officers and 330 ratings.

More Manpower

According to the United States Navy Times, an additional 30,000 to 40,000 naval personnel will be needed by the end of the 1965 financial year if the U.S. Navy is to maintain its present manning level. It has been estimated that an average of 400 personnel will be needed. The Navy is now concentrating on modern, snorkel-equipped, submarine at a cost of $1.2 billion.

ROCKET MISSILE

A NEW U.S. Navy liquid propellant rocket-powered missile an air-to-surface weapon is under development. The U.S. Navy has ordered a new fleet submarine at a cost of $1.2 billion.

THE NAVY

Men, Ships, Landing Equipment in American Navy Changes

40,000 additional personnel needed by 1965 to maintain present strength

In an attempt to end bottlenecks in the landing of equipment over beaches, tests of a "roll-on, roll-off" vehicle transferred to and from a surface displacement of 1.690 tons.

The principle is that a new type of vehicle discharge lighter is joined stem-to-stern with a vehicle carrier by means of a "Roll-on, Roll-off" ramp. Vehicles, with their drivers and crew, are driven across the ramp to assigned spaces in the lighter. The lighter then moves to the beach, lowers its front ramp and the vehicles are driven ashore.

The vehicle discharge lighter is specially designed, having twin 1,200 h.p. diesel engines and vertical axis propellers to meet a demand for Inter Branch Aggregate Trophy. The Mediterranean, the South Atlantic, and the Pacific were all events close enough for us to be mindful of. The name "Submarine Flotilla" given in contempt but borne with honour.

Missile Destroyer

U.S.S. Charles F. Adams (DDG-2), a new Forrest Sherman Class destroyer, designed as a guided missile ship, was launched on September 8. She will be armed with a Terrier Missile.

Charles F. Adams has a new hull design, which has been evolved from the original Forrest Sherman class hull, and the super-structure is of aluminum. The most recent developments in habitability and air-conditioning are incorporated.

OVERALL DIMENSIONS ARE: Length 431 feet, beam 47 feet, with a displacement of 3,370 tons.

It is intended that the crew will consist of 24 officers and 330 ratings.

More Manpower

According to the United States Navy Times, an additional 30,000 to 40,000 naval personnel will be needed by the end of the 1965 financial year if the U.S. Navy is to maintain its present manning level. It has been estimated that an average of 400 personnel will be needed. The Navy is now concentrating on modern, snorkel-equipped, submarine at a cost of $1.2 billion.

ROCKET MISSILE

A NEW U.S. Navy liquid propellant rocket-powered missile an air-to-surface weapon is under development. The U.S. Navy has ordered a new fleet submarine at a cost of $1.2 billion.

THE NAVY

Men, Ships, Landing Equipment in American Navy Changes

40,000 additional personnel needed by 1965 to maintain present strength

In an attempt to end bottlenecks in the landing of equipment over beaches, tests of a "roll-on, roll-off" vehicle transferred to and from a surface displacement of 1.690 tons.

The principle is that a new type of vehicle discharge lighter is joined stem-to-stern with a vehicle carrier by means of a "Roll-on, Roll-off" ramp. Vehicles, with their drivers and crew, are driven across the ramp to assigned spaces in the lighter. The lighter then moves to the beach, lowers its front ramp and the vehicles are driven ashore.

The vehicle discharge lighter is specially designed, having twin 1,200 h.p. diesel engines and vertical axis propellers to meet a demand for Inter Branch Aggregate Trophy. The Mediterranean, the South Atlantic, and the Pacific were all events close enough for us to be mindful of. The name "Submarine Flotilla" given in contempt but borne with honour.

Missile Destroyer

U.S.S. Charles F. Adams (DDG-2), a new Forrest Sherman Class destroyer, designed as a guided missile ship, was launched on September 8. She will be armed with a Terrier Missile.

Charles F. Adams has a new hull design, which has been evolved from the original Forrest Sherman class hull, and the super-structure is of aluminum. The most recent developments in habitability and air-conditioning are incorporated.

OVERALL DIMENSIONS ARE: Length 431 feet, beam 47 feet, with a displacement of 3,370 tons.

It is intended that the crew will consist of 24 officers and 330 ratings.

More Manpower

According to the United States Navy Times, an additional 30,000 to 40,000 naval personnel will be needed by the end of the 1965 financial year if the U.S. Navy is to maintain its present manning level. It has been estimated that an average of 400 personnel will be needed. The Navy is now concentrating on modern, snorkel-equipped, submarine at a cost of $1.2 billion.
EXECUTIVE ANNOUNCED

CANBERRA.—The Minister for Defence, Mr. A. G. Townley, has announced the promotion of Captain R. H. D. Brett, Deputy Chief of the Naval Staff, to the rank of Rear-Admiral.

Mr. Townley said Rear-Admiral Brett had held a number of important command and staff appointments, including Deputy Chief of the Naval Staff (1952-1954) and Captain of the aircraft carriers H.M.A.S. Vengeance (1954-1955) and H.M.A.S. Melbourne (1957-1958).

He assumed his present appointment, with the acting rank of Rear-Admiral, on January 3, 1959.

NAVAL WEDDING

LIEUT. Christopher Bacon, R.N., and Mrs. Bacon, whose marriage took place at St. Swithin's Church, Pymble, on January 9, 1959, left by air on January 20 for Halifax, Nova Scotia, where the bridegroom will be Staff Officer (Operations), Sixth R.N. Submarine Squadron.

The bride was formerly Miss Deidre Taylor, only daughter of Mr. and Mrs. Alan Taylor, of Pymble; the bridegroom is the only son of Mr. and Mrs. C. J. Baron, of Tottenham, Middlesex.

FROM ADMIRALTY TO SINGAPORE POST

THE former First Lord of the Admiralty, the Earl of Selkirk, has been appointed as the United Kingdom Commissioner for Singapore in succession to Sir William Goode, who relinquished this post on December 2.

Lord Selkirk, who will have the title of United Kingdom Commissioner for Singapore and South-East Asia, will also assume the functions of the present Commissioner-General for South-East Asia, Sir Robert Scott, and will succeed him as U.K. Council Representative to S.E.A.T.O.

Death of Commander Who Organised Coast Watchers During War

COMMANDER Rupert Basil Michel Long, the man who directed and organised Australia's coast watchers' organisation during World War II, died in Sydney on January 6, at the age of 60.

Commander Long was Director of Naval Intelligence during the war.

The U.S. Navy credited the Australian coast watchers with a vital role in the long-drawn-out battle for Guadalcanal and its key airfield.

Hidden behind the Japanese lines, the coast watchers radioed reports of the movements of enemy aircraft and shipping to the Allies.

Forewarned, the Americans were able to intercept the Japanese planes and ships and inflict crippling losses.

In his book, "The Coast Watchers," Eric Feldt says of Long: "Wong, together with his civil assistant, Mr. W. H. Brookbank, had been mainly instrumental in building up the Naval Intelligence Division, creating an organisation to take the strain of war, generally without funds and without support from the public.

"Long's had been a thankless task, calling for patience and equanimity."

A Navy official said that Commander Long had been responsible for establishing the wartime services of Naval Security and Naval censorship.

Commander Long retired from the Royal Australian Navy in 1945 and entered business.

He is survived by Mrs. Long, a son, Peter Michel, and a daughter, Valerie Michel.

---

WE STILL NEED SHIPS

By John D. Bates

Chairman of Australian and New Zealand Passenger Conference, in an address to the Australasian Federation of Travel Agents

(Part II)

The first part of this address appeared on the last issue of "The Navy."

I want to make it very clear that these comments are not a criticism of air transport operators. I have myself flown well over 200,000 miles in commercial aeroplanes in the past 25 years, but these are the facts of life and they partly explain the difficulty of predicting the long range effects of air transport as a competitor to sea transport.

Most of the world's passenger ships have already shown their faith in sea transport in the future. On a rough estimate, at the end of last year they were actually committed to 450,000 gross tons—planned, on order and under construction—to a total value of not less than £140 millions.

This you will agree is a pretty formidable investment when a ship's life can be set down at no more than 25 years.

British Commonwealth Companies' share in this investment is greater than the rest of the world put together. Their main efforts are concentrated on services other than the North Atlantic, and I should say here that the figures I have given do not include possible replacements for the "Queens" of which tentative reports have already been published.

Passenger shipowners clearly believe that their vehicles will continue to command a profitable share of the expanding international travel market, but they are realistic and they know this will only be so if their ships are imaginatively designed and built and operated so as to offer special inducements with which aircraft cannot compete.

The race is not always to the swift. Passenger ships can, and do, cater pre-eminently for rest, relaxation and recreation as an antidote to the stresses and strains of the jet age.

By far the largest of Britain's new passenger ships are the two which, by late 1960 or early 1961, will be operating to Australia. They are the "Canberra" and "Oriana," each a "Queen" of 45,000 and 40,000 tons, respectively.

To be successful, a passenger ship must have "passenger appeal" and not be cut down the number of passengers want them, especially on the short runs.

The second, and chief reason, is that greater speed means higher utilisation and therefore lower operating costs per passenger. It can even cut down the number of vessels required to perform the same service.

British Commonwealth Companies' share in this investment is greater than the rest of the world put together. Their main efforts are concentrated on services other than the North Atlantic, and I should say here that the figures I have given do not include possible replacements for the "Queens" of which tentative reports have already been published.

Commander Long retired from the Royal Australian Navy in 1945 and entered business.

He is survived by Mrs. Long, a son, Peter Michel, and a daughter, Valerie Michel.

---

BABCOCK BOILERS

...are used in 900 POST-WAR MERCHANT VESSELS and for over three-quarters of the British post-war programme.

Babcock & Wilcox of Australia Pty. Ltd. Head Office & Works: RICHMOND P.O. N.S.W.

(Continued on page 24)
WE STILL NEED SHIPS
(Continued from page 23)

become a nuisance and a hindrance to exercise. Models of our ships have therefore been subjected to exhaustive tests by which contour lines of wind velocities are recorded electrically and drawn on the deck plan and then wind tunnel tests are made to calculate the best shapes to give the protection needed.

Another problem related to speed and its product — air turbulence — is that of smoke elimination. If engine exhausts are not projected outside that envelope of air which travels with and encircles the ship, they may be trapped in the wind eddies which flow over the superstructure and thereby deposit smuts on passengers and their clothing. To solve this problem, experiments are still proceeding.

The best solution, of course, would be prevention, and marine engineers are striving to discover some means of ensuring complete consumption of waste material so that only clean exhaust gases will be discharged.

Meantime, funnel design, whether in domed, or louvred styles, or even as Welsh hats, has rendered the nuisance negligible, even if the aesthetic appearance is not all that could be desired.

Space is perhaps the key to successful ship design. It dominates the economics of the ship by determining the area and variety of accommodation.

On the Australian run, the emphasis is on wide, open decks, light, cool interior design and decoration, room to live informally, to sun bathe and to swim.

Technical advances in the use of light and metal alloys in ship building have contributed largely to the design of the passenger ships of to-day. In all the post-war ships of the Conference Lines the use of light metal alloys for superstructure has increasingly improved their economies.

In the new ships it will play an even more important part. In “Oriana,” for instance, it has resulted in an extra deck of passengers to the tune of about 2,000.

I think the three words — speed, space and stability — with all they infer, are the key words in the future of passenger ships, and space is the dominant factor. More space, better amenities, bigger payload; that seems to be the chain of reasoning.

I believe and I hope you will agree with me that so far from being obsolcent, big passenger liners are about to usher in a new and exciting era of competition and that the old truism, travel makes travel, will ensure that there are enough travellers to go round to satisfy both air and sea operators and so to fill the employment of travel agents with joy.

(To be continued next month.)

TWO OCEAN TUGS FOR KWINANA

The Brisbane-built “BP Parmelia,” the second of two ocean-going tugs for BP’s Kwinana Refinery, has completed her sea trials. Initial bunkers and marine lubricants were delivered to the builders, Evans Deakin & Co. Ltd. of Kangaroo Point, a few weeks ago.

The “BP Parmelia” was launched by Mrs. K. J. Morris, wife of the Deputy Premier of Queensland, last October, and will be used at Kwinana, Western Australia.

WARDROOM OF “CERBERUS”
(Continued from page 20)

near the entrance to Sunds Straits on the 1st March, 1942.

In endeavouring to make the passage “Perth” and “Houston” made contact with the enemy’s main invasion convoy and a very strong scouting force. The two ships inflicted very heavy losses upon the enemy before the overwhelming odds brought about the inevitable end of this heroic action.

Survivors from the “Perth” suffered further in the Prisoner of War camps before release came at the end of the war. Despite their harrowing experiences there are still survivors from the “Perth” serving in the Navy.

The order clean unyielding lines of the Memorial Cup is truly representative of the men it commemorates.

It is perhaps that in the collection of tankards that the personal aspect is more vividly seen. The inscriptions read like the Honour Roll of the R.A.N.C. so perhaps it is fitting that individual donors are not named.

It is certain, however, that the collection of plate will increase in the years to come as the growth of the R.A.N. continues and the service sets up new traditions and adds more honour to her names.

As the Wardroom of F.N.D. is the Premier Mess in the R.A.N., it is not surprising that the history of the plate in its possession is not of the Wardroom alone, but of the R.A.N. as well.

The pieces built up over the years, not with the acquisitive urge of a collector but given with a spirit of pride in the services, are worthy of the ships and men of the Royal Australian Navy for which Flinders Naval Depot has honour of being the Training Establishment.
Do you require . . .

- **CIRCLES**
- **SHEET**

**COPPER • BRASS • ALUMINIUM**

Only "Austral" meets the highest standards of quality and tolerance.

- COPPER AND COPPER ALLOYS

**Austral® BRONZE COMPANY PTY. LIMITED**

15-23 O'Riordan Street
Alexandria, N.S.W.
Box 7015, G.P.O., Sydney

473-479 Swan Street
Burnley, Victoria
Box 13, P.O., Richmond, 3B 4324

224 Montague Road
West End, Qld. Box 1472v
G.P.O. J 6562

101 St. George’s Terrace
Perth, W.A.
BA 7072

128-130 Rothschild Avenue
Rosebery, N.S.W. Box 31, P.O.
Rosebery, M.U. 4443

463 Terrains Road, Woodville
S.A. Box 558E, G.P.O.
JL 5366

Why not write or call us, outlining your requirements —
the services of our Technical Advisory Service are at your disposal, completely free of charge.

Yes, we have comprehensive
stocks available to suit the
requirements of fabricators
of all types of non-ferrous
products.

Of particular interest to the
building trade is the fact that
“Austral” copper sheet can be
purchased in coils of up to 250’
in length and up to 3’ wide.

Printed by Shipping Newspapers Ltd., 46 Bond Street, Sydney
Brown gold...

Pioneer development at Yallourn has created, from the immense brown coal fields in Victoria's Latrobe Valley, a national asset of incalculable value.

These huge open cuts supply nearly half of Victoria's entire electricity requirements, won from the ground by specialised mechanical plant developed to handle brown coal continuously, in great quantities and at low cost.

Thus, Yallourn — and the men behind it — are dramatically speeding up the tempo of Australia's advance towards industrial greatness.

As an Australian company contributing to Australia's development through an extensive range of wires and cables, Cable Makers Australia Pty. Ltd. is proud to pay tribute to the Victorian State Electricity Commission which has done so much to build the Australia of today — and tomorrow!
The spokesman said stones have been received from churches and cathedrals in Can-
terbury (England), Glasgow, Liverpool, Norwich, Win-
chester, London, Melbourne, Sydney, Hong Kong, Singa-
pore, Zanzibar, Cape Town, North Ireland, Jerusalem, and
all parts of Australia, Canada, and the United States.

Contributions, which are allowable taxation deductions, should be sent to "The Chapel Fund," H.M.A.S. Watson, Bay, Sydney.

FIRST SEA LORD VISITS AUSTRALIA

C.B.-G.B., Rear Admiral H. A. Burrell, the First Sea Lord, is in Australia by the First Sea
Lord, Admiral Sir Charles Lumbe, who was appointed by the United Kingdom High Com-
misioner's Office.

The tour's programme provided for a week in Aus-
tralia from March 16, then a visit to New Zealand, and return to Australia on March 29 for two days.

His discussions in Australia are expected to influence the future shape of the Australian Navy.

THE NAVY LEAGUE
OF AUSTRALIA

PRESIDENT:
His Excellency The Governor-General. 

FEDERAL COUNCIL:
President: Sir Charles Lumbe, K.B.E., C.B., R.N. (Retd.).

Deputy President: Hon. E. A. Nettle-

Secretary: Commodore H. R. L. Ray, R.N.

New South Wales Division:
Patron: His Excellency The Governor-

in-Chief of New South Wales.

President: Rear Admiral R. A. Nettle-

Vic.: Commodore R. A. Nettleson, O.B.E., R.A.

President: Commander M. J. Phil-


Division: Commodore R. A. G. 


South Australian Division:
Chairman: Rear Admiral H. A. Burrell, 

C.B., R.A.N. (Retd.).

President: Commodore A. H. Green, 

O.B.E., R.A.N. (Retd.).

Tasmanian Division:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Rear Admiral R. A. 

Nettleson, O.B.E., R.A.N.V.R., 

Hobart.

Western Australian Division:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Rear Admiral R. A. Nettle-

Australian Capital Territory Division:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Rear Admiral R. A. Nettle-

Northern Territory Division:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Rear Admiral R. A. Nettle-

AUSTRALIAN SEA CADET COUNCIL:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Commodore R. P. Middlet-
ton, O.B.E., R.A.N.V.R.

Secretary: Mjas E. C. Shorrock, 

A. Room 726, Sandy Bay Road, Lower Sandy 

Bay, Hobart.

Victorian Division:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Rear Admiral R. A. 


Secretary: Commodore H. R. L. Ray, 

R.N.

QUEENSLAND DIVISION:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Rear Admiral R. A. 


Secretary: Mjas E. C. Shorrock, 

A. Room 726, Sandy Bay Road, Lower Sandy 

Bay, Hobart.

Tasmanian Division:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Rear Admiral R. A. Nettle-

Secretary: Commodore H. R. L. Ray, 

R.N.

Australian Capital Territory Division:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Rear Admiral R. A. Nettle-

Northern Territory Division:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Rear Admiral R. A. Nettle-

AUSTRALIAN SEA CADET COUNCIL:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Commodore R. P. Middlet-
ton, O.B.E., R.A.N.V.R.

Secretary: Mjas E. C. Shorrock, 

A. Room 726, Sandy Bay Road, Lower Sandy 

Bay, Hobart.

Victorian Division:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Rear Admiral R. A. 


Secretary: Commodore H. R. L. Ray, 

R.N.

QUEENSLAND DIVISION:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Rear Admiral R. A. 


Secretary: Mjas E. C. Shorrock, 

A. Room 726, Sandy Bay Road, Lower Sandy 

Bay, Hobart.

Tasmanian Division:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Rear Admiral R. A. Nettle-

Secretary: Commodore H. R. L. Ray, 

R.N.

Australian Capital Territory Division:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Rear Admiral R. A. Nettle-

Northern Territory Division:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Rear Admiral R. A. Nettle-

AUSTRALIAN SEA CADET COUNCIL:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Commodore R. P. Middlet-
ton, O.B.E., R.A.N.V.R.

Secretary: Mjas E. C. Shorrock, 

A. Room 726, Sandy Bay Road, Lower Sandy 

Bay, Hobart.

Victorian Division:
Chairman: Rear Admiral H. A. 

Burrell, C.B., R.A.N. (Retd.).

President: Rear Admiral R. A. 


Secretary: Commodore H. R. L. Ray, 

R.N.
TO CO-ORDINATE SERVICE DESIGN

CANBERRA. — A Defence Design Policy Committee has been established in the Department of Defence to co-ordinate the design activities of the Australian Armed Forces, the Minister for Defence, Mr. A. G. Townley, has announced.

The Director-General of Inspection Services, Mr. J. P. Buckley, has been appointed chairman of the committee.

Mr. Buckley had considerable experience on design activities during World War II and recently completed an investigation of the design services in the Australian Armed Forces.

The new committee would apply the most modern design techniques and ensure that there was no overlapping between the services, Mr. Townley said.

It would also take advantage of the design capacity in Australian industry.

The committee included senior officers engaged on design activities in the three armed services and in the Department of Supply, he said.

The Government’s policy was to ensure maximum co-ordination between the defence groups.

R.A.N. VESSELS

CANBERRA. — The R.A.N. anti-submarine frigate Quickmatch left Singapore on March 1 to return to Sydney.

The Quickmatch, with the Daring class destroyer Vendetta, has served in the British Commonwealth Strategic Reserve in the Far East since last December.

She was scheduled to return by way of Darwin and Cairns, arriving in Sydney on March 17.

The Minister for the Navy, Senator J. G. Gorton, said that the Vendetta would remain in the Far East until June 29.

Planning the Navy of the 60’s

LONDON. — The Navy League has opened the new decade with a long overdue campaign to draw public attention to the pitiful state of the Royal Navy, and to demand immediate measures to reverse the current trend of never-ending reductions in its naval strength, reports an article in “The Navy,” London.

At a Press Conference in London on January 18, spokesmen of the League developed their policy before a large and diverse audience of naval and defence correspondents. In a wide-ranging discussion, the Navy League was pressed to state what it considered to be the minimum number of ships of each type which the Navy should maintain in operation to meet its world-wide commitments.

The article added that in the second half of the twentieth century the problem is one of far greater dangers than it was in the first half. A simple slogan, such as: “We want right, and we won’t wait,” no longer adequately describes our needs.

Maritime warfare is now conducted in three dimensions, over, on, and under the sea, with the last of these dimensions rapidly gaining in importance. The need is no longer for a bigger line of battleships than our potential enemy; we need balanced maritime forces, capable of fighting in all three dimensions and adapting easily with the most likely situations to arise.

This question of balanced forces can best be illustrated by taking the case of the much-debated Commando carrier, H.M.S. “Bulwark,” which was recently commissioned at Portsmouth for the first time in its new role.

By herself this ship is vulnerable to any form of air, surface, or submarine attack. She carries no fighters for self-defence, has no guns capable of taking on anything larger than a mine-sweeper, and is wide open to submarine attack unless escorted.

She is therefore useless except as the lynchpin around which a task force is built. She must be screened against submarines by A/F frigates. She must be provided with a measure of air defence by guided weapon destroyers. These escorts must be capable of dealing with surface attacks by similar types of ships.

Ability to Operate

When operating in remote areas (and what newly independent countries are not?) the Commando carrier provide unless she can operate in these areas! At least one replenishment ship must attend the task force, not only to refuel the carrier and her escorts but also to provide fuel for the helicopters, whose job is certainly not completed after one flight ashore with the first wave of Commandos.

Against what scale of attack and from what types of weapon should this force be capable of defending itself? A glance at “Jane’s Fighting Ships” reveals, for example, that Egypt now possesses two destroyers and nine submarines, in addition to fighter aircraft. To defend the Commando carrier against a threat of this nature requires a minimum of four A/F frigates and two guided weapon destroyers, and even this scale of defence would still leave her wide open to any but the smallest scale of air attack.

Indeed, we may question her ability to operate in an area where air attacks on any scale are possible without a second aircraft carrier to provide the necessary air defence of long-range interception and combat air patrols, as well as air cover for the Commando landing.

The Commando carrier cannot therefore carry out her role in safety unless she is accompanied by adequate defending forces. In remote areas we suggest that a force of four A/F frigates and West of Suez.

A glance at “Jane’s Fighting Ships” reveals, for example, that Egypt now possesses two destroyers and nine submarines, in addition to fighter
As quickly as possible, and it was converted and commissioned the least of it, somewhat we have described is, to say the least of it, somewhat doubtful.

Meanwhile, a second Commando carrier must be converted and commissioned as quickly as possible, and it is to be hoped that this will be an advantage in the forthcoming Navy Estimates.

The first of the guided weapon destroyers has only just been laid down and it will be two years before even one is commissioned. To bridge this gap in the air defence of the Commando carrier task force we can only resort to our existing cruisers, at least one of which should form part of the force until the guided weapon ships are available.

Finally, three operational aircraft carriers is totally insufficient to meet our commitments both east and west of Suez. Even if it is agreed that the Commando carrier can, on occasion, operate without the support of a second aircraft carrier, there will always be times when this support will be required and it must, therefore, be continuously available in the right place. Further, providing round-the-clock air operations, such as continuous fighter cover and A/S patrols, requires not one but two aircraft carriers, and this we see how totally inadequate the Government's plans have become. Beside the Commando carrier at least four other aircraft carriers must be maintained in operation and a fifth must be re-fitting or undergoing modernisation. Even this number would only deal satisfactorily with our commitments in the Mediterranean, east and west of Suez, and takes no account of any participation by this country in the N.A.T.O. Atlantic Strike Fleet or of the need for the protection of our trade in the Atlantic.

Instruments for every industry

**Pressure Gauges**
- **Brass and Copper**
- **Brass and Steel**
- **Copper Gauge**
- **Brass and Steel**
- **Copper and Steel**

**MERCURY-IN-STEEL**
- **DIAL THERMOMETERS**
- **MERCURY THERMOMETER**
- **Copper THERMOMETER**

**VAPOR-_PRESSURE**
- **THERMOMETER**
- **Copper THERMOMETER**
- **Brass and Steel**

**PRESSURE GAUGE STOP COCKS**
- The body and plug are precision machined from solid drawn brass and are thus being pressure-tested to 200 lbs. P.S.I.

**NATIONAL INSTRUMENT CO. PTY. LTD.**

**THE NAVY**

March 1960

**FRANK CRITICISM CLEAR THE AIR**

**British Policies, Backbone of Commonwealth Defence, Highlighted in Navy League**

**LONDON.—** Britain's naval policies are very much on the firing line these days, as public controversies rage about the standard of carriers, the need to build-up our naval forces and other aspects of Admiralty activities.

At the Annual General Meeting of the Navy League in London recently, Lord Winster, P.C., K.C.M.G., complained that "we have to admit with great regret that the Navy has fallen upon somewhat evil days."

As an example, he said that the First Lord of the Admiralty was an office that no longer carried the weight that it once did.

"The First Lord no longer has a seat in the Cabinet and it is a post which now seems to be considered as suitable for a junior Minister who has not yet made any great reputation for himself," said Lord Winster.

Other points made by Lord Winster were:

- Under the present system we have seen the Navy reduced, or about to be reduced, to three carriers and three cruisers with insufficient small ships to cover the oceans of the world.
- One thing that at once strikes one about that very small number of carriers and cruisers is that no allowance is made for break-downs or other mishaps to the ships. For instance, east of Suez there is one carrier; what happens about it if it breaks down or has to have a long refit? Because a ship is "new" it does not follow that she is "modern." And that is a distinction which is not always borne in mind, but which should be borne in mind in my opinion a "modern" ship should make us think in time of war "nothing is impossible, and of missile armament."

And we have not got ships of this description yet and there is no immediate sign of their joining the Fleet.

The point I think is borne out by the fact that for some time now in the press it has got a "new" cruiser with two six-inch projectors which ambitiously come out very fast indeed, but are only six-inch projectors. But these three are coming along at a time when America is taking the guns out of her carriers, replacing them by missiles and giving up the manufacture of large ammunition.

**Possible Danger**

That, I think, illustrates the difference between what I call "new" and "modern." Similarly, our nuclear submarine "Dreadnought," which is now building with American assistance, will carry torpedoes and not missiles.

Russia may already have missile-carrying submarines, although I believe they are not nuclear-powered.

The public, in their simple manner, are apt to be exercised about nonsense an amiss with the Navy to the Board of Admiralty, and in particular to the First Lord and First Sea Lord. It may not be a bad thing, but it is not entirely fair, although I now notice that responsibility is gladly accepted when things are going well, but it is accepted if it goes wrong, and somebody else's shoulders when things are going badly.

If you examine our system of government you will find that it is designed with great care to avoid the fixing of responsibility upon any Minister. That is why it will say that the First Lord of what was wanted. The First Lord will say that he was not responsible because he told the Minister of Defence and the Minister of Defence told the Cabinet. The division of collective responsibility prevents any one member of the Cabinet being blamed and if one attributing blame to the Prime Minister, being the head of the Cabinet, he will disclaim responsibility because he was placed in office by the will of the people and acts in their name. Civil servants are never responsible for anything.

Have we, indeed, been brought into possible danger at sea? It may be difficult to fit the existing Navy into the general strategic plan, but I think the answer must be yes, the situation is dangerous.

The prime duty which the country lays upon the Navy is the maintenance of our sea communications and the protection of our Merchant Navy. Let us freeze on tight to this.

Russia has assimilated the fact that Hitler might have won the war and he built up and attacked us with overwhelming submarine forces.

(Continued on page 8)

(Continued from page 5)
She has accumulated over 500 submarines, some carrying ballistic missiles.

Consider that Hitler started the second world war with only 80 submarines and the damage that he was able to do. Where should we have been if he had started with 500?

The times are dangerous, crisis succeeds crisis, the pitcher goes on being taken to the well. If a crisis ends in war our Merchant Navy would for the third time in this century find that the Royal Navy was unable to afford it adequate protection.

Last June, Admiral of the Fleet, Lord Cunningham, said we ended the last war with 880 escort vessels (we began with around 100). He called attention to the 500 or more present Russian submarines, and said: "The forces to meet this very real menace are quite inadequate, unacceptable risks are being run."

Admiral of the Fleet Lord Chatfield supported Lord Cunningham. Lord Cork and Orrery has also gone on record as having said that: "We have a small naval force which would be quite unable to protect our shipping if war were to come." But it is upon an adequate protected naval fleet guarding our communications at sea that our livelihood depends in war and, in fact, the issue of victory or defeat may rest upon this as it very nearly did in 1917 when we were then within an ace of defeat by Germany.

Can we rely on the N.A.T.O. and Commonwealth navies to supply us with the 880 escort ships that Lord Cunningham has said are necessary for the protection of our Merchant Navy? Reference to "Janes Fighting Ships" will show you that we certainly fall very far short of this 880.

I beg the press to help us in this matter. Many of us are powerless to arouse public opinion without their help. Yet what more important task could the press perform than to bring to the notice of the general public the weakness and the danger that we are running at we at the present moment?

I must remind you that America has already launched a nuclear-powered, 14,000-ton cruiser, the "Long Beach." She will carry Talos and Terrier missiles. The conversion of the entire United States Navy to nuclear power is well under way.

The carrier-plane aircraft of the American 6th Fleet have a second air-to-air guided missile which homes on the target with a speed of 1,500 m.p.h. She is building big nuclear submarines to fire Polaris missiles from the surface or submerged. The "George Washington," an atomic-powered submarine capable of firing Polaris, was launched last June.

Britain built the first ship to cross the Atlantic by steam: today the American "Savannah" will probably be the first surface ship to cross under nuclear power.

These are things we must bear in mind, and we must make efforts to catch up with America. At any rate, if we cannot do it in numbers we can do it by building a Navy which is a forerunner of the times to come.

OPPOSITE PAGE:
Joint director of the Australian Anti-Submarine School, Nowra, Commander M. L. Moloney (left) and Wing Commander P. J. McIntryre, confer over a map in Sydney in preparation for the recent convoy exercise in the Tasman Sea. Six ships, 30 aircraft, and two submarines with more than 5,000 men of the R.A.M., Royal Navy, Royal New Zealand Navy and Air Force, and the R.A.A.F. took part.

"Sydney Morning Herald" photo.
THE UNITED SHIP SERVICES PTY. LTD.
GEELONG MELBOURNE PORTLAND VICTORIA AUSTRALIA

The largest organisation in Victorian ports for the supply and erection of fittings for the carriage of every description of cargo. Bulk grain fittings a specialty. Dunnage supplied, holds cleaned. Decks caulked. Carpenters, joiners and shipwrights supplied.

88-102 NORMANBY RD., SOUTH MELBOURNE
Telephone: MX 5231 Telegrams and Cables: "FLEETWAYS," Melbourne
was Shropshire, Captain Oldham for bravery while serving on operations in Leyte Gulf and was awarded the D.S.C. during the cruiser Australia in the role of an observer in the Fleet Air Arm.

Captain Oldham, who will retire on June 27 after 43 years' service, was mentioned in dispatches for bravery while serving in the cruiser Sydney. He had served in the cruiser Shropshire, Captain Oldham was awarded the D.S.C. during operations in Leyte Gulf, and was mentioned in dispatches as an observer in the Fleet Air Arm.

D. H. Harries, who will retire as commanding officer of H.M.A.S. Penguin, has a distinguished record in World War II, and is a joint secretary of the Chiefs-of-Staff Committee, and commanded the destroyer Warramunga from 1944-46.

R.A.N.'s Role with Allied Navy

The Navy was examining its sea-going plans to see if savings could be made to give a "better cutting edge" to the fighting fleet, the Minister for the Navy, Senator J. G. Gorton, said on February 28 in a TV interview with George Hackett in Sydney.

Closure of shore depots did not mean that the Navy was contracting, but that it was shifting its emphasis to sea fighting, he said. Senator Gorton said that the role of the Royal Australian Navy was to act as the component of an Allied navy. The R.A.N. was looking for new ships and men and the means of getting them.

It had sent the cruiser of the Commonwealth Government and the Australian-American Association during their visit.

Lights and Whistles

MELBOURNE.—The Australian Steamship Owners' Federation has ordered 2,000 sets of lights and whistles for the 45 coastal ships. The deputy chairman of the federation, Mr. R. A. Coutts, said the steel kapok-filled lifejacket carried on Australian coasters would be replaced by lights and whistles, which new Navigation Department life-saving appliance regulations specified.

The lights, red and water-proof, would clip on the front of the lifejacket and would shine for at least eight hours.

Senator Gorton said that the aircraft-carrier Melbourne was going out of commission in three years and a half years' service. Although it would not be useful, but because at the end of the period it would need replacing, Australia could not afford the outlay of £40 million to re-float the carrier.

It was felt that the money could be better spent on other types of vessels.

U.S. Fleet Commander to Visit Australia

THE Commander-in-Chief of the U.S. Pacific Fleet, Admiral H. G. Hopwood, will arrive in Sydney on May 2 to take part in the 18th anniversary celebrations of the Battle of the Coral Sea. Admiral Hopwood will visit Newcastle, Brisbane, Canberra, Melbourne, Adelaide and Perth, return to Sydney on May 18 before leaving Australia.

He and Mrs. Hopwood will be guests of the Commonwealth Government and the Australian-American Association during their visit.
creation of a U.S.A. Task Force.

To take examples:

1. aircraft carrier
2. Commando vessel
3. cruiser and escort vessels
4. submarines necessary to support such a force.

Indeed our weakness in this area of predominantly British interest is so apparent that a body of organised American opinion has advocated the creation of a U.S.A. Task Force to cover the whole of this vast area, and these should be supported by fast supply and repair ships in order that there may be always available task forces independent of our mobile naval forces in such areas. As regards a nuclear-powered surface ship, Britain is mainly concerned with the search for an economic unit, but it is clearly a matter of urgency for this great maritime nation to get a nuclear-propelled ship to sea and not fall behind in a development which will have vast commercial advantages.

The South Atlantic Station has only 2 frigates based on the Cape to cover the whole of this vast area, and the Admiralcy are doing their best to increase this number sufficient to enable us to meet the various commitments which are inevitable in a Commonwealth spread all over the world.

The Navy League feels it would be prepared to make these suggestions:

1. Operational Fleet
   Every effort should be made to keep additional ships operational at sea. We believe that this national interest should have more ships available to meet the various commitments which are inevitable in a Commonwealth spread all over the world.

2. Man power
   Stop the "run-down" in man-power and increase the number sufficient to enable us to meet our sea-borne supplies cut out if our sea-borne supplies were cut out. If the enemy should force dispersal on the allied navies by attacks on the North American seaboard the approaches to this country and to Western Europe would be very weakly defended indeed.

3. Nuclear Propulsion
   Britain is well behind America and Russia in the changeover to nuclear propulsion for ships. The United States already has ten nuclear submarines at sea and a further twenty-three under construction and a nuclear-powered surface ship which will be ready this year. The United States is developing nuclear-powered icebreakers and is believed to have nuclear submarines under construction, whereas Western Germany and Japan are expected to have a nuclear unit fitted in a tanker for experimental purposes within the next two years. Britain so far has only the experimental nuclear submarine Dreadnought under construction.

4. Nuclear Propulsion
   The highest possible priority should be given to the building of ships driven by nuclear power.

5. Cost
   The Navy League recognises that the Admiralty are doing everything possible with the resources allowed them to keep the maximum number of ships and men at sea. At present the ships

(Continued on page 16)

(c) The Government has admitted that the frequent requests by British diplomats overseas for visits of H.M. Ships cannot now be fully met. This fact obviously results in prejudice to our interests and trade and adds to the risk of incidents occurring which might never arise or might never arise or might not arise for some quarter of a century and then suddenly break out. It has already been openly stated by recent British and American Naval Commanders-in-Chief, Eastern Atlantic, based on their experience in N.A.T.O. exercises, that the naval and air forces under their command are insufficient to discharge the duties expected of them.

8. Nuclear Propulsion
   Britain is well behind America and Russia in the changeover to nuclear propulsion for ships. The United States already has ten nuclear submarines at sea and a further twenty-three under construction. Britain has a nuclear-powered icebreaker and is believed to have nuclear submarines under construction, whereas Western Germany and Japan are expected to have a nuclear unit fitted in a tanker for experimental purposes within the next two years. Britain so far has only the nuclear submarine Dreadnought under construction.

An artist's impression of the Orient Line's latest new 40,000-ton passenger liner "Oriana," which will cruise next season between广州 and Hong Kong, will be right by the end of next year.

The aim is that "Oriana" shall continue the reputation that Orient Line ships have held for long periods, that the Admiralty are doing their best to increase this number sufficient to enable us to meet the various commitments which are inevitable in a Commonwealth spread all over the world.

Getting the "Oriana" Ready

The inside of Orient Line's magnificent new 40,000-ton "Oriana" whose graceful hull was launched by Princess Alexandra last November, is now receiving expert attention from a team of interior architects and decorators: a team, because in this age of specialisation one man can no longer be at the same time naval architect and interior architect, decorator and shipbuilder.

"Oriana" is the largest all-welded aluminium superstructure ever built into any ship. She is expected to be completed in September and to make her maiden voyage to Australia in December.

Captain Clifford Edgcombe, R.N., who has been appointed to command the "Oriana,"

(Continued on page 19)

The Navy League feels it would be prepared to make these suggestions:

1. Operational Fleet
   Every effort should be made to keep additional ships operational at sea. We believe that this national interest should have more ships available to meet the various commitments which are inevitable in a Commonwealth spread all over the world.

2. Man power
   Stop the "run-down" in man-power and increase the number sufficient to enable us to meet our sea-borne supplies cut out if our sea-borne supplies were cut out. If the enemy should force dispersal on the allied navies by attacks on the North American seaboard the approaches to this country and to Western Europe would be very weakly defended indeed.

3. Nuclear Propulsion
   Britain is well behind America and Russia in the changeover to nuclear propulsion for ships. The United States already has ten nuclear submarines at sea and a further twenty-three under construction. Britain has a nuclear-powered icebreaker and is believed to have nuclear submarines under construction, whereas Western Germany and Japan are expected to have a nuclear unit fitted in a tanker for experimental purposes within the next two years. Britain so far has only the nuclear submarine Dreadnought under construction.

An artist's impression of the Orient Line's latest new 40,000-ton passenger liner "Oriana," which will cruise next season between广州 and Hong Kong, will be right by the end of next year.

The aim is that "Oriana" shall continue the reputation that Orient Line ships have held for long periods, that the Admiralty are doing their best to increase this number sufficient to enable us to meet the various commitments which are inevitable in a Commonwealth spread all over the world.

Getting the "Oriana" Ready

The inside of Orient Line's magnificent new 40,000-ton "Oriana" whose graceful hull was launched by Princess Alexandra last November, is now receiving expert attention from a team of interior architects and decorators: a team, because in this age of specialisation one man can no longer be at the same time naval architect and interior architect, decorator and shipbuilder.

"Oriana" is the largest all-welded aluminium superstructure ever built into any ship. She is expected to be completed in September and to make her maiden voyage to Australia in December.

Captain Clifford Edgcombe, R.N., who has been appointed to command the "Oriana,"

(Continued on page 19)
NAVY MEN OBSERVE ARMY ARTILLERY

Visitng Army officers from 10 countries were among a group of 350 officers, cadets and representatives from the R.A.A.F. and R.A.N. who watched an artillery demonstration at Greenhills, Sydney, recently.

Counters presented were the United Kingdom, the United States, Canada, New Zealand, India, Pakistan, Malaysia, Ceylon, Thailand and the Philippines.

Other visitors came from the Army Staff College at Queenscliff, Victoria, the Royal Military College at Duntroun and the Officer Cadet School at Porters, Victoria.

The demonstration was by the First Field Regiment, Royal Army Artillery.

It included displays of radar tracking mortars, the firing of different types of field weapons and a gun crew working under a Clegg protective umbrella during a simulated atomic bomb explosion.

DUTCH SHIPS' VISIT

The Royal Netherlands Navy frigate, Kortenaer, arrived in Sydney on February 28 for a three days' goodwill visit.

It was open for public inspection between specified hours.

The Kortenaer was formerly the British destructor Scorpion.

MISSILES FOR SERVICE IN MALAYA

Cannberra — The first delivery of Sidewinder air-to-air guided missiles had now arrived at the Butterworth R.A.A.F. station in Malaya, the Minister for Air, Mr. F. M. Osborne, said recently.

The Sidewinders had been flown from the United States by two R.A.A.F. Hercules transports.

Mr. Osborne said a team of fitters was now at Butterworth carrying out modifications to the Sabres of No. 78 Fighter Wing to allow them to carry the missiles, one under each wing.

The Sabre would be readily adaptable to carry the Sidewinder and the modifications would be the first Australian-built aircraft to carry the air-to-air missile.

NAVY LEAGUE POLICY

(Continued from page 14)

men at sea. At present the ships exist for a larger fleet but an increase in the permitted man-power would be needed to get them to sea. The extra men could be provided if the Navy vote were increased.

More money will also be needed if a continuous replacement programme is to be maintained and progress with nuclear propulsion accelerated. The Navy holds the belief that the Government and Country should accepts this extra cost.

At all events it has been more important for Britain to be strong at sea. SYDNEY, recently.

Among a group of 350 officers, cadets and representatives the United Kingdom, the Royal Navy League visited the First Field Regiment, Royal Army Artillery.

It included displays of radar tracking mortars, the firing of different types of field weapons and a gun crew working under a Clegg protective umbrella during a simulated atomic bomb explosion.

The Kortenaer was formerly the British destructor Scorpion.

MISSILES FOR SERVICE IN MALAYA

Cannberra — The first delivery of Sidewinder air-to-air guided missiles had now arrived at the Butterworth R.A.A.F. station in Malaya, the Minister for Air, Mr. F. M. Osborne, said recently.

The Sidewinders had been flown from the United States by two R.A.A.F. Hercules transports.

Mr. Osborne said a team of fitters was now at Butterworth carrying out modifications to the Sabres of No. 78 Fighter Wing to allow them to carry the missiles, one under each wing.

The Sabre would be readily adaptable to carry the Sidewinder and the modifications would be the first Australian-built aircraft to carry the air-to-air missile.

Modern warships have to be equipped for any kind of war — nuclear or conventional, local or global. To limit the effects of nuclear weapons on ships and men, protective methods are constantly being worked out.

The superstructures of new ships are enclosed and all men are under cover. A new type is used by the Captain to see what is happening aboard his ship, as in a submarine. Engine rooms, where powerful ventilation is needed, can be controlled from elsewhere.

To keep down the effect on vision from radio-active "fall-out", seawater sprays wet all exposed external surfaces.

This either washes away any radio-active deposits or diminishes the effect of radiation if the ship has to pass through a heavily contaminated area. Men pay a price in clothes and taught how to avoid injury from glare, heat, blast and radiation.

To remain at sea for long patrols, a ship must carry large quantities of provisions and stores, but even so, her fuel stores may be destroyed. In this case she must be able to obtain more ammunition and fuel by sea — and this is where the Fleet Train of supply ships comes in. Fresh aircraft and men to replace casualties can often be flown in and so can mails, but this must be done by stages from an advanced base or hide-out.

In all problems of logistics, as these matters of supply are called, the three Services work together — and they all have their own needs, too. Not only here, but in almost every form of welfare to-day, the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.

Whatever means is chosen for driving a turbine it must derive its thrust from a screw propeller. Jet propulsion is in water too, e.g., the Navy, the Army and the Air Force collaborate closely, and so each has to learn more about the ideas and methods — and even the language — of the others.
NEW IDEAS FOR FIGHTING SHIPS

The most startling innovations in this branch of engineering concern the submarine. These are in the realm of H.T.P. (high test peroxide of hydrogen) and, of course, nuclear propulsion. A true submarine to be built, that is, over conventional forms of propulsion. Both allow a true engineer concern the submarine. They can remain submerged and all kinds of vessels and enables not only to submarines, but to marine propulsion with it is admirably suited for submarine trimmed low and passes on automatically by electronic computers, and passes on automatically by a submarine trimmed low and passes on automatically by a submarine trimmed low and passes on automatically by a computer which "digests" electro-magnetic waves, it can transmit, even on radar, so that good progress was made with "Dreadnought," the Royal Navy's first nuclear powered American motors, to be launched later this year.

Electronic countermeasures would have been laid down by the end of March and the world's fastest naval vessel would be launched about the middle of this year.

TV COULD HINDER NAVY IN NEW ZEALAND

WELLINGTON, N.Z.—The Navy could be denuded of its electronics technicians because of the demands of television, the Minister of Broadcasting, Mr. Boord, told a public meeting in Auckland.

He said that the demand for qualified technicians would result in the commercial television stations, when established, taking all qualified men in the armed forces and also from the post office and broken down.

"H.M.N.Z.S. Royalist would be immobilised in Auckland if private enterprise took over television, Mr. Boord said. "The Government could not allow this to happen."

MORE MONEY FOR BRITISH NAVY

LONDON.—The Admiralty has estimated total expenditure on the Royal Navy in the financial year beginning on April 1 at £66,740,000.

This is £21,339,000 more than last year's estimate. The Admiralty expects one aircraft carrier, seven destroyers, two submarines, and eight frigates to be completed before March 31.

Two submarines, six frigates, eight submarines, and eight frigates already launched will not be completed until after March.

The Admiralty says that good progress will be made with the "Dreadnought," the Royal Navy's first nuclear powered American motors, to be launched later this year.

On one deck (B) the Tourist cabins are ingeniously arranged around "court yards," having large windows through which passengers will have glimpses of the sea from smaller windows in their own sitting-room, and the "tea room" in the after-dinner area.

First Class passengers will also have, on the port side of A deck, a "Silver Grill" as an alternative restaurant, where they can sit in intimate surroundings, elegantly furnished and including a small cocktail lounge.

The wide variety of First (1st) class accommodation in the "Oriana" ranges from the luxurious "special suite" with its own sitting-room and the "tea room" in the after-dinner area, to their own verandahs, to the usual single- and two-berth rooms.

"Holiday" cabins are ingeniously arranged around "court yards," having large windows through which passengers will have glimpses of the sea from smaller windows in their own sitting-room, and the "tea room" in the after-dinner area.

First Class cabins will be private and well equipped with wasters' service points. There will be places in which it will be equally pleasant to eat breakfast, to lunch or dinner, and equally as agreeable at the end of a long voyage as at the beginning.

First Class passengers will also have, on the port side of A deck, a "Silver Grill" as an alternative restaurant, where they can sit in intimate surroundings, elegantly furnished and including a small cocktail lounge.

The wide variety of First (1st) class accommodation in the "Oriana" ranges from the luxurious "special suite" with its own sitting-room and the "tea room" in the after-dinner area, to their own verandahs, to the usual single- and two-berth rooms.
In peace, she can make a displacement only half that of the latter ship. This has been obtained by increasing her displacement in the hump proper in the "Clementine" being 16 ft. less in the hangars and 12 ft. less. The French ship, as a result, has smaller hangars and can accommodate fewer aircraft.

In order to effect a true comparison of the number of aircraft in the case of the two classes of ship, account must be taken of their type. The U.S. skywarrior heavy attack bomber, for instance, takes up the space of three aircraft such as the British Seafairn. That equivalent to the "Forrestal" class normally carry no more aircraft than the "Ark Royal".

Since the design of a new carrier must allow for possible changes in types and performance of aircraft during her construction and life, it is necessary to consider briefly what these are likely to be. The Royal Navy's next strike aircraft is likely to be one of many weapons woven into the basket, the small number of ports in which such ships can dock or be berthed, their poor manoeuvrability, and their inability to transit the Suez and Panama canals. Against those disadvantages must be set the ability to operate larger and heavier aircraft, to carry more of the smaller type of weapon, more aviation fuel, and to present a more stable flying platform in a seaway.

We have seen that the demand for heavy strike aircraft is likely to recede during the next few years. Whether the Royal Navy's next strike aircraft will be built during this time is a question which is of importance to the writer that we need ships of about 30,000 tons, which can do what they have to do. But what is important is the return to the homogeneity which stems from a design suited to single ship construction.

With the addition of the "Hermes" the fleet will contain one of each type of carrier, yet the function of all is the same, if we exclude the Commando carrier.

From the point of view of building and maintaining a carrier, it is far more economical to build a number of ships of the same class. The progressive reduction in the cost of the "Forrestal" class carrier is likely to be continued. The displacement of the class is estimated to cost nearly £20,000,000 less than the cost of building it, noting that the average taken for the construction of the ships in the last three years and two months even though those being fitted with a guided-missile armament in lieu of guns will be completed within four years.
Pursuit of Happiness: Manual Causes Stir

NEW YORK — A manual for persons conducting officers' clubs has recently aroused criticism in the United States because it stepped into realms not generally looked for in Service guides.

The manual told how to keep records for slot machines, stage a "bunny hug" dance, and mix martinis and other cocktails.

It suggested that getting dates for bachelor officers was a problem, "all the nurses or the women's colleges.

Seven different recipes for martinis were given.

The manual was issued for Air Force personnel, but other services are debating the pros and cons of its style in relation to their own efforts in promoting officers' clubs.

The manual gave seven recipes for martinis, offered hints on special ways to interest personnel to accept food (not fried chicken, but Southern pan fried chicken, prepared to perfection, etc.), and the selection of bartenders (a breed almost apart).

"Good eating certificates" with lollipops were suggested as gifts for officers' children to encourage them to eat all their food.

A Democratic member of the House of Representatives in Washington revealed the existence of the manual in a letter urging the House Armed Services Committee to investigate all military training books.

Japanese Submarine Salvage

The Royal Navy were asked recently to assist in salvaging a Japanese submarine which was sunk 17 years ago in Singapore Harbour.

Salvage work on the submarine, believed to be carrying a cargo of valuable German machine tools, was started earlier this year by a private company.

When the submarine was finally brought to the surface, six live torpedoes were discovered still in their tubes after the nose of the vessel had broken off during an attempt to lift it.

The Fleet Bomb & Mine Disposal Team, led by Lieutenant P. Messery, R.N., and the Naval Boom Defence vessel "Barf-coam" were called upon to dispose of the torpedoes.

Adverse conditions of strong tides, rough weather and nil visibility were experienced and it was not until after six weeks that the torpedoes had been discovered that the team managed to cut them free from the bow and tow them underground to an ammunition dump.

The gallant and dangerous task undertaken by the Royal Navy received a great deal of recognition and praise from the local Press.

More Copters for Australia

Of the 22 helicopters in Australia today, fourteen are civilian 'copters for charter work, six belong to the R.A.A.F., two are R.A.N. and the Army has none.

The Royal Navy has recently arrived in Auckland on a brief visit to New Zealand.

She arrived in Auckland in mid-January and took Sea Cadets for five days' training in the Hauraki Gulf.

She later visited Wellington before returning to the Far East via Australia.

"St. Brides Bay" was built at the end of the Second World War and displaces 2,420 tons. She arrived on the Far East Station in 1949 and has remained there ever since, successful ship's company being brought out and taken home by air. She last visited New Zealand in 1957.

Braesey's Annual

The publication of "Braesey's Annual" has been delayed by the printers in London recently, but fortunately it is in time for the Defence White Paper and the Estimates for the Fighting Services.

Contributors to this latest edition deal with every aspect of the Armed Forces — education, health, welfare, training, tactics, strategy and weapons. In all, it consists of 34 articles on a wide variety of subjects, including a number, written by a civilian, on defence policy and the defence of the deterrent.

The editor, Rear-Admiral H. G. Thursfield, in his preface, provides the foundation for "Man's Struggle on the Deterrent. He says it is still a matter for speculation whether the deterrent will really deter.
MORE VESSELS FOR
ROYAL NAVY

LONDON — British Ad-
miralty plans to spend £456,746,000 on the Royal
Navy this year has focused
interest on activities affecting
a number of vessels which have
recently been in the news.

H.M.S. "Falmouth," a new
anti-submarine frigate, has
been launched recently at the
Wallasea-on-Tyne shipyard of
Swan, Hunter and Wigham
Richardson Ltd.

Frigates of this class are all
named after seaside towns and
the six now in service are H.M.
Ships "Whitby," "Torquay," "Scarborough," "Tennyson," "Eastbourne" and "Black-
pool." Six others have been
launched, H.M. Ships "Yarm-
outh," "Rhyl," "Plymouth," "Brighton," "Londonderry" and "Rothesay" and six more
have been laid down.

H.M. Submarine "Sealion"
has also been launched; she is
the eighth of the "Porpoise"
class.

The ceremony was carried
out by Lady Dalton, the wife
of the Chief Naval Engineer
Officer.

H.M.S. "Jaguar" is the
fourth of the "Leopard" class
to have been accepted. She is
an anti-aircraft frigate and can
be used as a small type of
destroyer in offensive opera-
tions.

H.M.S. "Albion" is one of
two aircraft carriers to be re-
commissioned during the past
few months. She was re-com-
missoned in December follow-
ing a refit and is now in the
Mediterranean.

H.M.S. "Ark Royal" is the
second aircraft carrier to be re-
commissioned lately, and an
unusual tea-party was part of
the ceremony.

Nearly 20 cakes were baked
for the occasion and the largest
was decorated with the ship's
crest and battle honours. Six
others bore the crests of her
Scimitar, Skyraider, Sea Vixen
and Whirlwind (helicopter)
Squadrons. The other cakes
were decorated with one letter
each to spell out H.M.S. "Ark
Royal."

WATSON & CRANE PTY. LIMITED

• MANUFACTURERS & DISTRIBUTORS of
  All Standard and Special Brassware Fittings, including the
  "WATCRANE" Spring Cock, for the Plumber and Hot Water
  Engineer.

• SUPPLIERS of
  Full range of Gunmetal, Cast Iron and Steel Valves for
  Water, Air, Oil and Steam; Baths, Basins, Lowdown Suites,
  Heaters and "IDEAL" Hot Water Boilers.

• ELECTROPLATING SPECIALISTS in
  Chrome, Silver, Nickel, Cadmium and Tin.

• FOUNDERS of
  Non-Ferrous Castings and Hot Pressings, etc., in Brass,
  Gunmetal, Phosphor Bronze, Aluminium Alloys.

• DIE MAKERS

WORKS AND FOUNDRY:
Fairfield Street, Villawood, N.S.W.
Phone: YU 7171
WAREHOUSE:
1037-1047 Bourke Street, Waterloo, N.S.W.
Phone: MX 5761

POOLE & STEEL LTD.

45 STEPHEN STREET, BALMAIN
N.S.W.
Telephone: WB 2511

General Engineers, Boilermakers, Shipbuilders,
Dredge Builders
Plans, Specifications and Estimates prepared
for Mining Dredges and Plant of all kinds.
Electric Welding and Oxy-acetylene Work.

Telegram:
"POOLSTEEL," BALMAIN, N.S.W.

KNOX SCHLAPP PTY. LTD.

Adelaide, Brisbane, Melbourne,
Sydney, Launceston.

WIRE AND CABLES
BRITISH INSULATED
CALLENDER'S CABLES LTD.
Melbourne, Albury, Sydney,
Newcastle, Wollongong,
Brisbane, Hobart, Launceston
Adelaide.
Do you require...

- CIRCLES
- SHEET*
- STRIP
- ROD
- SECTIONS

COPPER • BRASS • ALUMINIUM

Only "Austral" meets the highest standards of quality and tolerance.

"Austral" copper sheet can be purchased in coils of up to 250' in length and up to 3' wide.

Yes, we have comprehensive stocks available to suit the requirements of fabricators of all types of non-ferrous products.

Of particular interest to the building trade is the fact that "Austral" copper sheet can be purchased in coils of up to 250' in length and up to 3' wide.

Why not write or call us, outlining your requirements — the services of our Technical Advisory Service are at your disposal, completely free of charge.
A Special Coral Sea Battle Issue
COPPER • BRASS • ALUMINIUM

Do you require . . .

CIRCLES

SHEET

COPPER AND COPPER ALLOYS

Only "Austral" means the highest standards of quality and tolerance.

WRIGHT & BRONZE

COMPANY PTY. LIMITED

15-23 O'Bryan Street
Adelaide, S.A.

42-48 Rice Street
Burns Beach, Victoria

214 3rd Avenue
Box 13, P.O. Richmond, B & 2A

161-63 George's Terraces
Perth, W.A.

120-130 Northcote Avenue
Box Hill, S.E. 21, P.O.

244 Summer St.
Hobart, Tasmania, 5000

4-15, P.O. Richmond, B & 2A

254 Stanley St.
West End, Qld. Box 1279

ADVERTISING: Sydney—443 Little Collins St., Melbourne.

Advertising: Sydney—443 Little Collins St., Melbourne.

SUBSCRIPTION RATE: 12 issues post free in the British Commonwealth, 20/-.

Copies of "Herald" photographs published may be obtained direct from
Photo Sales, "Sydney Morning Herald," Hunter Street, Sydney.

Yest, we have comprehensive stocks available to suit the requirements of fabricators of all types of non-ferrous products.

Of particular interest to the building trade is the fact that "Austral" copper sheet can be purchased in coils of up to 250' in length and up to 3' wide.

Why not write or call us, outlining your requirements—the services of our Technical Advisory Service are at your disposal, completely free of charge.

PUBLISHED: By The Navy League of Australia.

NEW SOUTH WALES: 83 Pitt St., Sydney
VICTORIA: 443 Little Collins St., Melbourne.

SUBSCRIPTION FORM

To "The Navy"
Box 4819, O.P.O.
Sydney, N.S.W.

I enclose 20/- (postal note, money order or cheque) for 12 issues of "The Navy," post free, commencing from

[Please add exchange where applicable]

Name

Street

City

State

Date

April-May, 1960
OIL REMOVING COMPOND

A new granular compound, which, it is claimed, will absorb oil, has been developed in the U.K. to remove oil floating on sea water or from beaches.

When used on sea water it is spread on the areas affected, and, after absorbing the oil, it sinks to the bottom within a few minutes. It is claimed that once the oil has been absorbed it never escapes.

On land the compound is spread over the oil and later swept up. It is claimed that it will remove all traces of oil from the ground even when it penetrates deeply.

Even when saturated with oil the compound is claimed to be non-inflammable.

DRIBARM

COMPRESSED YEAST-VACUUM PACKED

"DRIBARM" is a special form of Compressed Yeast, dried under scientific conditions and carefully compounded with a suitable yeast food. Specially suitable when not accessible to, or supplied by, bakers.

Obtainable from: Merchants, Stores, Grocers, or direct from the Proprietors:

MAURI BROTHERS & THOMSON LIMITED
The Compressed Yeast Co.
BOX 51, P.O., WATERLOO, N.S.W.

Nicol Bros. Pty. Ltd.
INCORPORATING
Penguin Heavy Lifting Pty. Ltd.
& Penguin Pty. Ltd.
ALL CLASSES OF STEAM, DIESEL AND GENERAL ENGINEERING BOILERMANKS, OXY-ACETYLENE AND ELECTRIC WELDERS PLUMBING AND ELECTRICAL WORK FLOATING CRANE AVAILABLE AT ALL TIMES (20 TON CAPACITY)
ALL CLASSES OF MARINE EQUIPMENT FOR SALE
10-20 WESTON ST., BALMAIN EAST
Phone: WB 5121 — 9 lines
After Hours: EM 9485, WM 9225, FM 5708

ADMIRAL HERBERT C. HOPWOOD
Commander in Chief, U.S. Pacific Fleet

Admiral Herbert C. Hopwood, Commander in Chief of the U.S. Pacific Fleet, whose headquarters are located at Pearl Harbour, Hawaii, today commands the largest and most powerful naval force in the world.

He took command in February, 1938, and has 425 ships and over a quarter of a million officers and men under his command. They are stationed from the Americas to the Indian Ocean, and from the Arctic to the South Pole.

A native of Shamokin, Pennsylvania, Admiral Hopwood was born in 1888. At the age of 17 he entered the United States Naval Academy in June, 1916. Three years later he was graduated with a degree of Bachelor of Science, and commissioned an Ensign. While attending the Academy he also saw service in World War I as a midshipman aboard the battleships New Jersey and Oklahoma.

Between 1944 and 1945, Admiral Hopwood (then Captain) commanded the cruiser Cleveland, and during this time had the honour of serving with several Australian naval officers. Among these was Sir Roy Russell Dowling, now Chairman of Staff Committee and SEATO Military Advisor who commanded H.M.A.S. Hobart. The current Chief of the Naval Staff of Australia, Vice-Admiral Henry M. Burrell, has been closely associated with Admiral Hopwood and the Pacific Fleet for some years.

While commanding U.S.S. Cleveland, Admiral Hopwood participated in the recapture of the Marianas, the capture of the Pacific Islands of Peleliu, Angaur, and Ngeruls, and the recapture of Saipan, Iwo Jima, Okinawa, and the capture of Iwo Jima, Okinawa, and the central and Southern Philippines.

ADMIRAL HERBERT C. HOPWOOD
Commander in Chief, U.S. Pacific Fleet

Admiral Herbert C. Hopwood, Commander in Chief of the U.S. Pacific Fleet, whose headquarters are located at Pearl Harbour, Hawaii, today commands the largest and most powerful naval force in the world.

He took command in February, 1938, and has 425 ships and over a quarter of a million officers and men under his command. They are stationed from the Americas to the Indian Ocean, and from the Arctic to the South Pole.

A native of Shamokin, Pennsylvania, Admiral Hopwood was born in 1888. At the age of 17 he entered the United States Naval Academy in June, 1916. Three years later he was graduated with a degree of Bachelor of Science, and commissioned an Ensign. While attending the Academy he also saw service in World War I as a midshipman aboard the battleships New Jersey and Oklahoma.

Between 1944 and 1945, Admiral Hopwood (then Captain) commanded the cruiser Cleveland, and during this time had the honour of serving with several Australian naval officers. Among these was Sir Roy Russell Dowling, now Chairman of Staff Committee and SEATO Military Advisor who commanded H.M.A.S. Hobart. The current Chief of the Naval Staff of Australia, Vice-Admiral Henry M. Burrell, has been closely associated with Admiral Hopwood and the Pacific Fleet for some years.

While commanding U.S.S. Cleveland, Admiral Hopwood participated in the recapture of the Marianas, the capture of the Pacific Islands of Peleliu, Angaur, and Ngeruls, and the recapture of Saipan, Iwo Jima, Okinawa, and the central and Southern Philippines.

He also participated in the actions off Brunei, where Australian troops were landed, and Tarakan and Balikpapan, in Borneo. For his actions in these campaigns he was awarded a second Legion of Merit. He returned to Washington in 1945 to serve as Assistant Chief of Naval Personnel, and was promoted to the rank of Rear-Admiral the same year.

Between 1946 and 1952 he was Director of Budget and Reports, and Deputy Comptroller of the Navy Department. He was given command of Cruiser Division Three in March, 1952, during the Korean War, and four months later was named Commander, Cruiser-Destroyer Force Pacific Fleet.

After a tour of duty as Chief of Staff of the U.S. Pacific Fleet with headquarters at Hawaii, he was assigned to command the Navy's First Fleet, which operates off the West Coast of the United States. At this time he was also promoted to the rank of Vice-Admiral, dating from August 1st, 1955.

His last assignment, before taking command of the U.S. Pacific Fleet, was in Washington, D.C., where he served as Deputy Chief of Naval Operations (Logistics).
WORLD'S LATEST SUBMARINE VISITS AUSTRALIA

U.S.S. HALIBUT, the latest nuclear submarine, arrived in Sydney on the 1st May for a five-day visit.

Halibut, built by the Mare Is. Naval Shipyard, is the first vessel in the United States to carry the combination of nuclear-power and air-breathing guided missile launching capacity in one hull.

The Sargo and Swordfish both carry, and can launch, missiles, but Halibut is the only atomic vessel capable of launching the Regulus I missile.

The Halibut was commissioned on 4th January, this year, less than a year after launching, and has been working up in the San Francisco and Pearl Harbour areas since then.

She is 350 feet in length and displaces 4,900 tons with her main deck relatively higher above the water line than conventional submarines to provide a dry "flight deck" when launching missiles at sea.

Despite her size, she has an excellent submerged speed and endurance from a propulsion plant that is the same as that in U.S.S. Sargo, a pressurised water reactor plant.

She is commanded by Lt.-Cdr. Walter Dedrick, U.S.N.

The name U.S.S. Canberra is unique in United States naval history. It has been an inflexible rule that all U.S. cruisers carry the name of an American State capital. Canberra is the only departure from this custom. Her name is a compliment to the R.A.N. for their close co-operation and gallant efforts with the U.S. Pacific Fleet during World War II and, in particular, a tribute to H.M.A.S. Canberra, lost while operating with U.S. units off Savo Island in August, 1942.

Canberra is equipped with radar-guided Terrier missiles in two twin-mounts. These sleek ship-air missiles can be launched in pairs every 30 seconds at a speed of 1,500 miles per hour at ranges up to 10 miles. With the missile launchers mounted aft, Canberra carries conventional armament forward.

ORIENT LINE via SUEZ

the Orient Line Suez Route to England glitters with Jewels of Travel Interest.

Orient S. N. Co. Ltd., Incorporated in England

April-May, 1960
The battle was made up of a series of actions which took place between May 4 and 8. Anticipating a possible Japanese thrust towards Port Moresby and New Guinea, Admiral Fitch, commander of the Air Group, ordered to proceed towards Tulagi with this group. The Fleet oiler Neosho, escorted by the destroyers Russell, Ward, and support, was detached to inform the other Task Forces that a new rendezvous would be made at daylight on May 5.

By 0700 on May 4, Task Force 17 had reached a point about 100 miles south-west of Guadalcanal Island. Planes from USS Yorktown carried out attacks on enemy shipping in Tulagi and near Port Moresby. Throughout the day, Tulagi losses were 1 destroyer, 45 landing-craft sunk, 1 mine-layer, 1 destroyer damaged. On the whole, results were disappointing owing to lack of important targets. Three planes failed to return to Yorktown, and a considerable amount of ammunition, which included 22 torpedoes and 76,000 lb. bombs, was expended. In addition to the ships sunk, the destroyers Vytki, and the mine-layer, Okinosha, were damaged. The several enemy aircraft were shot down.

The Tulagi operation ceased at 1700 on May 4, and Task Force 17 proceeded to join the other Allied units. This rendezvous was made at latitude 15°S, longitude 160°E. At this point all units were constituted Task Force Fox, under the command of Admiral Fitch. During May 5 and 6, ships were engaged in refuelling from the Fleet tanker Neosho, but refuelling was broken off on the 6th when the destroyers were damaged. The situation cleared, and it appeared that the advance was made on Port Moresby through Jomard Passage in the Louisiade Archipelago. It was estimated that this advance would begin on May 7 or 8. Admiral Fitch, therefore, proceeded with his Task Force in a north-westerly direction, to strike the enemy at dawn on May 7. The oiler Neosho, escorted by U.S.S. Sims, was selected as target, which was carrying fuel oil. This was not realized, and the attack, which was carried out with the loss of three Allied aircraft. The rest of our aircraft had returned to their carrier and landed about 1345. Admiral Fitch decided not to send out another attack group until more had been learned of the other two enemy carriers, Shokaku and Zuikaku, which were believed to be operating nearby.

It was now known that Rear-Admiral Hara in Zuikaku was also embarking to locate the Allied forces, with a similar lack of success. During the afternoon of May 7, there were several clashes between Allied and Japanese carrier-based aircraft, but neither opponent's planes were able to locate the other's surface forces. On several occasions as darkness was falling, groups of Japanese planes made as if to land on the Allied carriers, evidently mistaking them for their own ships. (This caused considerable confusion for a time, and much speculation as to the outcome had they been allowed to land.)

Task Force Fox continued to the south-westward during the night of May 7, and at 0600 the next day was at latitude 14°35' S, longitude 154°30' E, on course 123° true. Air patrols had been sent out by the carriers at daybreak, and at 0820 contacts were observed by the Japanese. The Battle of the Coral Sea had now reached its most crucial stage.

Admiral Fitch now handed over tactical command of the Task Force to Admiral Fletcher, commander of the Air Group. The Task Groups began taking off about 0900, all units and bombers being arm
The carriers Lexington and Yorktown, having launched their attack groups, prepared to resist the expected Japanese air onslaught. Speed was increased to 34 knots towards the south-east, and at 1112 a force of enemy torpedo planes began the attack. It was estimated that this force consisted of 30 torpedo planes, 26 dive-bombers, and 12 fighters. The two Allied carriers were the chief targets, and at 1120 Lexington was hit by a torpedo forward of the port forward gun gallery. One minute later she received another torpedo hit opposite the bridge. About the same time a 1,000-pound bomb hit put three guns out of action, and several more bombs caused widespread damage and fires. The ship was listing about 6° to port, and both flight-deck elevators were jammed in the up position, but she was still steaming 35 knots. At 1240, damage control was able to report that three of the fires were out, the other was under control, and that the list had been corrected. Lexington's returning planes were still able to land on her flight deck, and it seemed that she had survived the attack successfully.

At the same time, Yorktown was also undergoing heavy bombing and torpedo attacks. She was near-missed almost a dozen times, but received only one direct hit. This was a bomb which penetrated the flight deck and two lower decks, finally exploding three feet above the fourth deck, killing 37 men and injuring many others. Structural damage was not great, however, and the ship's speed did not drop below 24 knots.

(Continued on page 23)
A new Submarine Squadron is now being formed for service in the Far East. It is the 10th Submarine Squadron, and its first Commanding Officer is Commander A. J. Hoyall, D.S.C. R.N., who has taken over his new duties at Singapore.

This new Squadron will provide the Far East Fleet with a submarine arm which has long seemed desirable. It will also provide much-needed assistance to Commonwealth Navies in anti-submarine training. India, Pakistan and Ceylon will all benefit.

The training the Royal Australian and Royal New Zealand Navies have been doing with the 4th Submarine Squadron will continue. There is to be no change in the duties which the 4th Squadron carries out from Halfiax in conjunction with the Royal Canadian Navy.

The first boats of the new Squadron will be the Taetician, which has been refitting at Singapore, and the Ambush from the United Kingdom. Other submarines will join this year.

THE NAVY
April-May, 1960

THE NUCLEAR-POWERED ICEBREAKER “LENIN”

Nearest Approach to Economic nuclear ship for some years

The world’s first nuclear-powered surface ship, the Russian icebreaker Lenin, which seems likely to be the nearest approach to an economic nuclear-powered ship for at least five years, is now ready for service in the Arctic.

A vessel of 16,000 tons displacement, she is 440 ft. long, has a 90-ft. beam, and a draught of 30 ft. She can develop 44,000 shaft horse power, which is 50 per cent. more than that of the most powerful icebreaker previously built. Her full speed is 18 knots, and she will be able to maintain a speed of two knots when breaking through ice seven feet thick. It is also claimed that she would be capable of breaking her way through to the North Pole.

She is powered by three nuclear reactors. Pressurised water will be used both as a moderator and heat transfer agent in two circuits. This has made effective shielding possible without excessive weight of shielding material. Only two of the reactors will normally be used at one. The third will be kept in reserve in case of a breakdown, or for when some extra power may be needed.

Although costing a great deal of money, the reactor is claimed to be no more radioactive than is obtained from the luminous dial of a watch. A radioactivity alarm system shows green lights to indicate the absence of radiation.

Radioactive waste will be stored in special tanks, and it will not be dumped into the sea.

Lenin will have a crew of about 100, many of whom have served in other icebreakers like Captain Pavel Pomogar, who is in command. There will be accommodation for carrying about 40 passengers between various northern ports. Nuclear scientists will also use her as a floating laboratory. Accommodation includes a lounge, club, cinema, library and music room. The crew are berthed in one and two-bunk rooms equipped with hot and cold water.

Her keel was laid at the Admiralty shipyard, Leningrad, in 1956, and she was launched in December, 1957. She is all welded.

Equipment includes radar, echo sounders, and two helicopters, which have a hangar and landing strip on deck.

The Lenin’s bow has been designed to increase effective pressure on the ice by 15 per cent. above that of other icebreakers. This made necessary the development of a special high-grade steel which has to combine good welding properties, a very high impact strength, and resistance to cracking at low temperatures.

Like other icebreakers, Lenin will be able to plough through ice like a snow plough, but when it becomes too thick, her undercar bow will cause her to ride up on the ice and crush it with her weight. If her great weight should prove insufficient, powerful diesel pumps can pump water into bow tanks at the rate of 4,000 tons an hour.

THE NAVY
April-May, 1960
A SAILOR AND HIS PARROT

HIGHEST EVER—Royal Canadian Navy

The seagoing strength of the R.C.N. reached a wartime high in 1959.

In mid-December, the R.C.N. had 82 warships in commission. These included the aircraft carrier Bonaventure, seven “St. Laurent” and seven “Restigouche” class destroyer escorts, 11 older destroyer escorts, 18 frigates, ten minesweepers, two mobile repair ships and six smaller craft.

There were also Royal Navy submarines on loan to the R.C.N., and based at Halifax for anti-submarine purposes.

Five new anti-submarine destroyer escorts, H.M.C. Ships Gaspé, Kootenay, Terra Nova, Columbia and Chaudière, joined the fleet during the year.

Returning to service in 1959, but in new roles, were the former maintenance vessels, Cape Scott and Cape Breton. They were converted into repair ships and stationed on the east and west coasts respectively.

Also commissioned during the year were three modernised anti-submarine frigates—the Cap de la Madeleine, Victoriaville and Iroquois.

On 1st December, the personnel strength of the R.C.N. totalled 19,933, consisting of 2,581 officers, 17,187 men and 165 Wrens. In addition, there were 413 officer cadets and 252 technical apprentices under training.

Surviving at sea were 9,831 officers and men, 49 per cent. of the R.C.N. total. This was probably the highest proportion ever to be serving at sea, in war or in peace, and one of the highest sea/shore ratios in any navy.

Backing up the regular force were 3,250 officers, cadets, men and women of the R.C.N. Reserve, attached to the 21 naval divisions that serve as training establishments for the naval reserve in cities across Canada.

Returning service in 1959, but in new roles, were the former maintenance vessels, Cape Scott and Cape Breton. They were converted into repair ships and stationed on the east and west coasts respectively.

Also commissioned during the year were three modernised anti-submarine frigates—the Cap de la Madeleine, Victoriaville and Iroquois.

On 1st December, the personnel strength of the R.C.N. totalled 19,933, consisting of 2,581 officers, 17,187 men and 165 Wrens. In addition, there were 413 officer cadets and 252 technical apprentices under training.

Surviving at sea were 9,831 officers and men, 49 per cent. of the R.C.N. total. This was probably the highest proportion ever to be serving at sea, in war or in peace, and one of the highest sea/shore ratios in any navy.

Backing up the regular force were 3,250 officers, cadets, men and women of the R.C.N. Reserve, attached to the 21 naval divisions that serve as training establishments for the naval reserve in cities across Canada.

The sailor and his ship

Though at times we curse and vilify them, deep down we cherish the ships in which we serve.

An eighteenth century writer, Sir David William Bane, summed up the sailor’s feelings in words that exactly express our sentiments today.

“We sailors are jealous of our vessels.

Abuse us if you will, but have a care.

For what you may say of our ships,

We alone are entitled to call them bitches.

Wet-tailed brutes, stubborn craft,

But we will stand for no such liberties from the beach.”

COCKATOO DOCKS & ENGINEERING CO. PTY. LTD.

- Shipbuilders
- Marine
- and General Engineers

Contractors to...

H.M. AUSTRALIAN NAVY
Inquiries Invited

COCKATOO DOCK SYDNEY
Phone: 82 0661 (10 lines)

MELBOURNE STEAMSHIP CO. LTD.
Head Office: 31 KING ST., MELBOURNE
Branches or Agencies at all ports
Managing Agents for
HORSENE BAY DOCK AND ENGINEERING CO. PTY. LTD.
Works: Williamstown, Victoria
HOUGHTON ENGINEERING CO. PTY. LTD.
Works: Sunbury St, Sydney
and
COKEBURN ENGINEERING PTY. LTD.
Works: Hume Rd., Penrith
Ship Repairers, etc.
H.M.S. "HERMES"—A Triumph of Ingenuity

**By "PELORUS"

LONDON.—The qualities of graciousness and speed that of being a helper and protector of travellers are associated with the god Hermes, who presided over the Games with Apollo. They may also be linked with the ships which have borne the name in the Royal Navy, 10 in all, though none as impressive as the latest, the aircraft carrier which came into service shortly before Christmas.

For the Fleet Air Arm, in particular, the name has special significance for the eighth Hermes, a six-inch protected cruiser, of 5,000 tons, built at the end of the last century, experienced some of the birth pains of naval aviation, and is the depot ship of the Royal Flying Corps in 1913. Then the ninth, the 10,850 tons ship completed in 1923, was the first vessel to be designed by the Admiralty as an aircraft carrier, all earlier ships of the type having formerly served in other capacities.

The exploits of the ninth Hermes are well within living memory. Although already an old ship, she began her career in 1923, when she was launched, as Captain Sir Garfield Walker, who commanded her during World War II, wrote in the official history of the Royal Navy, "The Hermes was one of the "Centaur" class of light fleet carriers. It was the only ship of her class to receive a ship's pennant, and it signified that her commander would be personally responsible for the safety of his ship and crew."

The new ship impressively increases the Navy's carrier strength. It also represents a notable technical achievement, for although she is much smaller than the Ark Royal and the Eagle she is at present technically superior to them. "She shares with the Victorious the distinction of having the finest operational equipment of any aircraft carrier in any Navy," says the Admiralty.

With a standard displacement of about 22,500 tons compared with Ark Royal's 43,000 tons, the new ship began her life as one of the "Centaur" class of light fleet carriers. She was the first ship to be fitted with the latest equipment which scientific ingenuity can devise: steam catapults to launch heavy aircraft at speeds exceeding 120 knots, the mirror landing sight to aid returning airmen, 3D radar to give a complete picture of aerial activity over a wide area, a 90 degrees angled deck—the biggest angle that can be given to a ship of her size.

She has also been designed to make it possible for her to operate within an area contaminated by a nuclear explosion. There is a part of the ship known as "the citadel" in which the whole ship's company can isolate themselves from the effects of fallout. There is, too, a system for the remote control of her engines and an automatic fire system for the boilers. Much of her equipment is controlled by a fantastic array of electronic "brains."

Later this year she will receive her aircraft. In the strike/fighter roles there will be Supermarine Seastics equipped to carry both nuclear and conventional weapons. For day and night fighter duties there will be the de Havilland Sea Vixen and to provide distant warning for the defence of the Fleet, the ship and her fighters will be assisted by action information obtained by Fairy Gannet airborne early warning aircraft. To range search of submarines, to locate them with dipping asdic and strike them with modern weapons, there will be Westland Whirlwind helicopters.

(Continued on page 29)

---

**SWAN RETURNS**

H.M.A.S. Swan returned to Garden Island on April 13, after a three months' cruise to New Zealand and the Pacific Islands.

On board Swan were 27 Midshipmen from Australia and New Zealand who graduated from the R.A.N. College, Jervis Bay, on December 11, 1959. Their cruise in Swan is the second phase of a three part training scheme, which begins at Jervis Bay, then moves to Swan and culminates with 18 months at the Royal Naval College, Dartmouth.
Above: The Australian Commonwealth Naval Board in conference in Canberra with the visiting First Sea Lord. Left to Right: Rear-Admiral K. McR. Urquhart, A.D.C. (Third Naval Member); Rear-Admiral A. N. R. McNicoll, C.B.E., C.M. (Second Naval Member); Admiral Sir Charles Lambe, G.C.B., C.V.O. (First Sea Lord); Senator the Honourable J. G. Gorton (Minister of State for the Navy); Vice-Admiral H. M. Burrell, C.B.E., C.B. (First Naval Member); Mr. T. J. Hawkins, C.B.E., B.A., LL.B. (Secretary, Department of the Navy); Commodore P. Perry, O.B.E. (Fourth Naval Member).

At Right: The British High Commissioner, Sir William Oliver, and Lady Oliver with Rear-Admiral C. Beg (left) and Captain J. V. Wilkinson. The Sterling silver bell being admired was presented to H.M.S. Belfast by the citizens of the city of Belfast.

—By courtesy of S.M. Herald
P. V. C. COATED NYLON AND TERYLENE FABRICS

... to protect valuable Marine Equipment

P.V.C. coated Nylon and Terylene fabrics have been developed especially for marine uses... in big ships they are used extensively foratos and vital purposes, including lifeboat and winch covers, and gangway screens as used by Orient Line. The Naval uses include engine covers for aircraft in R.A.N. Carriers.

P.V.C. fabrics are ideal in small craft... for overall or engine, etc., covers.

PLASTYNE PRODUCTS PTY. LTD.
JF 3229
Waltham Street, ARTARMON

The overwhelming advantages of P.V.C. covers lie in comparatively light weight, resistance to sea air and retention of great strength throughout a long life of protection of valuable equipment against the elements.

Zinc provides effective economical protection against Corrosion. Metallic Zinc Coatings — hot-dip galvanizing, zinc spraying, sherardizing, and zinc-rich paints — to protect iron and steel sheets, tubes, pipes, wire, bolts and nuts, holloware, nails, and structural steel for television and electrical transmission towers. Zinc in Sacrificial Anodes — to protect underwater steel structures and ships' hulls.

No Rust Here

STING IN THE TAIL
Essential Support for Modern Fleet

The Admiralty is often criticized on the score of its "administrative tail." A finger is levelled at the reduced size of the present-day fleet compared with the veritable Amada of the First World War, and complaints made of the large and inexplicable increase in the existing number of Admiralty civilians. Such comparisons are nothing but misleading and completely overlook the changing pattern of defence.

To take one aspect only, that of scientific effort. It is a commonplace that we live in a scientific age, but how many think of what this means in terms of a modern navy? The Admiralty has always been not only a service department, but its own Department of Supply; this implies responsibility for its own Research and Development. During the First World War we witnessed the dawn of scientific warfare, a fact recognised by the Admiralty when they set up a Board of Invention and Research, whose duty it was to mobilise scientists and inventors in aid of the war at sea. This body, presided over by Lord Fisher, was empowered to call on the services of some of the most eminent scientists of the day as consultants, but in terms of Admiralty personnel it was little more than a handful of scientists and engineers; nevertheless, it paved the way for the Royal Naval Scientific Service of the future. Many useful contributions were made, particularly in the underwater warfare field; nor were they unresponsive to the usual lines of thought; they even examined the possibility of training seagulls to chase enemy submarines and tested a theory that seagulls could be made to flock round their periscopes.

If the scientists' contribution to the First World War was useful, to the Second it was essential. This was the period of radar, of the Adiace, of the magnetic mine and the radio controlled bomb.

The increasing emphasis on scientific effort is shown by the fact that in 1921 the staff of the Scientific Research and Experiment Department in the Admiralty stood at 39, whilst thirty years later the number of scientific staff had grown to over 1,250. The present figure is well over 2,000 for scientific, experimental and ancillary grades. If all staff at research establishments were included, the figure would, of course, be far higher. This reflects the increasing complexity of a modern navy dealing with problems of nuclear propulsion, electronic data handling systems for air defence, radar warning, advanced sonar equipment, guided weapons and the like.

Those who criticise the present trend should reflect on the probable "backroom" support needed to fire even one successful moon rocket.

PORT LINE LIMITED

Regular sailings for:
UNITED KINGDOM and CONTINENT
TAKING WOOL, REFRIGERATED
and GENERAL CARGO
ALSO LIMITED
NUMBER SALOON PASSENGERS

For further particulars, apply:
PORT LINE LTD.
50 Young Street, Sydney
(Inc. in England)

Or Agents:
GIBBS BRIGHT & CO.
57 Pitt Street, Sydney
Also at BRISBANE, MELBOURNE, ADELAIDE, PERTH, FREMANTLE, NEWCASTLE and HOBART
The first Sea Cadets Recruit Training Course was held in the R.A.N. Air Station, H.M.A.R. Albacross during the weekend, 4th to 6th March, 1960. Two Officers, three Petty Officer Instructors, two Cadet Petty Officers, and one Leading Cadet, with fifty-five cadets, attended the course. A set instructional routine for recruits was set out on the lines of the New Entry Training as laid down in the Sea Cadet Training Manual and A.S.C.C. Instructions.

At 1715, cadets from the Sydney area reported to the Officer in charge of the Course at Central Station, and at 1745 entrained for Bomaderry. On arrival at Bomaderry, R.A.N. buses met the cadets. One bus was driven by an R.N. Seaman from T.S. Sydney.

On arrival at the air station, Leading Seaman Burns took over as Liaison Leading Seaman and accompanied the cadets to the Huts. Leading Seaman Burns was a tower of strength during the course.

The recruits were accommodated in two huts, with a Petty Officer cadet attached to each hut. On completion of drawing bedding and mess utensils, the recruits turned in, and it was “lights out.” Rounds was carried out by the Sea Cadet Officers—the ‘recruits’ first day was over.

Saturday, 5th March. — At 0600 the recruits were “called,” and the first training day began. Guided by the P.O. Instructors and cadet P.O.s, the recruits commenced learning the “routine” chores—making beds, sweeping out the huts, etc.

The syllabus of training was mapped out and condensed from the New Entry Training Syllabus as follows:


Subject “B” — Squad Drill. Fifteen-minute lecture on “Why we drill,” then correct Standing and Walking. Demonstrations of—Falling in, in Single Rank; two ranks; three ranks; two ranks and forming three. Dressing by the Right or Left, Right and Left Dress. Practice Falling in and Falling out. Position of Standing at Ease. Attention. Turning Right and Left. Turning about. Dismissing.


Subjects “A,” “B,” “C” were fully outlined in the Officer in Charge of Recruit Training Course’s Standing Orders. Recruits were divided into Watches and Classes.


Dog Watches — Recreational training—Swimming.

Sunday, 6th March, second training day. Recruits were introduced to Sunday “Divisions.” The Duty Lieutenant-Commander inspected the Divisions and expressed satisfaction with their appearance. The result of the first day’s Squad Drill was evident in the drill of the cadets at divisions; their dress was neat and tidy.

After divisions came Church. On completion of Church the official Air Station Photographer took a group photo of the Sea Cadet personnel and Leading Seaman Burns. The cadets were then permitted to go swimming until dinner.

S.M. Second Day. A brief resume of all subjects. During the Squad Drill period, the Petty Officer Instructors and Cadet Petty Officers were given a lecture by S.C. Lieutenant-Commander Mott. Officers-in-Charge of Recruit Training Course, touching on Instructional Technique, Taking Charge and Power of Command. This lecture bore out the necessity for a Higher Rates course.

The Recruits went to tea at 1600, during which time bedding and mess utensils were returned, the huts cleaned out, and the cadets embussed for Bomaderry.

The instruction given: behaviour of cadets, and the general overall value of such courses was very satisfactory, which proved that all Sea Cadet recruits should undergo such a course during the first three months of their service.

The success of not only this course, but all training in H.M.A. Ships and Establishments is largely due to the cooperation of the personnel of the Ships and Establishments concerned, but this cooperation depends also on the Sea Cadet personnel embarked.

Such cooperation is best exercised by a thorough knowledge by all concerned of the Instructions issued for Sea Cadet personnel embarking in H.M.A. Ships, and Establishments for Training week ends or continuous training, particularly in regard to “Routine,” “Marks of Respect,” and general behaviour.
GIANT NAVY BALLOON
DESTROYED IN ACCIDENT

NEW YORK — The largest gas-filled balloon in the world was destroyed recently, when a gust of wind drove it against a hangar as it was being towed to its mooring at South Weymouth, Massachusetts.

None of the crew was aboard.

The balloon humped into a sharp steel hangar door and quickly collapsed.

The Navy said it was a total loss, but radar and electronic equipment in its gondola was not damaged.

The Captain of U.S.S. Canberra (Capt. W. H. Baumbeger, left, with Commander O. F. McMahon, retired) made the presentation on board the American mistletoe-cruiser.

The giant balloon—as high as a 10-story building and 403 feet long—was bought recently by the U.S. Navy for 12 million dollars ($5,357,000).

THE NAVY

THE CAPTAIN OF U.S.S. CANBERRA, FORMER FLAGSHIP OF THE AUSTRALIAN FLEET, WAS SUNK IN BATTLE WITH THE JAPANESE IN 1942.

The 12 old shipmates later toured U.S.S. Canberra.

None of them is now in the Navy.

Their leader, Commander O. F. McMahon (retired) made the presentation.

He told Captain Baumbeger: "We are tied by a certain bond of affinity."

"We are presenting the pictures as a token of our appreciation for all the U.S. Navy has done for Australia.""}

One picture shows H.M.A.S. Canberra berthed and unseated. The second shows beeping smoke as it slid to the bottom.

Commander McMahon said the dying ship was photographed from an American destroyer which picked up survivors.

Captain Baumbeger said: "We feel somewhat humble before you people who lost your ship and shipmates."

BATTLE OF COBAL SEA

(Continued from page 8)

Since both Yorktown and Lexington had been damaged, and a large number of their aircraft lost or rendered unserviceable, Admiral Fletcher decided to abandon the idea of another air strike. A surface attack was considered unwise, since damaged suffered by the enemy carriers was not known. It was, therefore, decided to retire in a southerly direction and reorganize the Allied resources.

As Task Force Fox proceeded southward, at 1247, there was a tremendous explosion in Lexington. It was later concluded that this was caused by the ignition of large quantities of aviation fuel from damaged pipelines. Fires broke out and further explosions occurred, and at 1456 Lexington signaled for help. Fires were spreading, which soon got out of control, so that Admiral Fitch at 1307 gave the order to abandon ship, and Admiral Kinkaid of the U.S.S. Minneapolis was directed to take charge of rescue operations.

The destroyers, Morris, Anderson, Haukoff and Dewey picked up the carrier's personnel and transferred them to Yorktown and Minneapolis. More than 92 per cent of Lexington's complement were rescued in this way. At 1522 U.S.S. Phelps sank Lexington by torpedo fire.

After being detached from Task Force Fox, the support group of carriers under Admiral Crace, proceeded to Jomard Passage at 25 knots. The force consisted of the heavy cruisers H.M.A.S. Australia, U.S.S. Chicago, and the light cruiser H.M.A.S. Hobart. The U.S. destroyers, Perkins, Farragut and Wake. At about 0840 on May 7 these three enemy planes were detected shadowing the group. These planes were dropped a salvo of bombs. No hits were made, and no damage was suffered.

Shortly after this attack three planes dropped a salvo of bombs. No hits were made, and no damage was suffered. For this reason the Support Group continued on its course towards Jomard Passage, but did not attempt to engage the enemy vessels which it had been detached to engage. The sinking of the carrier, Shoju, had resulted in the retirement of the Japanese invasion force.

Thus ended the Battle of the Coral Sea. The result of the engagement may be summed up as follows: As a result of the loss of Shoju, damage to Shokaku and the heavy loss of pilots and aircraft from both their land-based and their carrier air groups, the Japanese support group was greatly reduced. For this reason the invasion force retired, and the date of the projected occupation of Port Moresby was postponed until July. In June, however, the disastrous losses in carrier strength suffered by the Japanese at Midway brought about the final abandonment of the plan to invade Port Moresby by sea. With the turning back of the Port Moresby operation at the Battle of the Coral Sea, the Navy was held by the Allies to be a stepping stone in the Allied advance through New Guinea.

COBAL SEA BATTLE

LOST.

Allied:

Yorktown (C.V.)
Neosho (Oiler)
Sims (DD.)

Damaged:

Shokaku (C.V.L.)
Kikuzuki (DD.)
Okinosima (Minelayer)
Yuzuki (DD.)

Aircraft:

Allied 66, Japanese 80.

Personnel:

Allied 543, Japanese 900 approximately.

Losers:

Allied 543, Japanese 900 approximately.

Losers:

Shokaku (C.V.L.)
Kikuzuki (DD.)
Okinosima (Minelayer)
Yuzuki (DD.)

Aircraft:

Allied 66, Japanese 80.

Personnel:

Allied 543, Japanese 900 approximately.
H.M.S. Bulwark

The Commando Carrier

H.M.S. Bulwark, the first British commando carrier, commissioned on January 19th at Portsmouth under the command of Captain R. D. Franks, D.S.O., D.B.E., D.S.C., R.N. After trials and work-up at home and in the Mediterranean in the spring, the ship is expected to sail for Singapore to be based there ready for operations anywhere "East of Suez."

The unit to be embarked at Devonport before the ship leaves the country is 42 Commando, Royal Marines, at present training at Bickleigh. Devon, commanded by Lieutenant-Colonel R. D. Crowbie, Royal Marines. This unit has previously served in the Far East as part of 3rd Commando Brigade in Hong Kong and Malaya. The Commandos itself consists of about 600 officers and men, and is equipped with the latest weapons. In order that it can maintain military efficiency and fitness, the Commando will be housed ashore at Singapore, embarking in the carrier for exercises and operations.

The ship is capable of embarking an additional Commando or army unit of equivalent size for short periods and of landing them ashore for operations.

The primary role of the ship is likely to be in the cold war, extinguishing the "brush fire" before it can spread. In this role she may well operate alone. In limited war of all kinds H.M.S. Bulwark will provide a highly mobile amphibious force, probably to be used in conjunction with other forces, including those of our allies as a striking force to secure a beach and the immediate hinterland in order that the main force can land.

The present Bulwark, the sixth ship to bear the name, was built by Harland and Wolff, Limited, at Belfast, and commissioned in 1954. After her work-up, she took over the duties of Trials and Training carrier from H.M.S. Illustrous. During her last commission she played a remarkable part in the successful salvaging of the two tankers, Melita and Fernand Gilabert, which were abandoned after coming into collision and catching fire in the Gulf of Aden.

Basically, the ship has not been changed since her recent refit, although the fixed wing capability, the arrestern wires and catapults have been removed. Various changes and modifications have been made to make the ship suitable as an all-helicopter troop carrier, with 16 Westland Whirlwind aircraft, which will be replaced at a later date by helicopters. Four Landing Craft (Assault) are to be carried at built-in ganttries. Accommodation for a Royal Marine Commando has been provided at the same standard as the rest of the ship's company. Extensive offices, storerooms and workshops are also provided on board, and the sick bay will be stowed on the after end of the flight deck. The ship retains her guns, her radar and radio equipment, and is capable of directing fighter aircraft. Last, but not least, the ship has been fitted with the most comprehensive air conditioning system in the Navy, which greatly improves habitability in tropical climates. It is of a new kind, similar to that fitted in Kuwait hospital, and covers nearly all living and working spaces.

No. 848 Naval Air Squadron will provide the helicopter complement of the ship. Commanded by Lieutenant-Commander B. M. Tohey, Royal Navy, the Squadron is at present training at Worthy Down, near Winchester. The Squadron's personnel consists of about 180 officers and men. 848 Squadron was formed originally as an Avenger torpedo bomber squadron and operated in the Pacific campaign during World War II. It was reformed in 1953 as a helicopter squadron, and for four years took part in anti-terrorist operations in Malaya.

---

Commander, Snapper Island

Sea Cadets have trained there, learning seamanship and acquiring a love for the sea and its traditions. Hearing that the Old Man may be about to become a landlubber, I journeyed out to Snapper Island recently. And got the surprise of my life.

Len Forsythe, the proud commander of the good ship Sydney on Snapper Island, Iron Cove, for 30 odd years. He says the time is approaching for him to go ashore.

As I went forward to the quarter-deck I stepped on the deck. It's built from bits and pieces of the original Sydney - the wheel, the quarter-deck, compass, signalling devices, pennants and so on. And Sydney's shells line the gangway.

The place breathes the very life of a ship, and the swish of water lapping at the island shore makes it feel astir. As I went forward to the quarter-deck I stepped on the deck. It's built from bits and pieces of the original Sydney - the wheel, the quarter-deck, compass, signalling devices, pennants and so on. And Sydney's shells line the gangway.

The place breathes the very life of a ship, and the swish of water lapping at the island shore makes it feel astir. Len says the time is approaching for him to go ashore.

Len Forsythe was the proud commander of the good ship Sydney on Snapper Island, Iron Cove, for 30 odd years. He says the time is approaching for him to go ashore.

Len founded the Sydney Volunteer Sea Training Establishment on Snapper Island "to remedy the evil effects of street loafing by boys."

Since then more than 3,000
LONDON.—One of the most modern television and radio circuits devised has been installed in the new P. & O. liner Canberra, launched recently by Dame Pattie Menzies in Belfast.

The sound broadcasting system was designed and supplied by Tannoy Marine Ltd. More than 1,000 cabins, accommodating first and tourist class passengers, officers and crew are provided with the means of receiving either of two broadcasting programmes — radio and pre-recorded news or programmes emanating from the public rooms.

All the verandah suites and de luxe cabins will have a television set installed. The programmes will be transmitted from within the ship on a closed-circuit system.

They will, of course, be filmed, but many of the most popular features at present seen on the British national network will be screened so that television fans will be amused at seeing just some of their favourite programmes.

Television facilities will also be available in some of the public rooms, in the crew recreation rooms, and the hospitals.

The system will be adaptable so that it will be possible to receive broadcasts from Britain, the Continent, Australia, America and Japan; in fact, from any local stations at ports along the route.

The television system has been designed, and is being engineered, for the Canberra by Marconi's Wireless Telegraph Company.

Still pictures and captions can also be shown, and temporary captions and announcements can be made up on caption boards and inserted in the programme.

Simple live studio sequences, interviews and outside shots can be arranged by employing cameras as a remote unit outside the control room.

The following letter has been received from Admiral Sir Charles E. Lambe, O.C.B., C.V.O., First Sea Lord, Admiralty, London, S.W.1, 5th April, 1960.

Dear Captain Oldham,

Captain Troup has shown me your letter about the Memorial Chapel at H.M.A.S. Watson and I am writing to say what a wonderful idea I think this is. I have passed on the contents of your letter to the Chaplain of the Fleet and I hope he may be able to help in some way. Meanwhile, I enclose a small personal cheque as an indication of my support for this splendid and imaginative project.

Yours sincerely,

Charles E. Lambe.
JOIN THE NAVY LEAGUE

The object of the Navy League in Australia, like its older counterpart, the Navy League in Britain, is to instil by all means at its disposal upon the vital importance of Sea Power to the British Commonwealth of Nations. The League sponsors the Australian Sea Cadet Corps by giving technical training to and instilling naval training in boys who intend to serve in Naval or Merchant services and to those-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.

The League consists of Fellows (Annual or Life) and Associates.

All British subjects who signify approval to the objects of the League are eligible.

MAY WE ASK YOU TO JOIN and swell our numbers so that the Navy League in Australia may be widely known and exercise an important influence in the life of the Australian Nation?

For particulars, contact The Secretary, 83 Pitt Street, Sydney, N.S.W. or The Secretary, Room 8, 8th Floor, 528 Collins Street, Melbourne, C.I., Victoria.

ADDITIONAL SPEAK

Admiral Hopwood, Commander-in-Chief of the U.S. Pacific Fleet, arrived at Mascot accompanied by his wife, to be official guest of the Federal Government and the Australian-American Association for the Coral Sea Week celebrations.

He spoke of the partnership of the United States and Australia in the Pacific and stressed that it must remain active and prepared to ensure peace and freedom in the Pacific.

Admiral Hopwood expressed the opinion that war would never be won and lost overseas. Nuclear submarines would not replace aircraft carriers and other surface war vessels, but would supplement them.

BIG INCOME FROM CHARTS AND BOOKS

LONDON.—During 1958, 1,292,572 charts were produced by the Hydrographic Department at a net value of £92,056, and books of a net value of £82,007 sold.

More than two million charts were printed, and 1,094,930 corrections made to existing charts by hand.

HERMES—(Continued)

With her aircraft embarked, the Hermes will have prodigious defensive and striking power. And her reach be high as well as wide. She has a liquid oxygen plant—the first to be installed in any British warship—to sustain high altitude flyers. For close range defence she has 10.40 mm. guns in twin mountings, all radar-controlled.

The Hermes is a formidable fighting platform yet there has been a happy marriage between warlike function and the welfare of those who man her. She is probably the best floating “home” the Navy has offered to a ship’s company. Though living accommodation can never be as ample in a warship as one would wish, the hand of domestic genius is to be found in the arrangement and equipment of her messes.

The living accommodation, which is said to account for a tenth of the cost of the ship, is brilliantly lit, colourfully decorated and suitably furnished. Space is saved in daytime by tipping bunk beds, labour is reduced by easy-clean flooring, domestic chores are minimised by up-to-date galley equipment which includes machines to clean potatoes at the rate of 40 lb. an minute. There are numerous bathrooms and showers, a modern laundry and air-conditioning to suit all climates.

For off-duty hours the ship can provide television programmes, ample recreational facilities, and books to suit all tastes in a well-stocked library. In fact, the Hermes has almost everything; her amenities would be the envy of a small town.

The problems of a Commanding Officer are not necessarily eased by aids to material comfort. But Captain David Tibbits, until recently Captain of H.M.S. Dryad, the Navy’s School of Navigation, has started to build the spirit of a good ship with more advantages than any other Commanding Officer aboard.

America’s first nuclear-propelled aircraft carrier, the Enterprise, now building, seems likely to cost at least £65,000,000 sterling. The Hermes may cost £200,000,000. But cost is irrelevant if Britain is to continue to have a modern Navy. Parliament must fearlessly face the facts and the taxpayer pay the price.

The lessons of history are plain. In peace we always think we can do without; but we have never yet neglected to give the Navy the ships it needed, without later paying the price in full.

Possible Future of Vanguard

“In response to your Articles in the newspapers concerning Her Majesty’s Ship “Vanguard,” we are prepared to offer a deposit of £5 securing this. Will you please send us by return of post full particulars, concerning her, in treasure and gun fire.”

From a letter received in Admiralty from six young hopefuls.

THOMAS ROBINSON & SON PTY. LTD.

• FLOUR MILL AND WOOD-WORKING ENGINEERS
• 160 Sussex Street
SYDNEY N.S.W.
"CHANNEL SPLITTING ANTARCTICA"

A channel more than 1,000 miles long and a mile-and-a-half below sea level is splitting the Antarctic Continent, according to four geologists reporting in "Science," the magazine of the American Association for the Advancement of Science.

They have formed the theory that Antarctica was covered originally by two independent ice caps which met and filled the trench.

Another deep channel borders the massive Filchner ice shelf, a permanent block of ice in the Wedell Sea, they say. However, they regard the big trench as the more important. It extends from the Ross ice shelf to the Bellinghausen Sea.

The scientists say that their measurements indicate that the trench fundamentally divided Antarctica into geological provinces.

One ice cap began to the north in mountains called the Executive Committee Range. A second ice cap started to the south in the Horlic and Sentinel Mountains. Ocean water filled the trench between.

As the ice caps grew toward each other, an ice sheet formed over the trench's waters and finally the water itself thickened into ice, making the cap solid.

The total weight of ice squeezed the bed rock in the trench down about five-eighths of a mile.

The scientists who made the report were Dr. E. C. Thielon, Dr. C. R. Bentley and Dr. N. A. Ostenso, of the Antarctic Research Centre of the University of Wisconsin; and the chief scientist of the U.S. Antarctic research programme, Dr. A. Crary.

April-May, 1960
TOBRUK AND ANZAC SAIL ON NORTHERN CRUISE

'Midst the bustle of the arrival of the U.S.N. ships, the two battle-class destroyers Anzac and Tobruk slid quietly out of Sydney Harbour on a Pacific Island cruise on Thursday, April 28.

The cruise, which reads like a holiday paradise tour of the Pacific, will take seven weeks and will include such places as Noumea, Vila, Honirna, Rabaul, Manus, Lae, Port Moresby, Kavieng, Samarai, Cairns and Brisbane.

Tobruk, Cdr. A. W. Savage, R.A.N., and Anzac, Lt. Cdr. B. D. Gordon, R.A.N., will be carrying out a training role and have embarked many ship's company members straight from recruit school at P.N.D.

Although the cruise looks like a holiday, both ships will be working extremely hard to maintain the rigid schedule set. The men of the two ships will be virtual ambassadors for Australia and are always made very welcome at these outposts that are vital to our country.
The Nucleus...

At the core of our complex industrial structure is steel, the most useful metal in the world. Steel provides the basic raw material of our modern living, for it is well nigh impossible to think of any product or service which does not require steel in some way... our buildings... machines... ships... the thousands of everyday products we take for granted, evolve from the steel ingot.

Australia is fortunate in having a highly efficient steel industry; by supplying steel to the nation at reasonable prices it is playing an important part in our national development, and through its vigorous expansion programme, will continue to serve our surging, national progress.