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AUSTRALIA'S MARITIME JOURNAL

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FRONT COVER: Some of the fleet of sixteen tank waggons delivering 208,000
gallons of Avcat jet fuel to H.M.A.S. "Melbourne" at Garden Island this
month. This operation took 10 hours to complete.



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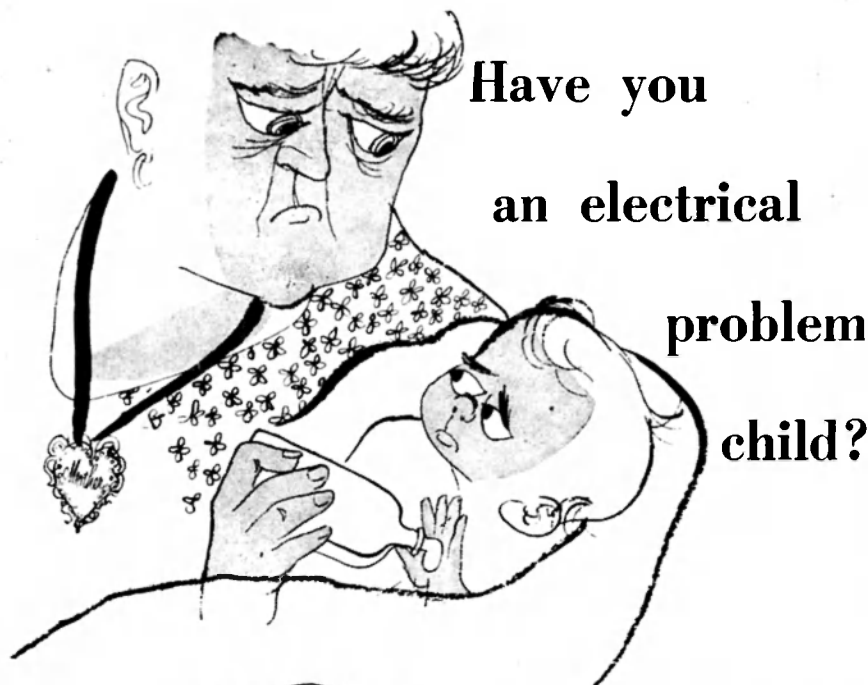
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A NEW SHIPPING AGREEMENT

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It also announced the establishment of a new body, the Australian Coastal Shipping Commission, to operate Commonwealth shipping services.

The Government has brought down legislation to ratify the agreement and to set up the commission. The commission will replace the Australian Shipping Board, which will be wound up.

The main points of the agreement between the Government and the shipowners and stevedoring companies provide that:

The shipowners will provide enough suitable ships, along with those of other companies and the commission, to ensure efficient and economical coastal shipping services. The shipowners will conduct the services efficiently, economically and under competitive conditions.

The stevedoring companies will carry out operations efficiently and economically and will give fair and equitable treatment to the commission's vessels which they handle.

The Commonwealth will not operate merchant vessels in the coastal trade except through the agency of the commission. It will not engage in

stevedoring or undertake the booking or handling of cargo carried on its vessels in coastal and territorial shipping trades. Established companies will continue to perform these services as they have for many years.

The tonnage of vessels operated by the commission will not exceed a total of 325,000 tons gross. (This was stated to be enough to cover all the Commonwealth vessels now in operation, together with those under construction, with a margin for future needs.)

The commission's authorised tonnage may, however, be increased if the shipowners do not meet their full obligations to provide adequate and efficient services.

The Minister for Shipping has power to specify to the shipowners the amount of tonnage to be ordered from Australian shipyards if he is satisfied that orders for new tonnage which the Australian yards hold are not sufficient to enable the industry to operate at a reasonably adequate level of production.

The commission is given wide powers to operate vessels in the interstate and overseas trades but not in the intrastate trades, because the Constitution does not permit this. The Government does not intend the commission to engage in overseas trade except in special circumstances.

Among its other powers, the commission may buy, sell, or charter ships, buy or lease land or equipment, and arrange for the training of apprentices.

It will have a considerable degree of autonomy—the Minister's powers being limited to approving relatively few policy matters. However, the Minister will have power to ensure that, where necessary, the commission undertakes developmental trades to areas where it would not normally provide services because they would not be payable commercially.

The Government's legislation contains a provision restricting the transfer or mortgage of Australian ships less than 25 years old. This is to prevent the Australian coast "being denuded of ships still capable of performing a useful service and to ensure that Australian-built ships on which a subsidy had been paid are retained on the coast until the end of their useful lives."

The Minister for Shipping and Transport, Senator S. D. Paltridge, told the Senate that the Government believed both the commission and private shipping companies had a part to play in providing shipping services and that there was ample opportunity for both interests. But the Government was determined to avoid expansion of Commonwealth-owned ships unnecessarily into trades efficiently served by private shipping.

The Minister said the Government had no intention of unduly restricting the activities of the commission. At the same time it was not prepared to confer any undue advantages on private shipping companies, still less to replace any of them in

anything approaching a monopolistic position.

Shipowners would be given every opportunity to build the new tonnage which might be required for the Australian coastal trade.

Neither the commission nor the Minister would be able to cut freights to an uneconomically low level "to the detriment of the private shipping companies and of the finances of the Commonwealth," Senator Paltridge said.

The commission will comprise a chairman, vice-chairman, and three other members, appointed by the Governor-General for a five-year term.

FROM SEA CADET TO SEAMAN

A gratifying result of Navy League policy is shown in a recently issued statement of transfers from the Australian Sea Cadet Corps in 1955.

This shows that the Corps provided 20 young sailors for the Merchant Navy, 15 for the Royal Australian Navy, 21 for the R.A.N.R., and 14 as R.A.N.R. cadets. And this out of a total of 110 transfers.

The others were 36 to National Service and only four to Services other than Navy or Merchant Navy.

New South Wales units provided seven boys for the Merchant Navy and five for the permanent Naval forces. Victoria provided six for the Merchant Navy and four for the permanent Navy.

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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 also sponsors the Australian Sea Cadet Corps to interest the right type of lads in the Royal Australian Navy—either to start them upon a career or to provide a healthy pleasurable means of qualifying them to be of service in the Senior Service in the event of emergency.

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:—

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OUR NEW CARRIER

By CAPTAIN C. G. O. GATACRE, D.S.O., R.A.N.

From a broadcast over the A B C.

WHAT Midshipman serving in
the cruiser *Melbourne* in
1925 would have dared to hope
that 31 years later he would com-
mand and bring to Australia a
new *Melbourne*? And that this
new ship would be an aircraft
carrier, and the largest unit ever
added to the Royal Australian
Navy?

The command of the new
H.M.A.S. *Melbourne* is my proud
privilege, but that I would one
day have such a command and
responsibility, didn't enter my
wildest dreams 31 years ago.

The first *Melbourne* was a four-
funnel, coal-burning light cruiser.
When she arrived at Melbourne in
March, 1913, the Minister of State
for Defence of the day, Senator
the Honourable G. F. Pearce
later Sir George Pearce), gave the
following message for publication
in a souvenir pamphlet issued in
connection with that occasion:

"Like Britain, Australia is an island,
and the sea is our first line of defence.
We in Australia feel that we have
reached manhood, and that the grown-
up son should shoulder some of the
great responsibility which the parent
nation has been carrying so long and
so nobly.

"The arrival of the *Melbourne* is a
concrete illustration of the national
awakening.

"What we are doing to-day and
what is planned for the future must
have regard to the possibilities of the
morrow."

"The British Empire is one, and
the fleets of the Empire must have
one common object and be able to
work together in every emergency.
The duty which lies nearest our door
is the protection of British interests
in the Pacific. If we can maintain
those interests in that ocean, we shall
be doing something worthy of our
history, and of service to the Empire
and the Commonwealth."

It is rather interesting to-day to
remember that those words were
spoken when the first *Melbourne*
reached Australia in 1913.

Now 43 years later, a new and

more powerful *Melbourne* has
been brought to Australia and has
joined our Fleet. This new ship
was built at Barrow-in-Furness on
the north-west coast of England,
in the shipbuilding yard of Vickers
Armstrong.

In a commissioning and naming
ceremony held at Barrow on
October 28 last year, in the
presence of the ship's company
and a gathering of distinguished
guests, the ship was named *Mel-
bourne* by Lady White, wife of
the High Commissioner for Aus-
tralia in the United Kingdom.

After commissioning, the *Mel-
bourne* spent the next five months
in English waters based on
Plymouth or Portsmouth, carrying
out the large number of trials
normally undertaken by a new
ship to test her machinery, equip-
ment and performance.

The trials in fact proved the
ship as a ship, and then proved
her as an aerodrome. All ship's
trials and flying trials were highly
satisfactory, and though under-
taken during the northern winter,
which brings a succession of gales,
we completed a comprehensive
programme without delay. When
we needed reasonable weather for
any particular trial, we were
favoured by reasonable weather;
when bad weather was of no con-
sequence, a gale would come and
go.

At this stage our three air
squadrons had formed ashore and
were practising their airmanship
and developing their skill with the
new jet aircraft.

A welcome break was provided
by a visit to Le Havre where we
were warmly welcomed and hos-
pitably entertained. Every one of
us had the opportunity of stepping
ashore in France. Many visited

Paris, which was only two or
three hours distant by train or bus.
Many visited battlefield areas
which were the scene of the Nor-
mandy landings in 1944.

During February we were hon-
oured by a visit at Portsmouth by
His Royal Highness the Duke of
Edinburgh, who landed in his heli-
copter on our flight deck and spent
three and a half hours on board.
After inspecting the ship's com-
pany, he walked round the ship
displaying a keen interest in every-
thing and, of course, a sound pro-
fessional knowledge. He then had
lunch in the wardroom with a full
sitting of officers.

Before leaving the ship by heli-
copter His Royal Highness
graciously expressed to me his
congratulations on the appearance
and cleanliness of the ship, and
the smartness of her company.

In March the ship embarked her
air squadron personnel at Glas-
gow, and loaded fully with air-
craft and freight. Then we sailed
for Australia.

Our loading of aircraft on the
flight deck and in the hangars
filled all space in which any num-
bers could have recreation, so it
was necessary to make brief stays
at several ports to stretch our legs
ashore. These were at Gibraltar,
Naples, Malta, Aden and
Colombo.

Undoubtedly, the most memor-
able of these visits was that made
to Naples, where we were most
hospitably received and enter-
tained. Sight-seeing parties were
taken to Capri, Vesuvius, Amalfi
Drive, and at least half of the
entire ship's company spent a day
in historic Rome.

A gala opera performance at the
lovely San Carlos opera house at
Naples was arranged in our

honour. But for about 200 officers and men, including myself, the highlight of the visit was the honour and experience of being received in audience by His Holiness the Pope. I am not of the Roman Catholic faith but I certainly counted it an honour and a privilege to present our party.

In brief the message given to us by His Holiness was this: "In your Naval profession you visit many

places in many lands and you meet and you mix with many different peoples and many different races. So you should from this experience gain a knowledge and an understanding wide enough to transcend all petty differences. And so you should be able to take with you around the world, wherever you go, love and friendship."

Most of us who visited Rome

threw three coins into the waters of Trevi fountain. Those who saw the film "Three Coins in the Fountain" will know that I refer to the legend that if you throw three coins in the fountain, you will return to Rome one day.

So from Rome to Malta, where we made only an overnight stay, long enough to top up with fuel and to embark the famous ocean racing yacht *Samuel Pepys*. That

yacht has been brought to Sydney on loan from the Royal Naval Sailing Association to the R.A.N. branch of the association.

And then through the Suez Canal and down the Red Sea with the weather getting hotter every day. In the Red Sea we answered a call from a British tanker requiring medical assistance for a sick officer. *Melbourne's* two medical officers boarded the tanker by sea-boat in a very rough sea at night and brought him back to our ship for treatment in our well-equipped hospital and for nursing by our capable sick berth staff. We put this patient ashore into hospital at Aden a few days later, well on the mend.

Our Colombo visit was made in extreme heat and was marked by great help and friendliness shown by the small Ceylon Navy, as well as by our Australian Resident Commissioner. We played hockey, tennis, water-polo, cricket and golf against local teams and in spite of the heat enjoyed ourselves immensely — and of course the ship keepers were pleased.

In Australia we were given a warm welcome in beautiful weather when we arrived at Fremantle, and though the less said about the weather when we visited *Melbourne* the better pleased will be the *Melbourne*-ites our welcome there was indeed a warm one too.

The occasion when the ship would berth in the port of the great city whose name we proudly share was of course one we had all been eagerly awaiting. And there at a Civic reception in the Town Hall I received from the Lord Mayor a silver plaque—a generous gift from the citizens of *Melbourne* — to be mounted in *H.M.A.S. Melbourne*.

On our way again, to Jervis Bay to unload aircraft for the Naval Air Station at Nowra and finally to Sydney—the end of our long voyage from the United

Kingdom.

That then is a brief account of the proceedings of the *Melbourne* covering the period of just six months since our commissioning.

At the closing stages of World War II carriers were finding it difficult to operate the latest type of propeller aircraft as speed and weight increased with performance. Since then, naval aviation has entered the jet age, which means that a carrier must be able to fly off and recover even faster and heavier aeroplanes.

At this stage, however, came the British invention of the steam catapult, which can launch the new aircraft (and those of the future) with a safer and smoother action. So that was one problem solved.

The runways of land-based airfields had to be greatly extended to accommodate jet aircraft, but a carrier's flight deck remained fixed in length and yet was required to operate jet aircraft.

Again British ingenuity had the answer—the angled deck.

Instead of landing straight up the centre line of the ship, aircraft would land at an angle to the centre of the landing area of the deck. This idea carried with it the means of doing away with a number of arrestor wires, and all barriers. If a pilot failed to engage an arrestor wire, he simply took off and came round again.

Both these inventions have been thoroughly tested and have been proved extremely successful. An Admiral in the U.S. Navy told me that these two inventions had put the aircraft carrier back into business. Both these modern developments, the steam catapult and the angled deck, are fitted in the new *Melbourne*.

In addition the ship has the very latest arrestor wires and gear—and the newest development of all, the mirror landing aid. This gives visually to the pilot the cor-

rect line of approach to fly on to the landing area of the deck.

The ship has carrier-controlled approach equipment corresponding to G.C.A. (ground controlled approach) for directing the plane into the final stage of deck landing in thick weather.

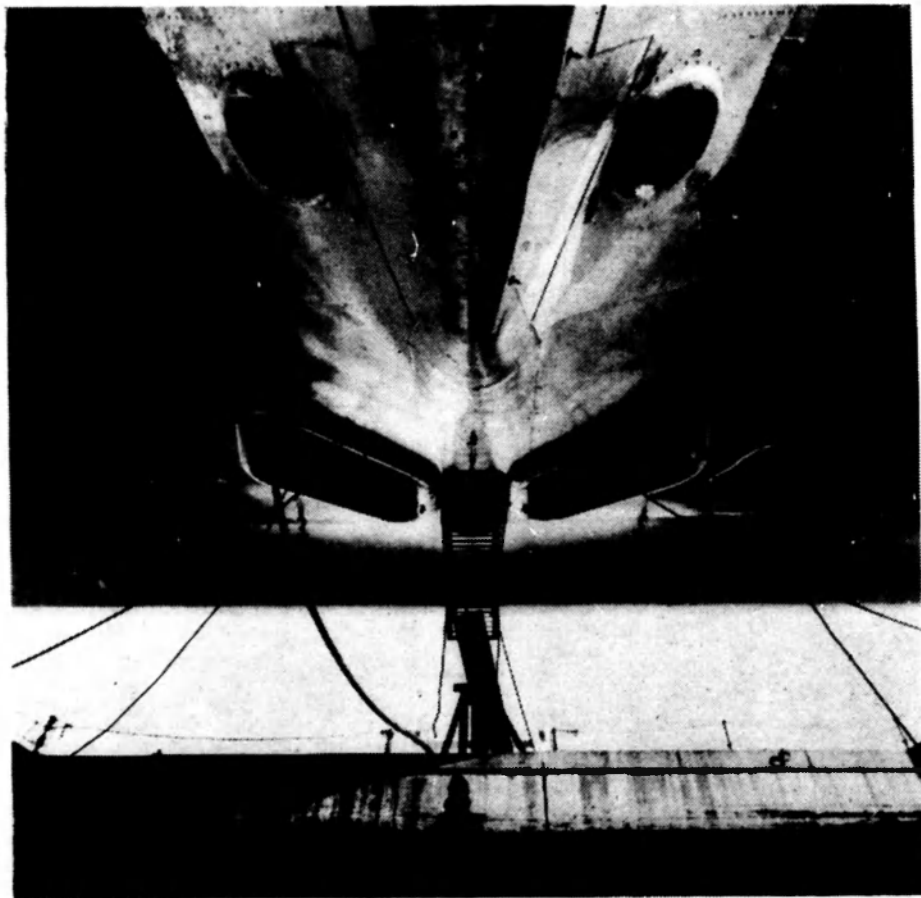
With all these modern developments the *Melbourne* can operate her three squadrons of jet aircraft by day and by night. They consist of one squadron of Sea Venom all-weather jet fighters, and two squadrons of Gannett twin-engine, turbo-prop. anti-submarine aircraft.

The *Melbourne's* capacity of operating jet aircraft by day and by night is of new, and great importance to the R.A.N. Furthermore, a mobile air base (for such is the *Melbourne*) with that capability is also of great significance to the defences of Australia as a whole.

The ability to use to the full potential of the ship depends on her complement. And you may be assured that the *Melbourne's* ship's company is as fine a crew as can be found in any ship in any Navy. They have already shown great professional skill and keenness. Our air squadron personnel have been praised in the United Kingdom for their airmanship. Through the good bearing and good conduct of our ship's company our visits to foreign ports have been described by local Diplomatic representatives as having made an outstanding contribution to good relations and understanding.

The *Melbourne's* ship's company is composed of fine representatives of our country and its Naval service. The present personnel will gradually change of course, but replacements will be coming from the same firm stock and the standard will not be lowered.

Brief history of *H.M.A.S. "Melbourne"*: next page.



An unusual view of a warship, no matter which way we look at it. It is a picture of the underneath part of the hull of the new aircraft-carrier, *H.M.A.S. "Melbourne"*, taken in dry dock at Garden Island, Sydney.

BRIEF HISTORY OF H.M.A.S. MELBOURNE

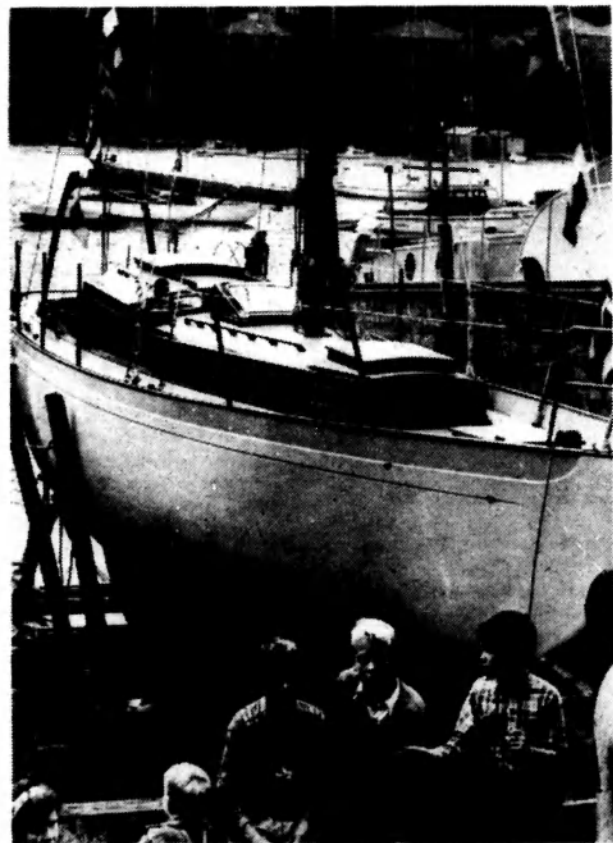
By A.J.G.

EARLY 1942 Naval Staff requirements for an intermediate Aircraft Carrier were placed with Messrs. Vickers Armstrong Ltd., Barrow. The basic requirements were for a ship of about 18,000 tons, 680 feet in length and a beam of approximately 80 feet, built to Lloyds or passenger liner practice, modified to some extent

to meet warship requirements for water tight sub-division.

Plans were drawn up and a scale model was tank-tested in May, 1942. Satisfactory results were obtained from these tests and no hull modifications were necessary.

From the above grew the *Majestic* class of aircraft carrier.



The first of its class in Australia, this Brittany-class sloop, the "Eos," was launched in Sydney Harbour last month. The owner, Mr. M. T. Flower, built it in the backyard of his home in the harbour suburb of Balgowlah. He took two years to build it.

five of which were commenced in 1943 and named *Majestic*, *Hercules*, *Leviathan*, *Powerful* and *Terrible*. The *Terrible* was taken over in 1949 by the Royal Australian Navy and renamed H.M.A.S. Sydney.

The *Majestic* was commenced on April 15, 1943, and launched on February 28, 1945, by Lady Anderson, wife of Sir John Anderson, at the time Chancellor of the Exchequer.

At the end of hostilities when the ship was within a few months of being ready for sea, work was virtually brought to a standstill pending decision as to future requirements.

In 1946 work progressed slowly and many lessons learnt during the war were incorporated into a modernisation programme. Arrangements were then made for H.M.S. *Majestic* to be taken over by the Royal Australian Navy and to be renamed H.M.A.S. *Melbourne*. A full scale effort was commenced in 1949, at which time it was decided to increase the size of the flight deck lifts to accommodate the larger aircraft coming into service, and in 1952 work commenced on fitting a modified angle deck of 5½ degrees and steam catapult, trials having proved that the installation of these items were a big advantage and a valuable addition to naval aviation.

The *Melbourne* will operate Gannett and Venom aircraft in the anti-submarine and all-weather fighter role, both types capable of operation from the deck under conditions of no wind.

The Gannett is a three-seater aeroplane capable of being flown on both or either of its turbo prop engines.

The Venom is a two-seater all-weather fighter powered by a De Havilland Ghost jet engine. It carries its own radar to seek and intercept enemy aircraft.

THE ROYAL NETHERLANDS NAVY

By a Special Correspondent.

THE building programme of the Royal Netherlands Navy has made considerable progress with the commissioning of two new cruisers and the first few of the series of twelve anti-submarine destroyers, named after the provinces and the two biggest towns of the Netherlands.

Soon after the war the fleet was composed of one aircraft-carrier, one light cruiser, one anti-aircraft cruiser, five destroyers, 16 frigates, nine submarines, about 30 minesweepers, and several auxiliary vessels for supply, survey, training and various other purposes. Most of these ships had been active during the war.

As a result of the building programme two cruisers, twelve anti-submarine destroyers, fourteen minesweepers and four submarines will be added to the existing fleet. Moreover a considerable addition was supplied by the United States of America in the form of thirteen frigates, thirty-eight minesweepers, five patrol craft, and a number of naval aeroplanes.

Some of these ships have been built in the Netherlands or are under construction in Netherlands dockyards as part of the Off-Shore Procurement Programme.

To accommodate this fleet a new naval base is under construction at Den Helder. This harbour is being partly scooped out of the sea so that by building it, the size of the Netherlands has been increased by one square mile.

As the new ships are nearing completion the older ships are being scrapped or laid up in reserve.

The aircraft-carrier, H.N.M.S. *Karel Doorman*, is the former British H.M.S. *Venerable*, belonging to a well known class of ships. It was bought from the United

Kingdom in 1948.

The two new cruisers have about 10,000 tons standard displacement. They have been built in hulls laid down before the war, but they are now equipped with the newest devices for propulsion, communications, detection and artillery. They carry eight 6-inch quick-firing dual-purpose guns of the newest design, all mounted in twin turrets.

The twelve anti-submarine destroyers are divided into two classes: four "A"-class ships of 2,164 tons standard displacement and 32 knots maximum speed and eight "B"-class ships of 2,467 tons standard displacement and 36 knots maximum speed. Their main armament consists of four 5-inch quick-firing dual purpose guns in twin turrets. They are equipped with the newest anti-submarine devices and armament, for instance rockets, devised by Swedish, French and Netherlands naval experts.

The new submarines are being constructed according to a new principle. They will consist of three separate parallel cylinders enclosed in one hull, which will increase their diving range.

The aircraft-carrier, which is now being refitted, will have an angled deck and will be equipped for the operation of jet aircraft. Aircraft now in use with the Netherlands Fleet Air Arm include Sea Furies, Fireflies, Catalina amphibians and seaplanes, Lockheed Neptunes, Grumman Avengers, Beechcrafts, and Sikorsky helicopters.

In peace-time the personnel of the Royal Netherlands Navy numbers about 23,000 men and women, which includes the Marine Corps. In war-time about 50,000 people would be needed to man

the ships and the naval stations ashore.

The commitments of the Royal Netherlands Navy come under two main categories: national and international.

The national task consists of the defence of the home waters along the Netherlands coast in Europe, the defence of the Netherlands Antilles and Surinam, and the defence of the Western part of New Guinea.

The international tasks arise from the incorporation into N.A.T.O., and more specifically into the North Atlantic Command (SACLANT) and the Channel Command (CINCHAN). The main preoccupation of both commands is the protection of shipping across the Atlantic and up the Channel into the North Sea.

The Netherlands have a merchant marine of more than three million tons.

£1,000 APPEAL

The Wollongong branch of the Navy League is conducting a public appeal for £1,000 to complete the headquarters of T.S. *Aibatross*.

The unit was established in 1947 under the command of Lieutenant D. Lindsay. For some years the Wollongong Sea Cadets have used the Army drill hall, but the introduction of National Service training has increased the Army's own needs and the Sea Cadets must have their own training depot.

Last year the Wollongong branch of the Navy League was granted the lease of a block of land near the harbour. With the limited funds at its disposal the branch has partly erected a building there. It needs the £1,000 to complete it.

R.N. SUBMARINE'S SURVEY MISSION

The Royal Navy submarine "Telemachus" left Sydney on June 1 on a mission of interest to scientists throughout the world.

EMBARKED in her were Australian and American scientists. Her mission is to conduct an ocean gravity survey in the Pacific.

The survey, besides producing information for mariners, will yield valuable knowledge about the composition and structure of the earth's crust.

To make the necessary observations the *Telemachus* will submerge in localities about 50 miles apart. While she is submerged in-

formation will be recorded on delicately balanced instruments specially installed for the purpose.

The *Telemachus* will lie at a depth at which she will be unaffected by winds, waves, currents or any other forces; she will be as motionless as it is possible for any object on earth, or on or under the sea to be.

Except for the soft, low speech of officers and men in the submarine — because those who go

down to the sea in submarines always speak in soft, low tones—an eerie silence will prevail as the *Telemachus* hangs suspended between the water's surface and the strange, unexplored level of the seabed.

The principal instrument to be used is the Vening Meinesz pendulum, which is so finely adjusted that it can obtain results that are accurate to one part in a million. It is because of this that the scientists who operate it are able to produce graphs and other drawings which indicate clearly not only the way in which the earth's crust is built in the region they are surveying but also give some idea of the kind of rock or other material of which it consists.

The strength of gravity in any particular area is determined by the area's mass and by the distance it is from the object upon which it impinges.

If, for instance, the *Telemachus* were lying over an area of densely packed rock, the strength of gravity recorded would be greater than if it were above an area of mud or sand; and if the rock were only just below the seabed the gravitational "pull" upon the submarine would be stronger than if the top of the rock lay a long way underneath it.

The rate at which gravity is decreased by distance is one of nature's constants. What gravity is even Einstein could not tell us, although towards his death he had hoped to discover some of its intimate mysteries and was developing a theory under which he classified gravity and electromagnetism merely as two different manifestations of a single phenomenon, as he had already classified

energy and mass and produced the now-famous equation that eventually led to the production of the atomic bomb.

The pendulum apparatus forms only portion of the instruments with which the *Telemachus* will be equipped to carry out its special work.

Most of the equipment was brought to Australia by Mr. H. M. Traphagen of the Lamont Observatory, New York, when he arrived here recently from the United States to join Mr. S. Gunson of the Australian Bureau of Mineral Resources with whom he will be associated in the project.

The proposal that the survey in the Pacific should be undertaken was first made last year by Dr. L. V. Berkner, president of Associated Universities Incorporated, of New York, who suggested to the Geology and Geophysics Branch of the Australian Bureau of Mineral Resources that the Australian Government and the Lamont Geological Observatory, of New York, should co-operate in conducting a survey in the vicinity of Australia and New Zealand.

Dr. Berkner emphasised that a submarine would be required for the task and asked whether the Royal Australian Navy could provide one. Anxious to help, the Royal Australian Navy inquired of the Admiralty whether one of the submarines based on Sydney could be made available, and the Admiralty, to whom a request for the loan of a submarine for such a purpose was not new, readily agreed that it could.

Submarines of the Royal Navy have taken part in gravity surveys in the Mediterranean, and similar vessels of the United States Navy in the Atlantic and the North Pacific. The Royal Netherlands Navy has lent submarines for surveys in the Atlantic and Indian



Two geophysicists, who will take recordings on the "Telemachus," explain a gravity meter to the submarine's captain, Lieutenant-Commander J. E. Moore. The geophysicists are Mr. H. Traphagen, of the Lamont Geological Observatory, a research branch of Columbia University, New York (left), and Mr. S. Gunson, of the Bureau of Mineral Resources, Department of National Development (Australia).



H.M. SUBMARINE "TELEMACHUS."

Oceans in which, in the latter instance, observations have been made off the West Australian Coast.

The *Telemachus*, in the course of its cruise, will visit areas in the Tasman Sea and other parts of the South Pacific and in intervals in its two months' cruise will call at Wellington, Auckland, Suva and Tonga.

10 U.S. WARSHIPS TO VISIT HERE

Ten American warships will visit Melbourne during the Olympic Games.

The first group — an aircraft carrier and four destroyers—will be in Melbourne from November 21 to December 9.

At least 24 R.A.N. ships will visit Melbourne during the Games.

NEW WARSHIPS IN BRITISH SERVICE

London:

TWO new frigates and a submarine came into service during May. News from the shipyards also included the launching of a third frigate.

H.M.S. *Torquay*, the first ship of the Whitby class of anti-submarine frigates to be completed, was provisionally accepted at Belfast on May 8. She has been built and engined by Harland & Wolff Ltd., and was launched in July, 1954.

Frigates of this class are designed primarily as anti-submarine vessels and are fitted with the latest equipment for locating and destroying submarines, including facilities for directing A/S aircraft. They are also equipped for limited anti-aircraft defence.

They are highly manoeuvrable and the hull form has been designed to enable them to maintain a high speed in heavy seas during submarine search. They are all welded and were prefabricated. They are intended to work with A/S frigates of the Blackwood class.

H.M.S. *Torquay* has twin screws and twin rudders and is powered by geared turbines of an advanced design, which have an extremely economical fuel consumption at cruising speeds. The turbines, built by Harland and Wolff, were designed by the English Electric Co. Ltd.

The frigate is armed with a twin 4.5-inch gun mounting and a twin-barrelled 40-mm. A.A. gun. The A/S armament consists of two three-barrelled mortars, each of which can fire a pattern of projectiles with great accuracy. The projectiles can be set to explode at a pre-determined depth.

These weapons can be trained over a wider arc than any previous types of A/S mortars. Two twin

and eight single torpedo tubes are also installed.

The dimensions of the ship are: length, extreme, 370 ft.; length B.P., 360 ft.; beam, i.e., breadth extreme, 41 ft.

The normal (peacetime) complement is nine officers and 180 men.

Accommodation arrangements include special schemes of furnishing and the provision of plastic table tops, patterned linoleum and other items. The ship's galley is fitted with an electrically controlled oil-fired range. A laundry is provided. Stainless steel washbasins with hot and cold water are fitted in the bathroom. The living accommodation has fluorescent lighting.

H.M.S. *Murray*, the third of the Blackwood class anti-submarine frigates, came into service on May 29. Her hull, turbines and main machinery were constructed by Alexander Stephen and Sons, Ltd., Govan, Glasgow. She was launched in February, 1955.

Frigates of this class are designed as anti-submarine vessels and are fitted with the latest equipment.

The *Murray* has a single screw and is powered by geared turbines.

The armament consists of three 40-mm. Bofors guns and two three-barrelled anti-submarine mortars.

The dimensions of the ship are: length, extreme, 310 ft.; length between perpendiculars, 300 ft.; beam, i.e., breadth extreme, 33 ft. Her normal (peacetime) complement is seven officers and 104 men.

H.M.S. *Explorer*, the first of the experimental high-speed submarines, commanded by Lieutenant-Commander L. R. Bell-Davies, R.N., was provisionally accepted into service on May 8, from her

builders, Vickers-Armstrongs, of Barrow-in-Furness.

This submarine has a diesel-electric propulsion system which can be augmented by turbine machinery in which the energy is supplied by burning diesel fuel in decomposed hydrogen peroxide. She will provide experience in the operation of this propulsive combination. She will also serve as a fast underwater target to train surface forces in the tactics which would be required to destroy submarines with high underwater speeds. She will not be armed.

The *Explorer* has an extreme length of 225 ft. 6 in. and breadth of 15 ft. 8 in. Her peacetime complement will consist of four officers and nineteen ratings.

The *Explorer's* special turbine machinery has been developed under the direction of the Admiralty by a special design team at Vickers-Armstrongs, Ltd., led by Dr. G. H. Forsyth, M.B.E. She is fitted with the latest submarine escape arrangements.

H.M.S. *Palliser*, an anti-submarine frigate of the Blackwood class, was launched at the shipyard of Alexander Stephen and Sons, Ltd., Govan, Glasgow, on May 10.

She has an extreme length of 310 ft. (300 ft. between perpendiculars) and a beam of 33 ft. She is powered by geared steam turbines of advanced design, built by the shipbuilders.

H.M.S. *Palliser* will be armed with three Bofors guns and two three-barrelled anti-submarine mortars. Each mortar can fire a pattern of large projectiles with great accuracy, and the projectiles can be set to explode at a pre-determined depth. These weapons can be trained over a wider arc than previous types of anti-submarine mortars.



Lieutenant-Commander T. K. Kidwai, of the Pakistan Navy (left), receives instruction in the use of tide-measuring instruments from the captain of the survey ship H.M.A.S. "Warrego" (Commander S. R. Schofield), centre, and Lieutenant-Commander P. G. Newby. H.M.A.S. "Warrego" left early last month for a four months' survey trip to the Barrier Reef to complete a modern map of the area.

NAVAL AVIATION GETS SCANT MENTION IN NEW WAR HISTORY

By B. J. HURREN — in London

▲ S IT IS obvious that the Navy is rapidly moving to a new shape such as even 20 years ago would have been thought impossible, golden opportunities lie in the hands of aspiring young officers to note and record what is now swiftly passing. Such notes, if assiduously culled, could easily lead to theses and lectures that could make the name and fame of their authors. Even Mahan had to make a start, and war had been going on for thousands of years before von Clausewitz explained what it was all about.

Now, almost unnoticed by the general public, who has paid out and will for long pay out tens of thousands of pounds for the service, official histories of the 1939-45 War are appearing in volume by volume. Nobody knows exactly how many of these books there will be; but the general editor, Professor Hancock of Oxford, in his preface looks to some two score of these works. It may, therefore, be well to look at the general lead of the first volumes to appear. These, and the rest, will pass into accepted history; in the Professor's phrase "the official historians of this generation have consciously submitted their work to the professional verdict of the future." (One rather thinks he meant conscientiously, but he has written conscientiously.)

In a strictly correct sense these books are not official at all. The authors, says a preface note, have been given access to official documents: "They and the Editor are alone responsible for the state-

ments made and the views expressed."

Let that be a first warning. These histories of the war are (to quote further) "anchored to the records of Government departments." Professor Postan, one of the authors in the series, explains that they are "written in Government offices, are planned and executed in constant consultation with civil servants," etc., and it was hoped to redress the very natural departmental bias.

There, then, is the pointer for the aspirant lecturer to follow, or rather in one sense not to follow. The histories are clearly made up from records in Whitehall in the main, and although attempts were made to contact big industry to get their side of the story these were certainly very limited attempts as regards the Fleet Air Arm not in the least because few firms have anything vaguely approaching an historical records section. It is as though the whole story of a railway were composed from a coldly impartial study of its time-table.

The latest work published is "Administration of War Production." It has 502 pages of text: of this total no more than eight pages are accorded to the Fleet Air Arm.

Remember, this official history is naturally with hindsight. The changes, radical beyond belief, were known to the historians when they wrote. They knew that in the war the aircraft carrier—which was despised and reviled before hostilities—came to be the backbone of the Fleet; that great

victories at sea (Taranto, Midway, Coral Sea and even Pearl Harbour) were due to the aircraft shipborne, and that the knell of the battleship was the road of the aero-engine.

They must have known that the Fleet Air Arm of May 1939, mustered only 180 aircraft in the first line; and that at the surrender of Japan the figure was more than 1,300 first-line aircraft with some 10,000 in immediate reserve, on

call as spares, or on training and communication duty. In the same period, the manpower rose from 2,000 (of whom many were R.A.F. on loan) to more than 70,000. Even the mightiest industrial organisation cannot match this increase by 35 times in the course of the war: it is a record without parallel—yet none of this appears in this latest book!

The plea might be made that this new work is confined to Ad-

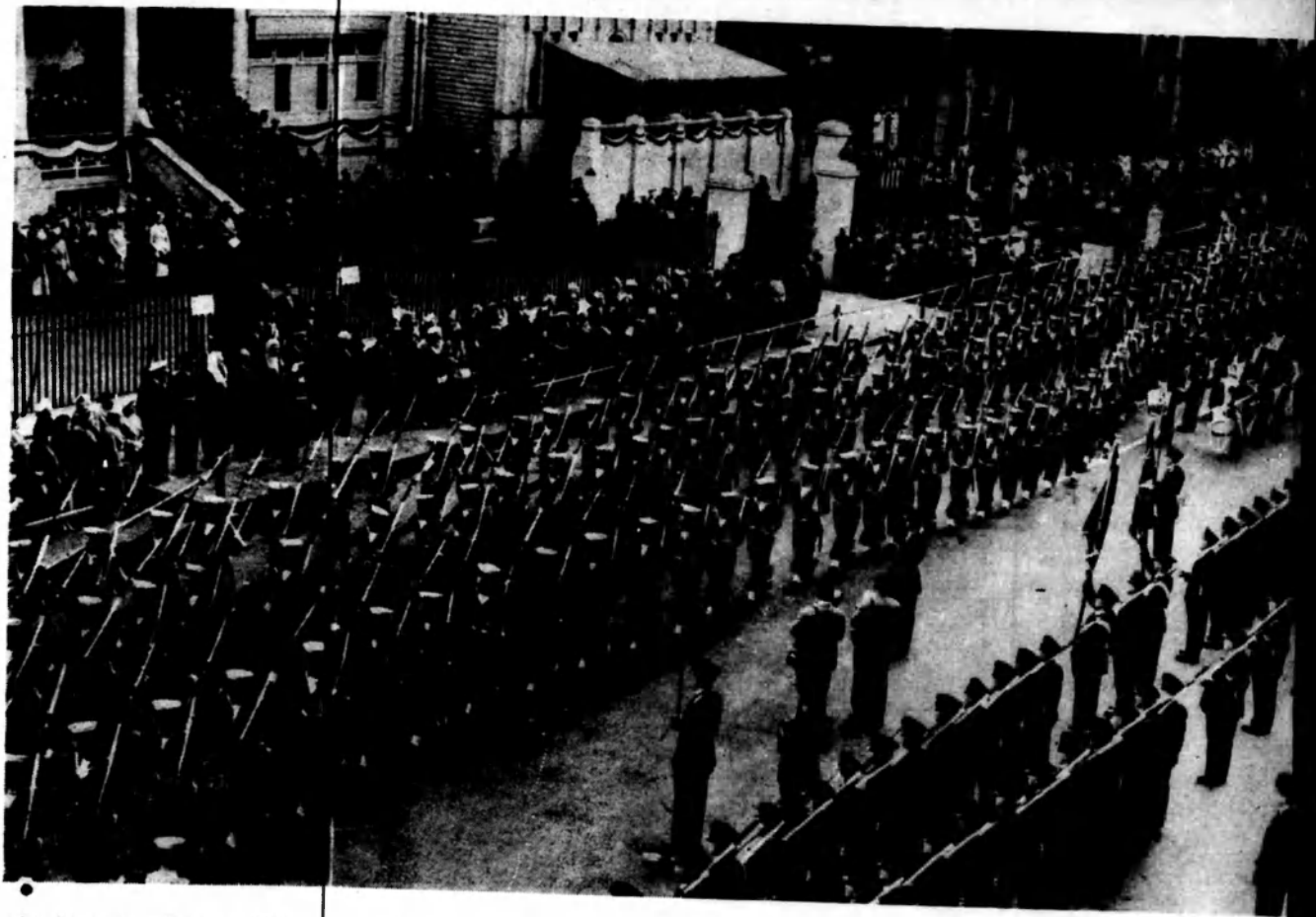
The Governor of N.S.W., Lieutenant-General Sir John Northcott, officially opened the 38th N.S.W. Parliament in Sydney on May 24—the 100th anniversary of the first meeting of the Parliament. Picture shows the Governor taking the salute at a march past of members of the three Services outside Parliament House.

ministration; and much sympathy must go to the authors if they tried to find out what really happened. The truth is, of course, that an administrative battle between the Admiralty and the Air Ministry was waged from the birth of the R.A.F. on 1st April

1918, up to the formation of the Ministry of Aircraft Production (April 1940) which in turn handed over the strife to the present Ministry of Supply post-war.

Some record of this is given. There is reference to the "whole

Continued on page 30





MARITIME NEWS OF THE WORLD

From our Correspondents in
LONDON and NEW YORK
By
AIR MAIL

Launch and car in collision

The year's most unusual collision occurred in Alabama. United States, recently.

It happened between a car and a cabin cruiser.

The boat's controls jammed and it shot out of a lake on to a road and ran into a car.

Two men in the boat were unhurt.

Ships cause road traffic congestion

Sydney transport experts may soon confer with shipping authorities about new Sydney departure times for overseas ships.

In the Legislative Assembly recently, members said traffic congestion was aggravated by people returning from Pyrmont wharves after farewelling ships.

One member suggested that overseas passenger ships should be diverted to Woolloomooloo to reduce traffic in the Pyrmont Bridge area.

The Premier, Mr. Cahill, promised to have the position examined.

Sydney man builds ketch in garden

A Sydney man is building a 32-foot sea-going ketch in his front garden.

The man, Bob New of Watson

Street, Neutral Bay, may use the ketch, which he has named *Nomad* for diving jobs. He has worked as a salvage diver.

The skeleton of the boat, 10 feet high, is squeezed between the front fence and the eaves of the house.

Mr. New hopes in six months to knock down the fence and remove the ketch by crane to the water. He hopes to have the *Nomad* ready for her maiden voyage by June, 1957.

The *Nomad's* specifications are: 35 ft. mast, 11 ft. beam, 15 h.p. auxiliary motor, four bunks. Cost: £1,500.

Battered racing yacht reaches safety

Dismasted and battered, the 29-ft. yacht *Aoma* sailed into the North Auckland port of Whangaroa on May 28 after being almost wrecked in a storm 200 miles off the coast.

Three of the exhausted crew of four men were taken to hospital.

The *Aoma*, from Christchurch, was a competitor in the 1,300-miles Auckland-Suva yacht race.

During the storm the *Aoma* capsized several times but righted herself.

Lifeboats to carry radar reflectors

A new feature is being incorporated in lifeboat equipment on

ships of the P. & O. line to ensure greater safety at sea.

It is a 14-inch aluminium radar reflector, specially designed to ensure a good radar echo from any bearing back to its source. The reflector will be carried in the lifeboat used in an emergency so that the ship can keep track of its whereabouts.

Ship's Olympic cargo for Melbourne

The cargo ship *Perim* recently brought important Olympic Games cargo to Melbourne. Included in her general cargo were 53 cases containing aluminium-alloy Olympic torches and fuel packs to keep the flame alight.

The all important Olympic Torch flame will be kindled at Olympia, Greece, in late October this year by a powerful magnifying glass concentrating the sun's rays on to a small wood fire. It will then be carried by foot and by air over 8,000 miles to Cairns in Queensland, where it is to be taken in relays by 2,750 runners each of whom will run one mile, to the Olympic Games in Melbourne.

This journey will take 15 days and nights of running by young Australians who can run a mile in 7½ minutes and are not professional sportsmen.

The flame is due to arrive at the

main stadium in the afternoon of Thursday, November 22, at the precise moment the opening ceremony is timed.

Another Olympic item in the *Perim's* cargo was 8,000 bags of cinders weighing nearly 500 tons for the running track. The cinders come from the En-Tout-Gas Co. Ltd., in the Midlands. Forty railway wagons were needed to carry the bags of material from Leicester to Immingham where they were loaded on the *Perim*.

Three motor rollers to be used in connection with the laying of the track were also carried on the *Perim*.

Luxury liners for Pacific run

Two new luxury liners will soon open a regular passenger service between the United States and Australia.

The liners are the *Matson* ships, *Mariposa* and *Monterey*, both of 20,000 tons, still under construction in American shipyards.

The *Mariposa* will open the service. She is due in Sydney on November 21.

Present plans are for the ships to stay four days in Australia, visiting Sydney and occasionally Melbourne.

The will make 14 trips a year between them.

During its 42-day cruise each liner will visit Hawaii, Tahiti, Wellington, Sydney, Auckland, Fiji and Samoa.

The *Mariposa* and *Monterey* are being specially designed for the Pacific run, and are expected to carry about 5,000 American tourists each year.

B.H.P. shipyards have orders worth £10 million

The B.H.P. shipyards at Whyalla have orders for ships worth £10 million, a spokesman for the company said recently.

He said the orders would keep

the yards in production until the end of 1960 at least.

Although the company employs 850 men at the yards, there are still jobs for scores of shipbuilding tradesmen.

The Housing Trust would soon build more houses at Whyalla to enable the company to recruit more labour.

The spokesman said that two 19,000-ton freighters are to be built at the yards.

They would be the biggest ships ever built in Australia.

Both would ply between Port Kembla and Yampi Sound.

He said the *Iron Spencer*, which was launched in May, was the 27th vessel to be built at the company's yards.

Sea-air search is abandoned

A sea-air search, covering 6,000 square miles of ocean for a 73-year-old fisherman in a 16-ft. open launch off the New South Wales coast, has been abandoned.

Authorities believe the launch has foundered, and the fisherman, Francis Brown, drowned.

Brown, a retired tugboat captain, left Port Hacking for four hours' fishing.

Man swam four miles after boat sank

A man waded ashore at Anna Bay, near Newcastle (N.S.W.), on May 27, nearly naked and bleeding from oyster-shell cuts.

He had swum for four hours after his launch sank off the coast.

The man, Peter Casey, 39, of Warner's Bay, Lake Macquarie, told police he was travelling alone in his 20-ft. launch from Nelson Bay to Warner's Bay.

The engine blew up four miles off Anna Bay. The explosion blew a hole in the boat which quickly sank.

Casey said: "I grabbed an inflated car tube and started towards land."

"When I got ashore I was without shoes, socks and trousers."

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Casey said a passing motorist refused to pick him up, probably because of his nakedness.

He found a sugarbag to wrap around himself and got help at a farm.

Submarines on loan to Brazil

Two United States submarines, *Muskallunge* and *Paddle*, will be loaned to Brazil upon completion of overhaul at the Philadelphia

Naval Shipyard late this year or early in January, 1957.

The loan of the two submarines is being made under the Mutual Defence Assistance Programme.

Crews from the Brazilian Navy will be trained at the Submarine Base, New London, Connecticut, sometime this year. Dates and details of the training schedule for the Brazilian crews are now being worked out by the U.S. Navy Department.



YOU Should Make A NOTE of this!

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Photos plunder five Japanese vessels

It was revealed in Tokyo recently that pirates last February boarded, plundered and burnt five Japanese pearling vessels off the coast of Burma.

Then they put the 55 Japanese crewmen and 40 Burmese trainee divers on an island.

The Japanese returned to Yokohama yesterday aboard the British ship *Sangora*.

They said to-day that the pirates numbered about 30 and carried automatic rifles.

The loss in the raid totalled about £87,500.

Mine destroyed off N.S.W. coast

The R.A.N. recently sank a mine which was sighted adrift, six miles off Barrenjoey, Broken Bay (N.S.W.).

The mine is thought to have been one which the Japanese laid about 1944.

The collier *Stephen Brown* bound for Newcastle, first sighted the mine and flashed a report to the freighter *Eastern*, which advised the naval authorities in Sydney.

H.M.A.S. *Walrus*, stationed at Rushcutter Bay, was immediately ordered to the scene. Two Navy Fireflies from Nowra and an R.A.A.F. *Neptune* from Richmond also took off for the scene.

Lieutenant R. M. Titcombe, commander of the *Walrus*, said the mine was seen a few minutes after the *Walrus* arrived off Barrenjoey.

With two crew members, Lieutenant Titcombe inspected the mine from a rubber dinghy.

After the inspection they returned to the *Walrus* and fired five rounds of .303 ammunition at the mine from a distance of 1,000 yards.

Lieutenant Titcombe said the mine sank without an explosion.

NEWS OF THE WORLD'S NAVIES

Pakistan destroyers to be modernised

Agreements have been signed in London by Britain, United States and Pakistan for the modernisation and refit in the United Kingdom of four destroyers belonging to Pakistan.

The ships are the former British destroyers *Gabbard*, *Cadiz*, *Creole* and *Crispin*.

Funds to carry out this modernisation and refit work are to be made available by the United States under the Mutual Defence Assistance Programme.

Work on the *Gabbard* and *Cadiz* is already in progress and work on the *Creole* and *Crispin* will begin at the earliest possible date.

H.M.S. Protector returns from Antarctica

H.M.S. *Protector*, which went to the assistance of the headquarters ship *Theron*, of the British transantarctic expedition, and whose helicopters made reconnaissances when the *Theron* was caught in the ice in the Weddell Sea in January, returned to the United Kingdom on May 22.

She arrived at Portsmouth following service in the Antarctic since November last. Her major role during this period of service was to assist the Governor of the Falkland Island Dependencies in maintaining the security of the territories under his jurisdiction, a role which hitherto was carried out by frigates of the America and West Indies Station. Frigates, however, were proved by experience to be less suitable for the work than the *Protector*, which was specially converted and strengthened for operations in

southern waters during the Arctic season.

The *Protector* will recommission for further service in the Antarctic and will sail again for the Southern Ocean in the autumn for another tour of duty. She is scheduled to operate an annual cycle, returning home each year about the end of May.

H.M.S. *Protector*, an armed net-layer, is commanded by Captain J. V. Wilkinson, D.S.C., G.M., R.N.

R.N. Armament depot to be closed

The Admiralty has decided to close the R.N. Armament Depot at Woolwich.

This will be done gradually over the next two or three years. At present about 350 men and women are employed at the depot.

The Admiralty says that the wartime development of other ordnance factories reduced the value of the Woolwich depot.

The Royal Navy has had a depot at Woolwich since 1891. Its main purpose has been the channelling of overseas shipments of explosives and armament components, and supplying armament components to the filling factories.

Navy apprentices to begin training

Nineteen boys from New South Wales will be among the first 50 from all States of the Commonwealth who will enter the new Navy Apprenticeship Training Establishment at Quaker's Hill, near Parramatta (N.S.W.), on July 1.

The 50 boys were selected by the Australian Navy Board on the recommendation of a committee presided over by the captain of

the training establishment, Captain (E) F. L. George, R.A.N.

The committee personally interviewed each applicant.

From July 1 50 more boys will enter the establishment every six months.

After expert instruction for five years they will become the Navy's skilled artificers and shipwrights in a rank equivalent to that of petty officer.

The Minister for the Navy, Senator Neil O'Sullivan, has said that the new training scheme, which had been introduced to ensure that the Navy would have an adequate supply of artificers and shipwrights, had been highly commended by leading trade union officials and the New South Wales Apprenticeship Commission. Besides opening the way for boys to enter upon remarkably interesting and well-paid careers in which they would enjoy many privileges, the establishment would provide the best engineering training in the Commonwealth.

H.M.A.S. Voyager begins sea trials soon

The contractor's sea trials of H.M.A.S. *Voyager*, the first of three *Daring* class ships being built in Australia for the Royal Australian Navy, will begin about the middle of July and be continued until the middle of August.

The *Voyager* is expected to be commissioned in December.

She and another of the *Daring* Class ships, H.M.A.S. *Vampire*, are being built at the Cockatoo Island Dockyard, Sydney. The third *Daring* class ship, H.M.A.S. *Vendetta*, is under construction at the Naval Dockyard at Williamstown (Vic.).

The *Vampire* will be completed about September, 1958, and the *Vendetta* a few months earlier.

The three ships, bigger than destroyers, have been named after destroyers of the famous Australian "Scrap Iron Flotilla," which became famous for their exploits in the Mediterranean in the Second World War.

They are of all-welded construction and embody in their design some of the most advanced marine and mechanical engineering work yet undertaken in the Commonwealth.

They will have a standard displacement of 2,610 tons and a full-load displacement of more than 3,500 tons, be 390 feet in length and have a beam of 43 feet. They will carry six 4.5 inch guns six 40-millimetre anti-aircraft guns, and five 21-inch torpedo tubes, all of which have been, or are being, manufactured at Australian Government ordnance factories.

Working-up training for R.A.N. pilots

The R.A.N. Fleet Air Arm fighter squadron and two anti-sub-

marine squadrons that arrived in Australia from the United Kingdom in the new aircraft carrier *Melbourne* have begun their shore-based working-up flying training as a preliminary to embarking in the carrier again.

The Minister for the Navy, Senator O'Sullivan, says that day and night fighter interception training is being done to seaward of the coast between the Sydney Heads and Jervis Bay in co-operation with the radar direction school at H.M.A.S. Watson on South Head.

Other training, which included anti-submarine hunting and killing techniques, rocket and gunfire and bomb-dropping, was being carried out in the Jervis Bay area.

The fighter squadron was using the new Sea Venom jet aircraft and the anti-submarine squadrons the new Gannet turbo-props. All the aircraft were brought to Australia in the *Melbourne*.

Senator O'Sullivan adds that the three squadrons will rejoin the *Melbourne* on August 1 to resume their carrier-based flying training, which will take place off the Queensland coast. They have done

a considerable amount of flying training in the *Melbourne* in the English Channel and other places, but because the ship's flight deck was crowded with stored aircraft during the passage to Australia an interruption of training had been inevitable.

Royal Navy submarine's ocean survey

The Royal Navy submarine *Telemachus* has left Sydney to begin an ocean gravity survey that will help scientists to gain knowledge about the composition and structure of the surface of the earth.

The survey will take about two months and will form part of the programme arranged for the International Geophysical year.

It will embrace portions of the South Pacific, including the Tasman Sea.

A marine pendulum, brought to Australia by Mr. H. M. Traphagen, of the Lamonte Geological Observatory, of New York, will be used in the investigations. Mr. Traphagen and Mr. S. Gunson, a geophysicist of the Australian Bureau of Mineral Resources, are in the *Telemachus*, which will visit Wellington, Auckland and Tonga.

While the *Telemachus* is in New Zealand water she will exercise with ships of the Royal New Zealand Navy and maritime aircraft of the Royal New Zealand Air Force.

R.A.N. warship visits Norfolk Island

The Royal Australian Navy destroyer, *Arunta*, recently took part in the centenary celebrations of the landing of Pitcairn Island settlers on Norfolk Island.

The celebrations lasted six days. The Governor-General (Sir William Slim) unveiled a plaque commemorating the landing.



"Merchant Shipping and the Demands of War," by C. B. A. Behrens, published by H. M. Stationery Office, London.

Among the definitions of "experience" in the Oxford English Dictionary are "proof by trial" and "the observation of facts or events considered as a source of knowledge." Within these definitions this significant volume, lately published, is a distillation of the experience arduously gained by those who had to organise and administer British merchant shipping during the Second World War.

It makes absorbing reading, for the author has succeeded in sugaring her pill of essential statistics with a personal touch that quickens to life a recital of events which might easily have proved somewhat arid in other hands.

Only incidental references are made to tankers and coasters, whose wartime story is to be recorded elsewhere in this series of official histories, but the book does not suffer unduly from this restriction.

It opens with a survey of the pre-1939 position and of the difficulties facing the various departments and committees which tried, with singularly little success, to make some plans for the inevitable war. This was at a time when, as the author says, "to attempt to answer the necessary questions about needs and resources was to embark on a sea of uncertainties." But there were a certain number of known facts, and it is impossible not to be impressed by the striking parallel existing between the position then and now. Then, as now, it was true to say that "a flourishing Merchant Navy . . .

seemed not only the barometer of British economic health, and a necessary means to it, but a prerequisite of national defence."

The warnings of shipowners in the 1930s that their industry was vital to the nation's safety and that drastic steps should be taken to arrest its decay were received, as they are to-day, in a mood reflecting the impression that the owners clearly had an axe to grind and consequently need not necessarily be believed.

But then, as now, there was no doubt that the state of the Merchant Navy did indeed give cause for alarm. The major causes were the decline of British shipping, especially in dry cargo tonnage; an increasing dependence on foreign shipping, which in the 1930s was estimated to bring into the United Kingdom no less than 44 per cent. of her imported commodities; the "catastrophic" fall in coal exports, on which the prosperity of our tramp industry had been built up; and finally the practice of what we now call "flag discrimination"—the artificial protection of a country's shipping by subsidies, open or concealed, and by requirements that certain export cargoes, or a given proportion of them, must only be carried in that country's own ships.

All these problems are still very much with us to-day, and—just as in the 1930s—the warnings which have been sounded have had no apparent effect either on the Government or on the country as a whole. Accordingly, it is of interest to see what conclusions can be drawn from an examination of this situation in the light of the experience recorded in this book.

Continued overleaf



GALLIPOLI by Alan Moorehead

"I have read Mr. Moorehead's account of the Gallipoli campaign with much interest. The historical consequences of this operation could have been of the greatest magnitude, and Mr. Moorehead is much to be congratulated on the skilful, objective and most readable way in which he has presented the story."

—Sir Winston S. Churchill.

Alan Moorehead, the brilliant British war correspondent, has recreated with extraordinary vividness the drama at Gallipoli, with its tragic hesitations and missed opportunities, and the cheerful heroism of the British and Anzac troops, hemmed within a few terrible acres of beach and hillside, permanently under shell-fire. Mr. Moorehead studied many papers and records on all aspects of the campaign and the result is a masterpiece of historical reconstruction and a dramatically human document. Book Society Non-Fiction Choice.

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Take first the decline in British shipping—a decline that is both absolute in terms of individual units in all but the tanker fleet, and relative in comparison with the growth of world tonnage generally. The primary reason is the ever rising cost of replacement when so much of a company's profits are taken in taxation. Its most dangerous consequence is that, in addition to a decline in numbers, Britain's dry cargo fleet is becoming progressively more aged and less able to compete effectively with the modern ships built by foreign owners unhampered by such financial considerations.

Many of these are ships registered in countries such as Panama and Liberia, where lack of effective governmental regulation permits operating costs to be reduced to a minimum. The phenomenal growth of this tonnage is shown by the fact that the total number of such ships now exceeds 1,000, nearly eight million gross tons of shipping or practically 10 per cent. of the world total, and an increase in 1943 alone of about 2½ per cent.

The results of this unfettered competition would be reflected in time of war in a shortage of modern tonnage manned and operated from this country; and the possibility of being held to ransom by foreign shipowners whose choice of "flags of convenience" is dictated solely by financial considerations.

If the decline in coal exports could have been responsibly described as "catastrophic" in the 1930s, what adjective should be applied to the current situation when Britain is required to import some 12 million tons a year? During the war, there was difficulty enough in providing shipping for the relatively modest needs of traditional customers such as France and Egypt; how then could we bear this additional burden should war come upon us in the near future?

As has already been explained, neither tankers nor oil cargoes are dealt with in this volume, but without oil not only must our present-day civilian needs suffer severely, particularly on the roads and on our farms, but our armies would be halted, our aircraft

grounded and our Navy immobilised.

The continuing slow turn round of shipping also gives cause for grave concern. During the war, despite initial difficulties, imports were maintained at a level sufficient to keep up our essential stocks—and this despite all that the enemy could do to hinder us by bombing our ports.

Here reference must be made to what the author calls "a very extraordinary fact that at first sight must appear repugnant to common sense"—the fact that over the country as a whole the heavy bombing of our ports in May 1941 "delayed ships to an extent so small as to be virtually negligible."

As to the cause, the author has this to say: "Human ingenuity in a crisis can be very fertile. Raids or the fear of them may produce such an improvement in the general organisation of the port that, if one compares the achievements before the bombing with those which follow it, one may find an increase and not a decline in the speed with which ships are turned round."

But these attacks were carried out by "conventional" means. What the effect of atomic bombing would be is still not entirely clear, although no one doubts that our major ports are highly vulnerable to it, while there is only an inadequate and dwindling fleet of coasters small enough and of the proper design for the dispersal of general cargoes from alternative emergency ports.

"Flag discrimination" reduces the opportunities of British shipowners to earn the profits which are essential for the replacement of obsolescent tonnage. It also leads eventually to an undue dependence on foreign shipping—and the wartime problems of chartering foreign ships, even those of friendly neutrals or nominal allies.

Continued on page 32

Personalities

Admiral Burrell to be Second Naval Member

REAR-ADMIRAL H. M. Burrell, C.B.E., relinquished his command of the Australian Fleet and becomes Second Naval Member in September.

Referring to his change of appointment, Rear-Admiral Burrell said:

"No one can be pleased at leaving the finest command the Royal Australian Navy has to offer. I joined the Navy College at Jervis Bay in 1918, little thinking that I was to be one of the fortunate—to be a Lieutenant would be a miracle.

"To command a fleet is an exhilarating as well as a sobering experience. A fleet is an instrument of war and of peace. The roles it must be ready to carry out are many and varied and all require patient training. It is a sobering thought that at the Battle of Jutland the fate of the Empire rested on Admiral Jellicoe.

"In these days technical progress does not slacken but the man still comes first. My officers and men are a fine team of whom I am proud. I have worked with them and watched them closely in battle and in peace. It is an honour and a pleasure to command them. I like to think Australia is proud of them too.

"No nation will ever be great if its sons are not prepared to leave the security and comfort of the home and set out after adventure. The Navy provides that opportunity.

"I hope the youth of this country, particularly those with nautical inclinations, will come forward and maintain the steady flow of recruits so necessary for an efficient Navy."

Admiral Dennison, U.S.N.

Rear-Admiral Robert L. Dennison, U.S. Navy, has been appointed Commander, First U.S. Fleet, with the rank of Vice Admiral.

He relieves Vice Admiral Herbert G. Hopwood, U.S. Navy.

Admiral Dennison was Assistant Chief of Naval Operations (Plans and Policy) and Director, Strategic Plans Division, Naval Operations.

Mr. Hutton

Mr. S. A. C. Hutton, Deputy Superintendent Purser of the P. & O. line, has been appointed Superintendent Purser in Australia. He replaces Mr. R. Mills, who died recently, and will take up his new appointment in August.

Mr. Hutton joined the P. & O. Company in June, 1928, and sailed on his first voyage as assistant purser in the *Malwa* in June, 1929. He was appointed purser in May, 1933, sailing in various ships of the company to China, Japan and Australia. His last visit to Australia was in 1938 in the *Cashay*.

On the outbreak of war, he joined the *Corfu* and stood by that ship in Belfast for three months during her conversion to an armed merchant cruiser. Up to July, 1940, *Corfu* was employed on the northern patrol and convoy escort duties from Freetown to the western approaches. He left the *Corfu* at Freetown after the ship had been in collision with H.M.S. *Hermes* and travelled back to the United Kingdom in H.M.S. *Pretoria Castle*.

In August 1940, he joined the armed merchant cruiser H.M.S.

Bulolo (ex Burns Philp Line), serving as supply officer until after the end of the war. This ship was manned mainly with Australian engineer officers, the other officers being English and South African. In 1941 she was converted by Messrs. Green and Silley Weir to a combined operations headquarters ship and took part in that capacity in the landings at Algiers, Sicily, Anzio, Normandy and, finally, Operation Zipper in Malaya.

Shortly after the signing of the Armistice at Singapore, Mr. Hutton left *Bulolo* and returned to the United Kingdom for demobilisation. He rejoined the P. & O. Company early in 1946 and sailed in the *Carthage*, then troopship, until April 1947, after which he came ashore to work in the head office. He was appointed Inspecting Purser in September 1947 and Assistant Purser (now designated Deputy Superintendent Purser) in January, 1948.

Mr. Lambert

Mr. Wally Lambert, foreman boilermaker at Garden Island Naval Depot for 45 years, retired recently.

Naval officers and fellow workmen gave him a rousing farewell. Mr. Lambert was almost in tears.

Mr. Lambert began his career as a boilermaker at the age of 16.

Sir William McKell—later Australia's Governor-General—was serving his apprenticeship at the same time.

"Several years ago I had the pleasure of entertaining him in my workshops," Mr. Lambert said.

Mr. Lambert, who has worked on all types of R.A.N. warships, says his biggest job with the Navy was boilermaking work on the former cruiser *Australia*.

"From here on, however, all those things are memories," he said.

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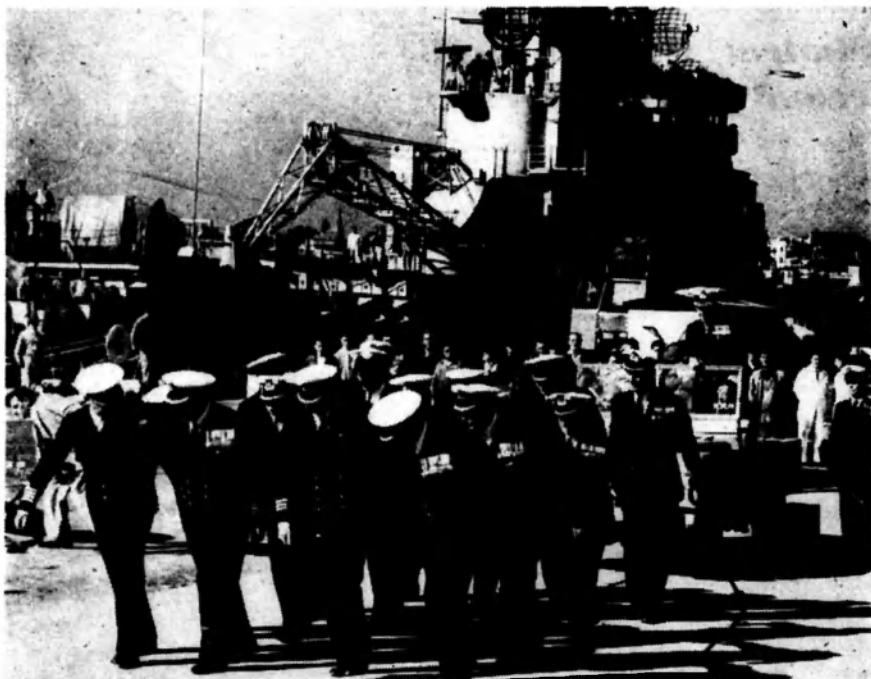
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"A DELICIOUS SPREAD"





When Rear-Admiral H. M. Burrell relinquished command of the Australian Fleet on June 7, 16 Naval officers, including five captains, towed him in a Landrover from his flagship, H.M.A.S. "Melbourne." It is Navy tradition for senior officers to row an admiral ashore on such an occasion, but this was not possible because the "Melbourne" was in dry dock at Garden Island, Sydney.

WIDE RANGE OF NAVAL EQUIPMENT TESTED IN MED.

THE Royal Navy's trials cruiser, H.M.S. *Cumberland*, has been in the Mediterranean carrying out a series of tests of new equipment ranging from guns and television to sleeping bunks and chairs.

In the field of gunnery the trials have included tests of new 3-inch and 6-inch turrets. The 6-inch have a high rate of fire and are fully automatic. In the ship was a representative of Vickers-Armstrong Ltd., which designed them.

The 6-inch turrets were tested for reliability and maintenance. The experience gained will be used in developing operations drills.

In the *Cumberland*'s engine-

room television was installed to indicate the water level in boilers. Automatic temperature control equipment also was installed for testing.

New fittings for living spaces were also under trial. These included on the mess decks all-metal sprung bunks which can be converted into settees, and new-design chairs and electric fires.



Several new officers' cabins were specially constructed for trial. Smaller than others now in general use—they measure 7 ft. by 6 ft. 6 in.—their fittings include an all-metal wardrobe, chest of drawers, and writing desk, with built-in combination safe, and stainless steel wash-basin.

The cabins are insulated with fibreglass and lined with easy-to-wash panels in different colours.

Other equipment for trial included experimental boats, awning and guardrail stanchions and glass reinforced plastic ventilators, which require no painting and reduce top weight.

MERCHANT SHIP REPLACEMENT

By "DUNMAGLASS" — in London

THE problems of shipowners, both liner and tramp, in these post-war days are many and varied. In this short article a brief attempt is made to describe some of them.

Cost of Replacement This is perhaps the shipowners' greatest headache. The cost of building ships to-day is at least four times that of 1938 and in the case of small ships, five times. A motor cargo liner of, say, 10,000 tons deadweight, with a speed of 15 knots, could be built in the years before the second world war for about £250,000. In normal circumstances the owner might reasonably have expected to earn an average profit of about 10 per cent. per annum, half of which would go to a depreciation fund, which, in 20 years, would amount to £250,000, sufficient to replace the ship, which by this time would be nearing the end of her economic life. The other 5 per cent., after deduction of tax, would be available for expansion of the business and for the payment of modest dividends to the shareholders. Sometimes the annual profit might be in excess of 10 per cent. but on many occasions it would be less. Even during the war years, when freights increased considerably, British shipowners were not permitted to benefit from them. Their ships were requisitioned by the Government at rates of hire, which, if they were fortunate enabled them to earn a bare 10 per cent. per annum on their first cost; and to make doubly sure that no fortunes would be amassed E.P.T. was introduced. Shipowners, of course, received insurance money for ships lost during the war and this together with the accumulated depreciation enabled some of the ships to be re-

placed, although in many cases the funds from these sources were not nearly sufficient for the purpose owing to the rapidly rising costs of building. Those ships which survived the war have reached, or are now nearing, the time when they must be replaced. In the example mentioned the new ship is going to cost not less than £1,000,000, towards which the shipowner has only perhaps been able to put by little more than one-quarter of that amount. The problem is an urgent one, which is every month getting more serious, as building costs continue to rise at an alarming rate, with no prospect in sight of their being stabilised. Clearly there is a case here for some relief from a system of taxation which places such an intolerable burden upon the shipping industry. Depreciation allowances should be related to the replacement cost of a ship, or somewhere near it, rather than to the historic cost. It may be asked —if such a concession is made to

shipowners why should it not also be extended to other industries? The answer is simple: factories and plant do not require to be completely replaced at the end of 20 or 25 years as do ships. In other countries shipowners receive almost unbelievable benefits from their Governments in the shape of tax allowances and other grants. It is true that the Chancellor of the Exchequer in the 1954 Finance Act gave a 20 per cent. "Investment Allowance" on capital expenditure on new assets, including ships. Whilst this concession was appreciated by the shipping industry, it by no means bridges the gap between the total of the depreciation allowances and the current cost of replacement. To realise just what this replacement problem means to shipowners one has only to quote the Chairman of the Union-Castle Mail Steamship Co., Ltd., who said in his address to shareholders at the recent Annual Meeting:

"Depreciation on the actual



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total cost of the Company's ships on the usual basis of 5 per cent. per annum absorbed £1,392,173. If, instead, depreciation had been calculated upon replacement cost the required figure would have been something upwards of £4,000,000. It is a disturbing thought that, on such a basis and on similar earnings, the Accounts would have shown a heavy deficit. Such a position is yet a long way off, but as new tonnage comes to be built to replace older units of the Fleet, on the hypothesis that building costs remain at their present levels, that position will gradually be reached, unless net earnings can be substantially increased to provide normal depreciation on the much higher actual cost of the new ships."

Increase in Running Costs of Ships: As with building costs, ships' running costs, which cover a multitude of items such as wages, victualling, deck and en-

gine stores, bunker fuel, insurance, repairs, surveys, etc., are all three to five times above pre-war. The largest single item is bunker fuel, the proportion of the running costs being anywhere from 35 per cent. to 50 per cent. in the case of a 10,000 d.w.t. 15-knot cargo liner, depending upon the type of oil fuel used and the trade in which the ship is employed.

In 1939 the price of furnace oil at United Kingdom ports was 37s. 6d. per ton and diesel oil 50s. In 1947 the prices had risen to 84s. 6d. and 106s. respectively. To-day the corresponding prices are 137s. 6d. and 218s. per ton.

In an endeavour to reduce bunkering costs some owners of motor ships are using furnace oil instead of diesel oil but the economies effected are not the equivalent of the difference in price between the two types of oil fuel. The additional wear and tear on cylinder liners of motor ships burning

heavy oil is considerable and some owners have reverted to the use of diesel oil as they consider that the savings in fuel are more than offset by the increased cost of maintenance.

Shipowners generally are dissatisfied with the basis on which bunker oil prices are fixed. The "yardstick" which is applied world-wide is the price in the Gulf of Mexico. The Gulf, of course, is not only a very localised market, unconnected with the huge Middle East and other production areas, but is subject to variations applying only to the American market, which cannot be considered as representative of the Eastern Hemisphere, governed, as the American market largely is, by the offtake of the finer oil products rather than the heavier oils, and subject to factors (such as even the weather) which affect a great industrial and domestic market, incomparable with anything obtaining in other areas.

As a result, bunker oil, even from comparatively cheap production sources, is priced on the American standard, which is notoriously higher than elsewhere. Prices are, moreover, subject to conditions and variations having no connection with the market concerned.

All of the other items of ships' running costs have increased considerably and continue to do so. As a result, freights have risen, both tramp and cargo liner, but with this difference. Tramp freights largely depend upon supply and demand, with considerable fluctuations from time to time. If these rates of freight fall below an economic level, the ships can be laid up until trade improves. Cargo liner owners, on the other hand, have to maintain regular services year in, year out, in bad times as well as good, at such rates of freight as will enable merchants to compete in world mar-

kets. In such circumstances liner freight rates cannot be increased at short notice to meet rapid rises in running expenses; neither can the sailings be drastically reduced, otherwise the shipowner will lose his customers.

Port Charges and Cargo Handling Expenses. These items form a very large proportion of shipowners' total operating expenses, being as much as 50 per cent. or more in some cargo liner trades. The increase in handling costs since the war, particularly in America, has been fantastic and at some ports in the United States the expense of loading or discharging cargo amounts to as much as £4 or more per ton.

Turn Round of Ships in Port: Whilst this problem is one of the principal worries of shipowners all over the world, slow turn round of ships is not common to all countries or to all ports. At some of the Continental ports, such as Hamburg and Rotterdam, loading and discharging operations are as fast, if not faster, than pre-war. These two ports, which were entirely destroyed during the war, have now been rebuilt with the most modern equipment. Mechanisation is now largely used and as the two or three-shift system is in operation despatch, both for general cargo and bulk cargoes, is very much faster than in United Kingdom ports. At Rotterdam, for instance, a cargo of 10,000 tons of coal can be discharged in 32 to 40 hours. In this country it would take about 10 days to handle a similar quantity.

The principal reasons for slow turn round of ships in the United Kingdom are:

- (1) Insufficient berthage, warehouse and transit shed accommodation at certain ports, due largely to unrepaired war damage.
- (2) Failure in some ports to clear goods from transit sheds.

SPECIAL EXHIBIT HONOURS CAPTAIN COOK

A SPECIAL exhibit in honour of Captain Cook has been added to the British National Maritime Museum, Greenwich.

It has been built round material in the museum, but new items include the official correspondence of the Navy Board which deals with the purchase and preparation of Cook's ships, the appointments of the officers, the provision of stores and anti-scorbutics and the loan of scientific instruments.

The exhibition has been enriched by notable loans, items which include the Board of Longitude papers in the custody of the Astronomer Royal of the Royal Greenwich Observatory, and charts and drawings from the British Museum referring to the first and second voyages.

Two suits of exceptional interest have been added to the fine display of naval uniforms. These are a sailor's white frock and trousers worn by King Edward VII at the age of five, and the full dress of an Admiral of the Fleet worn by Lord Fisher of Kilverstone at the funeral of the same King.

- (3) Shortage of labour; restrictive practices; strikes, both official and unofficial; refusal to economise in labour by the use of mechanical appliances to the maximum extent.

Although shipowners have at very great cost built faster ships since the war, the advantages of increased speed at sea are being nullified by these circumstances. This inevitably must be reflected in the rates of freight and adds to the eventual cost of commodities to the consumer.

—From the London "Navy."

King Edward's suit was made for him by one of the men in H.M. Yacht *Victoria & Albert*. Queen Victoria recorded that he first wore it on September 2, 1846.

A number of the uniforms of Lord Fisher, renowned for his reforms in the Royal Navy in the early years of the century, were recently presented to the Museum by his grandson, the present holder of the title. The full dress uniform placed on exhibition is being shown with all medals.

Also on view are all four mariner's astrolabes known in this country. Only nine are known to exist throughout the world.

The mariner's astrolabe is an adaptation of the astronomical (planispheric) astrolabe, which is a sort of circular star map used for calculations—an astronomer's slide-rule. Of the four instruments exhibited the oldest is dated 1555. It was obtained from the now defunct Dudhope Museum.

The second astrolabe was found under a rock in the island of Valentia, County Kerry, in 1845, within view of a place where three vessels of the Armada were wrecked. It was formerly in the Science Museum.

The third was brought up by a sand pump from a position near a wreck in Vera Cruz Harbour. It belongs to the Museum of the History of Science at Oxford. The fourth was made in 1616 by Elias Allen, the great English instrument maker, and was probably purchased by Professor James Gregory in 1673 for an intended observatory at St. Andrews University, in whose possession it remains.

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Gale force winds battered shipping and caused damage to small craft near Sydney on June 10. This picture shows a 40-foot ketch blown ashore at La Perouse, Botany Bay.

NAVAL AVIATION'S SCANT MENTION

(Continued from page 17)

devilish and hoary problem of air-sea relations, and the root of the matter, the Trenchard-Keyes agreement of 1924, is admitted to have introduced arrangements between the Air Ministry and the

Admiralty that were never to the satisfaction of the latter. The basic trouble was that whilst the Admiralty control extended to ships, and in particular *carriers*, which a preponderance of the Navy was certain would be sunk at the outset or relegated to countering

commerce raiders, it was the Air Ministry which controlled the development and supply of the aircraft for those carriers.

The long uphill battle of the Navy to control its own air service reached a turning point in 1937 when the Fleet Air Arm

became "all-dark-blue," i.e., the agreement was for the R.A.F. personnel to be withdrawn. But the important fact is that the Air Ministry still developed and supplied naval aircraft; and, in the way of things when from 1936 onwards rearmament took place, Industry and Air Ministry saw eye-to-eye because the large orders (i.e., continuity of production and employment) were for the R.A.F. whereas the Navy's needs were numerically trivial since the total complement of all its carriers—some of which creaked with old age—was less than the R.A.F. requirement for, say, India.

In the result, the Navy went to war with aircraft that were given the polite veneer of a patronising joke and elsewhere the contemptuous sneer of the monoplane for the biplane. It is easily forgotten, now, that the Skua was the Navy's only monoplane on the outbreak of war, and that the main strike force was the Swordfish on which more fulsome praise has been bestowed than on any other aircraft.

Make no mistake: that was a wonderful aircraft in the hands of exceptionally wonderful pilots. Had the morale of the Fleet Air Arm not been of the highest, the Swordfish would have been relegated to the tasks appropriate to the nickname the Navy gave it—The Stringbag. By the same token, had the Admiralty been able to obtain full recognition of the carrier's importance before war broke out, the feats done by the Swordfish might far have been excelled by some better aircraft, and Industry would have been able to supply the attack and fighter aircraft which years later came to the Fleet Air Arm.

The Admiralty felt a surge of hope when the Ministry of Aircraft Production was formed. It was given the right to determine the types of aircraft it wanted; it

it was to have a new and fair deal. Thus it had reason for high hopes from the written agreement, made with new men in a new Ministry of which the head was Lord Beaverbrook who had no allegiances to the Air Marshals or the Admirals.

All that was very well—if you did not know Lord Beaverbrook. Off-hand, I cannot think of any Minister who was (a) a millionaire several times over and had, therefore, personal, financial and political freedom, and (b) exerted a tremendous influence on popular opinion through his newspapers. The Admiralty had gone to bed with an atom bomb, who was a close friend of the new Prime Minister, Mr. Churchill. No record exists: but one assumes that "Winnie" rang up "Max" and said: Aircraft production is in a hell of a mess—go and sort it out, quick, before Jerry attacks in force.

Lord Beaverbrook not only moves quickly; he is lightning and dynamite and thunder. In three weeks after starting his Ministry of Aircraft Production, even that most powerful of Ministries, the Admiralty, was daily terrified as to what he had done and would do next. Admirals, Air Marshals, managing directors, high civil servants—any and all would be called out of bed from midnight onwards to speak to Lord Beaverbrook personally.

Legend has it that at his first meeting in the Ministry he was surrounded by all that was greatest in aircraft production, Services and Industry. One by one they explained how they might increase from two or three aircraft to four or five aircraft per month. Lord Beaverbrook is said to have cut this meeting short with the explosive words: "Is there anybody here who can give me two thousand of anything?"

That is not in the official record;

but the immediate effect was that aircraft production was concentrated under a priority system on five aircraft types for the R.A.F. Not a single naval aircraft type was deemed of sufficient importance to get on this hand wagon. As for the Admiralty's agreement, that was a fine piece of paper-work. As for the Chief Naval Representative in M.A.P., he had a fine uniform and was at this period without any effective power to produce aircraft. "We see," says the latest book, "that the C.N.R. was an ambassador . . . with his immediate deputies and assistants he retained the status of an Admiralty department . . . even on theoretical grounds it would have been surprising to find such an organisational relationship working altogether smoothly."

In short, the very existence of C.N.R. was self-evident proof that the new Ministry would tend to overlook or not understand the

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Navy's problems—otherwise, why appoint a flag officer as a watchdog in the new Ministry?

"Meanwhile," says the new work with, one suspects, a tongue in the cheek, "Inside the Admiralty tart allegations were made that new devices were not developed so long as they were required only for naval aircraft, but were pushed ahead as soon as the Air Force asked for them, that new types of aircraft were envisaged as land-based aircraft at first—only at a later stage were marinised versions considered and thus naval aircraft were always behind the times." (cf. Spitfire, Sea-fire.)

I was there, in the Ministry, when this utter frustration threatened to grip us, and C.N.R.'s assistants worked miracles to get round the obstacles in an everlasting task of snakes-and-ladders quality. Fortunately, a new champion appeared to save the Fleet Air Arm in the shape of (then) Rear-Admiral Boyd, later Admiral Sir Denis Boyd. Here was a man, who, in Hampden's phrase, drew the sword and threw away the scabbard. The whole course of the Naval Air Arm took a new turn when he arrived—and it was a course for the better.

So, to the rising young officer who wants to make his mark in staff college papers. I would recommend him to nobble some of those who did fantastic and quite unbelievable things in the war to bring about ultimate Victory. No record of these things exists to my knowledge in Whitehall, but, whilst memory holds the door, and it is not too late, there are still survivors of the Battle of Whitehall who could a rare tale unfold such as will never appear in the official histories.

One word of warning: when I set out, post-war, to write a his-

tory of British Naval Aviation which subsequently appeared under the title of "Perchance" I asked for Admiralty help. This was refused. I made a private enquiry as to why, since I offered to submit the MS. to Admiralty scrutiny. I was told: "If you write the truth, you will start a new war with the Air Ministry, and if you don't write the truth then it

won't be history." I relate that because it shows that there are still those ingenuous enough to believe that official histories are the truth.

[The author would like to make it clear that Captain Roskill's work "The War at Sea" is far above the general criticisms made in this article—it is an exceptional work of unimpeachable merit.]

—From the London "Navy."

BOOK REVIEW

Continued from page 24

are described in the book in terms which can give little comfort to an island nation such as ours.

A significant chapter is one under the simple title of "The Crews." The verb "to experience" can be defined as "to suffer; to undergo," in which sense our merchant seamen experienced all too much during the war.

Although exact figures are unobtainable, it has been estimated that no fewer than 32,000 British seafarers out of an average total of 145,000 died between 1939 and 1945 as a direct or indirect result of wartime conditions.

Probably a quarter of those serving in the Merchant Navy at the outbreak of war did not survive or, if they survived, "lived permanently damaged lives, still in the shadow of death." And yet delays to ships due to shortage of crews were almost negligible.

This chapter must rank as one of the best appreciations of merchant seamen written in recent years. It ends, however, by frankly admitting failure when trying to fathom from what source sprang their spirit of unyielding resolution. "There can be no precise explanation of the achievement," the author writes. "Those with firsthand knowledge of it always saw it as a kind of miracle; a unique expression of the spirit of a free

people into whose causes one did not enquire further."

This is one of two instances in the book when the author talks of miracles. The second occurs in a summing up when she states that, in the event, most of the complex and difficult tasks which faced the British shipping authorities and primarily the Ministry of War Transport were achieved with a degree of success that must "seem miraculous, and that might well be unrepeatable."

So far as our seamen are concerned, one may be sure that the same unquenchable spirit still exists. But the thoughtful reader is compelled to ask, with the author, whether the British genius for improvisation will always be given the time and opportunity to triumph over apparently insuperable difficulties.

Those holding high office who fail to listen to the warnings of the men who know the Merchant Navy's problems so well should heed the concluding words of this book: "Though the organisation that controls merchant ships can do nothing directly to win a war it can very easily cause one to be lost." And with insufficient—or inefficient—ships, the most perfect of organisations must be rendered impotent—"NAVIGAVI."

—In the London "Navy."

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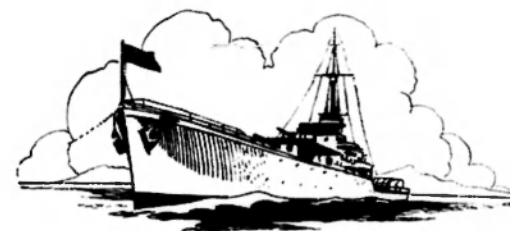
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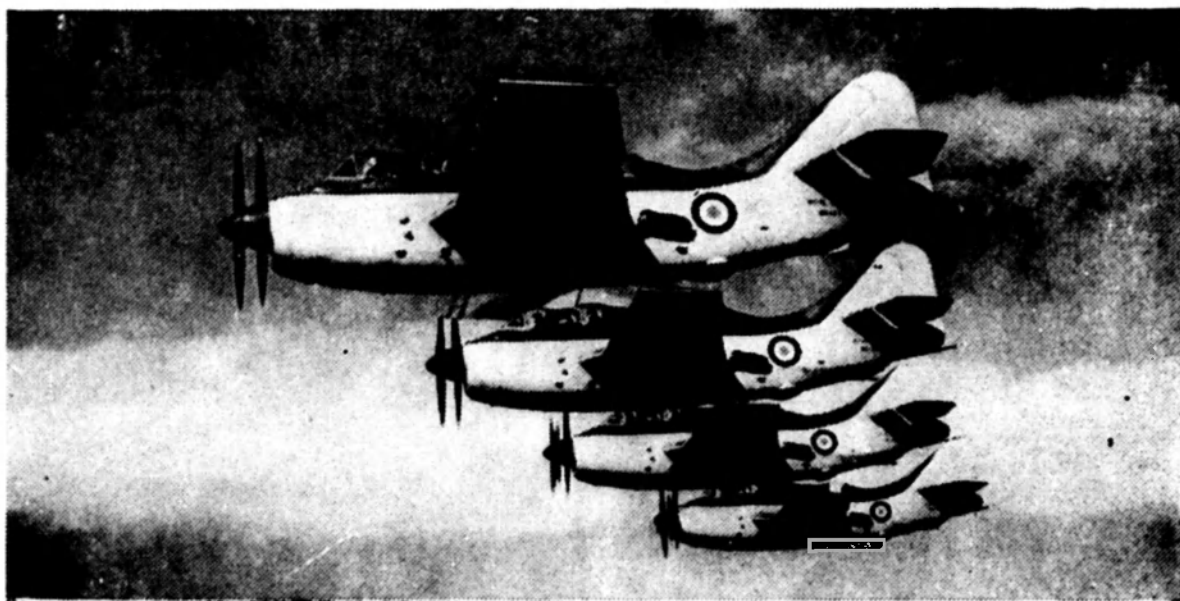
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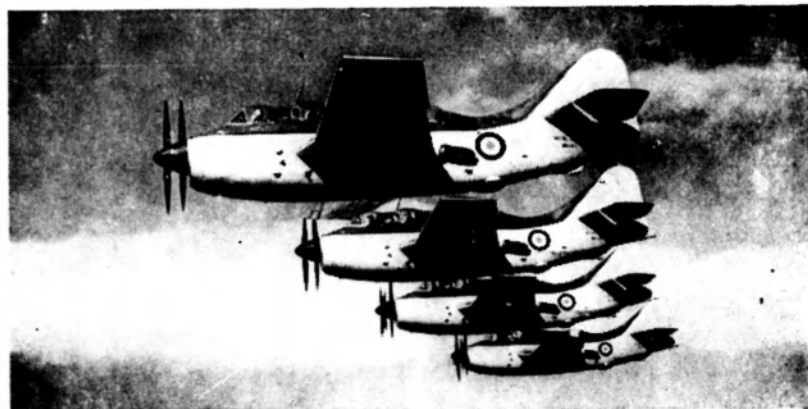
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Australia's Maritime

Vol. 19. AUGUST, 1956. No. 8.

WHAT OF OUR NAVAL BASES?

The announcement that Britain is prepared to give up her naval and air bases in Ceylon raises some pertinent questions of what bases the Royal Navy needs and what are the prospects of having them in the years ahead.

Britain has agreed to recognise Ceylon's right to her bases. For the privilege of using the present facilities of communications, movements and storage, she will assist Ceylon in expanding, developing and training her armed forces.

The British decision followed a request from Ceylon that she hand over the naval base at Trincomalee and air station at Katunayake in accordance with the terms of the 1947 defence agreement between the two countries.

The problem of overseas bases is not one alone for Britain. It is a general problem which arises from strategic needs of having bases in areas where local opposition to the bases themselves exists.

To-day this problem is found in an acute form in Cyprus, Aden, and Singapore, so far as Britain is concerned, and in Iceland and Okinawa so far as the United States is concerned.

As the London Economist points out (June 16,

1956) the need for wide flung bases and staging posts is vital for western defence.

The huge air power of the United States, in itself a major deterrent to aggression, becomes critically weakened without the assured use of forward bases on foreign soil.

The problem of British naval bases becomes specially urgent because of the changing attitude of parts of the British Commonwealth which up till now have sheltered the British fleet.

The Economist, in its survey of the problem, says that in Malta only proposals for integration with the United Kingdom have offered any reconciliation between colonial desires for enhanced status and the Navy's needs. No such reconciliation is in sight for Singapore or Aden; Hong Kong is held on sufferance from the Chinese, and the value of Gibraltar is lessened because of differences between Britain and Spain regarding its possession.

The Economist rightly emphasises that naval power remains the key to Western ability to deter aggression—it is the "fire brigade" which can be sent to all parts of the globe.

Britain, therefore, needs not only a navy to command her own seas. She needs one to do its share in securing command of the sea for the Western allies.

The United States is in a different position from Britain.

America does not possess such bases as Malta or Singapore outside the Pacific.

It uses Nato bases and leased bases, and cuts its dependence on any but American home bases by a large "fleet train" of repair, store and refuelling ships.

In other words, it acts as a "long-legged" navy as compared with the British concept of a "short-legged" navy. Indeed, to some extent, the Americans are critical of the British dependence on a "short-legged" navy.

But our American friends should consider these facts:

- British bases are part and parcel of Anglo-American sea power.
- The Americans assume that British bases will be available to preserve Middle East oil, and that bases in South-East Asia will not fall into the hands of the Communist Powers.
- A "long-legged" navy is an expensive substitute for a "short-legged" one.

As The Economist points out, a naval base has four functions:

- (1) It provides storage for fuel, ammunition, provisions and supplies.
- (2) It offers facilities for resting and training crews between cruises.
- (3) It has facilities for docking, repairs and maintenance; and
- (4) It is a command centre where the use of naval forces for any contingency is planned and organised.

Obviously, then, there are many difficulties in doing without bases.

The United States Sixth Fleet rotates to its home bases every six months, which at least doubles the ships needed and more than doubles the number of men.

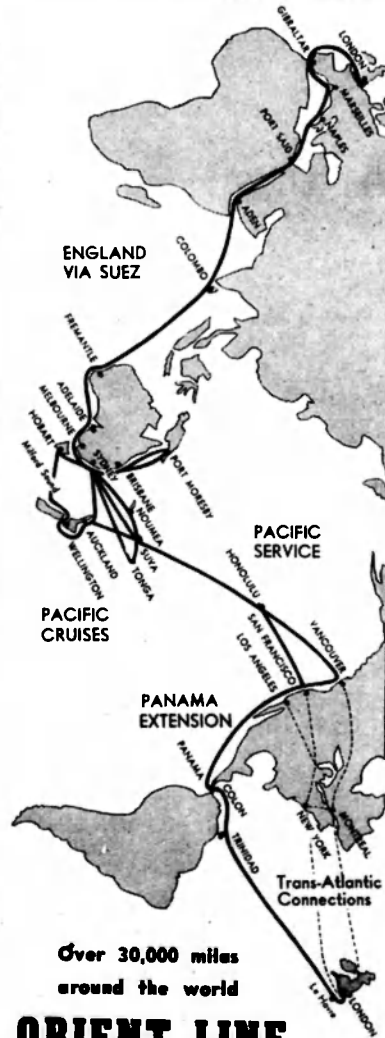
The journal says that it is this, apart from strategic factors, which explains the Admiralty's anxiety to hold Malta and Singapore as main fleet bases, despite their disadvantages.

It adds: "The existing string of colonial bases enormously cheapens (or conceals the real cost of) the work now performed by the Navy. The cost of holding a base has to be set against the cost in ships."

British opinion is that if in the future the Navy could count on none but home, Nato, and Australian bases, the need for an immensely costly long-range navy with large fleet trains would become imperative.

And nothing short of a radical revision of the British Navy's role could alter that reckoning.

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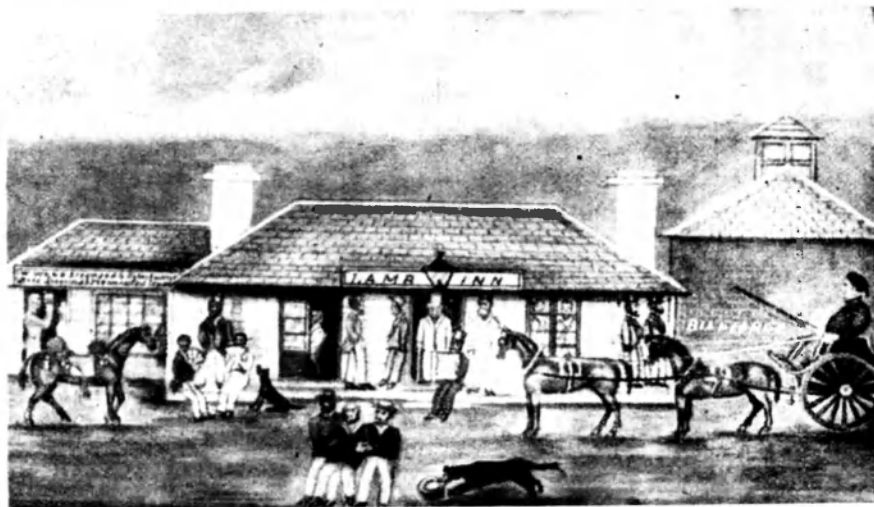


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WORDS followed wine at a Melbourne dinner in 1840.

Two of the guests, Mr. Peter Snodgrass and Mr. William Ryrie, agreed to settle the score with pistols at dawn.

Their host at "The Lamb Inn" (now "Scott's") had no pistols, so Ryrie sent his second galloping off to Heidelberg for a set.

Flourishing a pistol in each hand, and gripping the reins of his horse in his teeth, the second was cheered into Collins Street when he returned at one o'clock in the morning.

But he had forgotten powder and shot, so off he went again to rouse an army captain from his bed. The captain's wife

took a poor view of the affair, and tried to detain him. He escaped with his coat torn from tails to shoulders.

At last the duellists faced each other where Spencer Street Railway Station now stands. Trigger-fingered Mr. Snodgrass shot away one of his toes. His opponent fired into the air. The cheated crowd then threatened to shoot the surgeon, but he tossed them his top-hat as a target.

Satisfaction today does not come in duelling, but from the cleanliness, comfort and service good hotels supply to their guests.

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The new Fairey Gannet is pictured here flying below an obsolescent Swordfish past the Needles (U.K.). The Gannet is the first British post-war aircraft designed specifically for anti-submarine duty, from aircraft-carrier or from ashore. It is now in service with the Royal Australian Navy's new carrier, H.M.A.S. "Melbourne."

OLD TRAIN INVENTION HELPED MODERN CARRIER TECHNIQUE

H.M.A.S. Melbourne's steam catapult, one of the most modern items of aircraft carrier equipment, is based on a 100-year-old idea—for driving trains. In this article D. Ailsa-Smith, an English technical writer, describes how the steam catapult was developed.

By D. Ailsa-Smith

THE development of the steam catapult is another example of the length of time which is necessary to bring an advance in naval machinery from the drawing-board to the production stage. It was given trials in H.M.S. *Perseus* in 1950 and those trials continued into 1951. The *Perseus* went to Philadelphia, U.S.A., where the new device in its experimental form was demonstrated success-

fully to the U.S. Navy and received almost instantaneous approval.

As long ago as 1936, Mr. C. C. Mitchell, now a director of Brown Brothers, then employed by another engineering firm, was working on patents for a steam catapult in which the principle of the slotted cylinder was to be employed.

With an ordinary steam engine

the piston, which is moved by steam pressure within the cylinder, transmits its power by means of a connecting rod which protrudes through one end of the cylinder. In the slotted cylinder, the piston has no such rod protruding through the end of the cylinder. The power is transmitted by an arm attached to the piston and protruding through the slot in the side of the cylinder. Such a cylin-

der can be of almost unlimited length. Of course, some means has to be devised for preventing the steam escaping through the slot. Therein lies the challenge to the engineer.

Mitchell's pre-war patents were considered by the United Kingdom naval authorities to be worthy of trial but there was, at the time, no money available for the building of a trial set. Moreover, the alternative methods of powering a catapult were proving adequate for the comparatively light aircraft of that day.

Catapults were, of course, used ashore by the Wright brothers. The naval version developed from the compressed air operated device, such as fitted into H.M.S. Vindictive in 1925, through a cordite operated catapult to the hydro-pneumatic types still in use.

Mitchell was serving as a commander in the Department of the Engineer-in-Chief of the Fleet during World War II when it was becoming apparent that the hydro-pneumatic type was reaching the peak of its development. This type incorporates a complicated series of wires and pulleys. As naval aircraft increase in size and speed of launch, so this gear needs to be larger and heavier. For the aircraft now envisaged it would be altogether too big and heavy to introduce into a ship of normal size. With the slotted cylinder, only the piston and the arm and shuttle attached to it move. Hence it has not got the limitations of the older type.

Mitchell's initial approach to the problem was interesting in that it took the form of literary research. As an engineer, the principle of the slotted cylinder was familiar to him, and he patiently went into all the material in libraries and the specifications of the Patent Office in London which related to the applications of this principle.

Mitchell found that in 1810

R.A.N.'S FIRST JET FUELLING FOR CARRIER

History was made for the Royal Australian Navy and the Australian petroleum industry last month when the aircraft carrier H.M.A.S. Melbourne took on fuel for her jet aircraft. (See cover picture.)

It was the first time in Australia a carrier had been fuelled with the special aviation jet fuel Avcat, refined in Australia for use in the Gannet, the Navy's new turbo-prop reconnaissance aircraft, and the Sea Venom, the new Navy jet fighter.

Previously Australian jet aircraft have relied on ocean tankers to bring jet fuel from overseas to Australian bases in its refined state.

The Melbourne, berthed at Garden Island, Sydney, took into her tanks a total of 207,000 gallons of the jet fuel. It was brought to her in a fleet of 16 road tankers varying in capacity from 2,000 to 4,000 gallons. They maintained a

shuttle service between the storage tanks at Matraville and Garden Island.

The fuel was pumped into the carrier at a rate of 2,000 gallons an hour.

The fuelling was a preliminary to the Melbourne leaving Sydney for her first manoeuvres in Australian waters.

After "working up" off the N.S.W. coast for about a week the carrier will have her squadron of Gannet and Sea Venom planes fly on to her decks at sea from the naval base at Nowra, where Australia's naval pilots have been training on the aircraft.

The carrier later will manoeuvre off the North Queensland coast.

George Medhurst, an engineer from Kent, England, proposed the propulsion of trains within a tube by air pressure. He conceived the idea of forming a tube with continual communication between the inside and the outside without allowing the impelling air to escape, and by this means causing a railroad car to run along the permanent way.

A few years later he published a pamphlet entitled "A New Way of Inland Conveyance of Goods and Passengers at 60 miles per hour without the Aid of Horses or any Animal Power."

The difficulty of preventing the air from passing through the slot in the cylinder was considered by Samuel Clegg who, in 1839, patented a form of valve for doing this job. Joining forces with one Joseph Samuda, he published a treatise on the "Atmospheric Railway." Lying on the sleepers, a continuous cast-iron tube would

have his patent valve to seal the "slit" all the way along it. The arm from an attachment to the rear of the piston in the tube came up through the "slit" and was attached to a railroad car. The valve covering the "slit" was in the form of a continuous belt hinged to the tube. In this system, pumps were to exhaust air from the tube and so suck the train along.

An experimental line was in fact laid on part of the West London Railway near Wormwood Scrubs in 1840, and it was sufficiently successful to be imitated on a branch line of the Dublin-Kingston Railway, which worked from 1843 to 1855. It is said that the loaded train reached a speed of 45 miles per hour and, if the brakes were not applied in time before the piston got out of the tube, "the whole train ran through the station and right out of the gates."

That great engineer and innovator, I. K. Brunel of Great East-

ern fame, was so impressed by the system that he prevailed upon the Select Committee of the South Devon Railway Directorate to adopt the atmospheric system on a West of England line in 1847. While it worked well at first, rats and salt water, where the permanent way ran by the sea, damaged the leather used as part of the sealing device. The South Devon company was forced to sell out to a larger company and it became evident that, while the system was suitable for special short lines, such as one operated near London, it was not practicable for considerable lengths of railway.

Armed with all the literature on the atmospheric railroads, Mitchell and the naval engineers set to work to perfect a more effective valve. They solved the problem by using a flexible steel sealing strip which runs the full length of the cylinder and which is raised and pressed down again by an ingenious mechanism linked to the piston and arm.

The aircraft is secured by a towing bridle to the shuttle, and anchored by a "hold-back" hooked to a fitting on the deck. When about to be launched, the aircraft has its engines running at full power. Steam is admitted to the cylinder and the combined power is sufficient to break a calibrated link in the hold-back. The aircraft then moves forward with an acceleration which has led to, this type of launch being known as the "hot ride."

Before the system could be adopted, a method had to be devised for stopping the piston and shuttle from shooting onwards like a shell and out of the ship altogether. This is accomplished by a form of hydraulic buffer consisting of two steel cylinders, open at one end, into which water is pumped through a series of nozzles.

For the operation and control of the various valves and ancillary equipment, a separate hydraulic system is employed wherein the pressure is generated by a turbo-driven hydraulic pump. This hydraulic power is used for retracting the pistons and shuttle from the forward end of the catapult after a launch to the after end ready for loading on another aircraft. This part of the equipment consists of a small hydraulic cylinder which, through a multiple reeving, propels a hook back and forward along the track, which hooks on to the shuttle at the forward end and draws it back to the firing position where it is released.

The controls of the catapult are centralised in a control console situated in the machinery compartment where the control worker operates all the functions of the catapult, the necessary indications and interlocks being provided electrically. A secondary control position is provided at the edge of the flight deck where as second control worker operates a push button which fires the catapult, after it has been made ready at the main control console.


ADMIRALTY DECISION ON SCAPA FLOW

THE Admiralty is to close down certain establishments at Scapa Flow, the famous anchorage from which the Grand Fleet operated during the First World War, and which was also used to lesser extent in the Second World War.

The decision was made known in a letter from the Civil Lord of the Admiralty, Mr. Simon Wingfield Digby, M.P. to Mr. Grimond, M.P. for Orkney and Shetland.

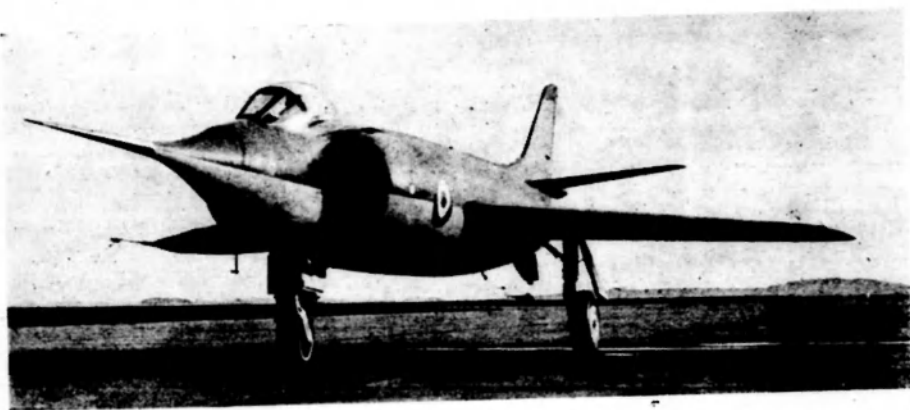
The letter stated that it had been decided to close all Naval establishments in the Orkneys area, with the exception of an oil fuel depot and the services necessary to maintain it.

The establishments to be closed include the Boom Defence Depot and the W/T Station. The reason why this step had become necessary was that the Admiralty could no longer foresee sufficient use for the installations, either in peace or war, to justify the expense of their retention.



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Problems of Aircraft Supply



Britain's new carrier-borne fighter, the Vickers-Supermarine N113, now being developed under contract from the Ministry of Supply.

By OLIVER STEWART, M.C., A.F.C.—in London

THOSE who have followed the official and the unofficial statements that have been made about the Royal Navy Fleet Air Arm recently must feel somewhat bewildered. There is, on the one side, a series of protestations that we, in Britain, are seeking to maintain the quality and the quantity of our naval aircraft; and there is, on the other side, an admission that we are strictly limited in number and behind in performance.

In the recent debates in Parliament the statements made by the Parliamentary and Financial Secretary to the Admiralty, Mr. George Ward, were illuminating. The first great fact is that Mr. Ward reasserted his belief in the carrier. "I have always believed in aircraft carriers," he said, "because I have always believed in the air." This, it is to be noted, came from one with experience

as an operational pilot and one with experience of the Air Ministry.

We must accept it, then, that official policy is in favour of a well developed and strong Fleet Air Arm. But it is necessary to set this fairly and firmly stated official policy against what is actually happening. And it is here that we find a difficult and disturbing situation.

First of all it must be noted that the new N113 shows signs of making a first class naval fighter. It will not carry air-to-air guided missiles, but it will carry four 30 millimetre Aden guns and the power of these guns is now universally recognised as being remarkable.

They can cope with any known or knowable aircraft. Their troubles in other aircraft have been to some extent due to the very fact that they can hit so

hard. So the armament of the N113, even if it does not include guided missiles, must be held to be useful and this especially because the aircraft can take an atomic bomb.

As for the performance of the aircraft, it is again possible to be optimistic. It should be fast. It should, also have an exceptionally high rate of climb which is of particular importance for ship-based machines. If, then, the choice of this aircraft is sound and if the promise of its performance is good, what can be said to be wanting?

The answer is that the effectiveness of the N113 is for the future. We do not know that it will achieve the results promised; we can be almost sure that there will be delays and disappointments during the period of development, for that is the way things go with new aircraft.

Moreover, the total order which can be given by the Admiralty is small. That is the crux. The order for these or any other aircraft designed specifically for ship-borne use must be small, and the manufacturers here and in the United States tell us that it is impossible to produce a good aircraft at a reasonable price when the total order is small.

The Fleet Air Arm appears, therefore, to be in a singularly difficult position. It cannot order aircraft in very large numbers because it can never use them in very large numbers. But if it does not order in large numbers it must pay a much higher price for each machine.

Navy a small market

Here is one of the basic troubles which affect the procurement of aircraft for the Fleet Air Arm. It is a relatively small market for aircraft and in consequence it can hardly expect aircraft firms to be as interested in it as in the larger markets and, in addition, the price of each machine specially devised for the purpose must be much higher.

The procurement of an aircraft for naval uses, therefore, is a highly delicate and specialised job which brings in both technical and financial problems. It is the more important that it should be possible for the operator to be continually and directly in touch with the producer. This is not possible while the Royal Navy is required to go through the Ministry of Supply when giving its order for new machines.

The Ministry of Supply is a middleman with whom the Admiralty in its earlier, more powerful days, would have had no truck. There are signs that it may in the future seek to avoid going through this middleman when ordering its future aircraft. Nothing whatever can be said against the

present Minister of Supply, Mr. Reginald Maudling, who is one of the most brilliant and far-sighted ministers. But the fact remains that the Royal Navy should at all times be in direct touch with its suppliers and that the greater the number of intermediate stages between customer and supplier, the less the chance of the production of the right kind of aircraft.

Another point which has to do with this is concerned with basic research. The Royal Navy has the most urgent need for a special kind of aerodynamic research; namely, research into the control of the boundary layer and into supercirculation and any other methods for improving the low speed performance of aircraft and especially their taking off and landing performance.

The Ministry of Supply is charged with this research, and it is doing some of it. It has for many months—indeed years—been playing about with aircraft with wings having devices for controlling the boundary layer and therefore for giving lift at low speeds. But the work has not the urgency that would be found if the Navy itself were responsible.

It must be remembered that the Ministry of Supply does not operate these naval aircraft. It supplies them and has done. If they fail when they start to operate from ships, that is no longer anything to do with the Ministry of Supply; it is to do with the Admiralty. It is a simple but obvious and logical defect in the present system.

There are many other points about Fleet Air Arm equipment which need ventilation. In addition to the N113 which will be a long time before it comes into service, there is the more readily obtainable de Havilland 110.

These aircraft will replace the Seahawk and the Sea Venom.

They will not perhaps inspire enthusiasm or unqualified praise; but they should be capable of giving the Navy a certain measure of air strength.

But if the picture is seen on the larger scale it must be admitted that the degree of air strength which they can give is below that which would be desirable for the navy of a maritime nation. Lip service is still paid to our sea power; but there are signs that the air component of that power is falling farther and farther behind.

It is not for one who has seen service in the Royal Air Force to be too forcible upon the matter; but it is true that the R.A.F. retains control of Coastal Command whereas during the stress of war it was found necessary to transfer operational control to the Admiralty. And we have to note also that the United States Navy is free to develop flying boats and is in fact developing them at a great rate, whereas our own Navy is not free to do so.

Methods of procurement

A committee is now sitting, which is looking into the methods of procurement of aircraft for the Navy and it is possible that it will consider the advisability of passing all requirements through the middleman of the Ministry of Supply. But the wider issue of whether the Navy should be empowered to employ and to develop flying boats is probably not within its province.

A few weeks ago an official announcement told the world that there were to be certain exercises in the Pacific in which naval vessels and aircraft would co-operate. The aircraft were to be Sunderland flying boats. If ever it were necessary to point to the need for the Navy to be in charge of flying boat development, surely this statement satisfied it. Here were

flying boats designed in a remote period, with a long and a highly successful period of war service behind them, universally recognised as obsolete, dragged out of their retirement because there were no other suitable aircraft for the particular work.

"Free to deal direct"

If, therefore, we look upon the Parliamentary debates and the arguments in Parliament and outside it when the naval situation was being discussed, and if we seek to note the main facts which emerged, we must say that they were two: first the Admiralty should demand that in future it should be free to deal direct with aircraft manufacturers and not through a middleman ministry and, second, that it should be free to state what kind of aircraft it wants to develop them—even if those aircraft include that particular machine so much hated by the R.A.F., the flying boat.

As for the ship-borne machines it is and will remain true that the total orders for any aircraft devised specially for this kind of work must be small. The aircraft individually will therefore be relatively expensive. Here, then, is the problem: to determine whether the specialised qualities that can be incorporated into a machine designed for deck flying are sufficiently important to warrant a much higher price or whether an adapted machine, taken from the R.A.F. production lines, can be modified satisfactorily.

The Fleet Air Arm has been unfortunate in recent years, in that it has been neglected officially. Those in high places have never had any particular affection for it or knowledge about it. And in consequence, its requirements have been overlooked. But the practical difficulties are still there even when men take charge who are anxious to

improve the quality of the Fleet Air Arm's equipment.

We must hope that in the future the Royal Navy or rather—for it is primarily a political responsibility—the Admiralty will take a firmer line on what it wants and what it does not want in order to give the Navy an adequate measure of air power.

Technically, there should be emphasis upon boundary layer

control and supercirculation. There should be every effort to develop rocket motors, ram jets and atomic power units. There should be a clearly set out policy about the position to be occupied in the future by guided missiles. These are the matters on which naval aviation demands a clear, uncompromising lead. Let it be hoped that it will soon get it.

—From the London "Navy."

OUR NEW SUB-HUNTERS

Early this month H.M.A.S. Melbourne's Fairay Gannet anti-submarine aircraft will fly off her deck for the first time in Australian waters.

THE Gannet is the first British naval aircraft designed specifically for submarine hunting.

Until the Royal Navy officially brought them into service more than two years ago the Gannets had been flown only by test pilots and special units.

Ivor Jones, B.B.C. Air Correspondent, visited a Royal Navy air station to see the Gannets and this is what he said:

"At a ceremony to which I was invited at the Royal Naval Air Station at Ford in Sussex, four Gannet aircraft were formally handed over to an operational flight.

"Even for a review the Navy could not have laid on a much greater range of its jets and turbo-jets than could be seen at Ford. There were Sea Hawks, Attackers, and Wyverns.

"But this was the Gannet's day. There were four of them parked at the edge of the airfield, powerful-looking aeroplanes, compact almost to the point of being stubby.

"They are powered by two turbo-jets that drive a pair of propellers set closely one behind the other at the nose. In cruising flights, to save fuel, one engine can be stopped altogether.

"In the centre of the Gannets, as a sentimental gesture, stood a Swordfish, one of the 'string-bags,' as they were called, with which the Fleet Air Arm faced the last war. With its wire-braced wings and angular fuselage it looked primitive enough by comparison.

"The Gannet crews were there, too, and this is what Vice-Admiral Sir John Eccles, Flag Officer Air (Home) had to say to them: 'The coming into service of the first formed flight of Gannet aircraft is a very important occasion, not only to the Royal Navy in general and the Fleet Air Arm in particular but also as a most welcome and a heartening occasion for all of us. To-day we have with us the old Swordfish, the heroine of the Battle of Taranto, the sinking of the Bismarck, and many other battles. And we hope now that the brash young Gannets will follow in this old and respected aircraft's slipstream, and become as well known, respected, and almost regarded with affection as the Swordfish was by all who knew her.'

"Then Sir Richard Fairey, head of the firm making the Gannet, handed over to the Flight Commander, Lt. Commander F. E. Cowtan, the log books showing the

flying the four aircraft had done. It was a brief ceremony, and a few minutes later the Flight Commander and the other crew members were in their aircraft, starting up.

"The aircraft took off and the Gannet demonstrated in flight how it can lower its radar turret until it projects like a huge, plastic pill-box from the underside of its fuselage. It is this capacity to carry a great deal of modern radar gear that helps to make the Gannet a formidable aeroplane. And during the flight the Gannet also showed how it opens the doors of its long bomb-bay.

"For some time after the demonstration I witnessed, Flight No. 703X flew the Gannets every day of the week for a total of 25 hours a week each. It was hard work, but when it was over the Gannet had been fully proved for entering squadron service."

FLOATING CLASSROOMS FOR U.S. NAVY

The United States Navy is building "floating classroom" patrol craft.

The craft are 80 feet in length, with a beam of 17 feet 8 inches, and light displacement of approximately 56 tons. They are of wooden hull construction, with aluminium deck houses, and will be powered by diesel engines.

The primary mission of the vessels will be for training midshipmen of seamanship and navigation at the United States Naval Academy. To assist in the training they will be furnished with equipment not normally found on craft of this size, such as surface search radar, gyro and magnetic compasses and navigational plotting equipment.

The craft will be so arranged that they can be readily used as patrol craft in protected waters in the event of a national emergency.



Fourteen R.A.N.R. and R.A.N.V.R. officers and ratings returned to Sydney recently in H.M.A.S. "Rushcutter" from two weeks' training cruise to Brisbane. It was the first time since before the War that a naval vessel entirely manned by reserves had sailed interstate. The "Rushcutter," an 81-foot harbour defence motor launch, was commanded by a Sydney bank officer. The first lieutenant for the voyage was an airways cadet. Other members of the ship's company were a solicitor, a stockbroker, two salesmen, a telegraphist, and factory workers.

—Sydney "Daily Telegraph" picture.

ROYAL SOCIETY OF ST. GEORGE

The Governor of N.S.W., Lieutenant-General Sir John Northcott, K.C.M.G., K.C.V.O., C.B., has consented to grant patronage to the Sydney branch of the Royal Society of St. George. The society's official address is: 149 Castlereagh Street, Sydney.

Israeli Navy buys two R.N. ships

Israel has bought two warships from Britain.

The ships are 12-year-old Zambesi-class destroyers. They will be the largest ships in Israel's navy.

The warships reached Haifa last month.

NEWS OF THE WORLD'S NAVIES

Withdrawal from Japan of U.S. Far East Command

The United States will withdraw its Far East Command headquarters from Japan back to Hawaii next July.

The U.S. Defence Department, announcing this last month, stated that the Command will be placed under the U.S. Commander-in-Chief in the Pacific, Admiral Felix Stump, on July 1, 1956.

The U.N. Command, now in Tokyo, will be moved to South Korea.

The announcement said that no major changes in the deployment of U.S. armed forces in the Far East are contemplated.

However, only a small U.S. Headquarters group will remain in Tokyo to co-operate with Japan's defence forces in accordance with the U.S.-Japan Defence Treaty.

The announcement said that the change was part of a general overhaul of U.S. overseas commands. However, the U.S. Command in Europe would remain "substantially unchanged."

After the change, for the first time since before General MacArthur's day, the Navy will become the senior U.S. Command in the Far East and Western Pacific.

R.A.N. Reserve ships transferred to Sydney

Ships of the Royal Australian Navy Reserve Fleet which have been moored in Corio Bay, Geelong, for varying periods are all to be transferred to Sydney. The transfer will probably be completed by the end of September.

The River class frigate *Burdekin* has already been towed to Sydney.

The frigate *Culgoa* and the ocean minesweeper *Cowra* have been undergoing refit at the naval dockyard at Williamstown before making the passage and they and the frigate *Barwon* are being taken to Sydney as the weather and the naval tug *Springly's* other commitments permit.

The Minister for the Navy, Senator Neil O'Sullivan, last month said that it had been found that reserve ships could be maintained more economically and efficiently in Sydney than they could be at Geelong. It had been decided that this fact over-rode other considerations that had led to some of them being kept in Corio Bay.

New atom-powered submarine named

The Navy's first nuclear powered radar picket submarine, S.S.R.S. (N) - 586, has been assigned the name U.S.S. *Triton*.

The *Triton*, largest submarine ever attempted, is being built by the Electric Boat Division of the General Dynamics Corporation, Groton, Connecticut, under the Navy's 1956 shipbuilding programme. It has a displacement of 5,450 tons light.

The U.S. Department of Defence states that before the laying of the keel of the *Triton*, on May 29, 1956, the largest submarine ever built was the French *Surcouf* in 1929. It was equipped to carry one small seaplane and had a displacement of 4,304 tons. The second largest was the U.S.S. *Argonaut*, a fleet minelaying submarine. It was built in 1927 and displaced 4,080 tons.

The new American submarine will be the third U.S. Navy vessel to bear the name *Triton*. The

first *Triton* was a yard tug in service from 1899-1930. The second was the ill-fated submarine SS-201, built in 1940 and sunk by enemy destroyers in the Solomons area during March of 1943.

"One service" proposed for future war

One service, not three, would be ideal in a Third World War. Rear-Admiral Roger Wellby said at a Royal Empire Society luncheon in Melbourne last month.

Admiral Wellby is chief of the United Kingdom Liaison Staff.

"There is no room for three different uniforms," he said. "It is a long way away, but we could do something."

He suggested inter-service training of officers and top servicemen, and stressed the need for a reserve force.

"We will never have a 'catching up' period as we did in the last war," he said.

568 National servicemen in new call-up

Five hundred and sixty-eight National servicemen from metropolitan and country areas in all States began their 154 days' statutory training with the Royal Australian Navy on July 9.

They are doing the first part of their training at H.M.A.S. *Penguin*, Balmoral (N.S.W.). H.M.A.S. *Leeuwin*, Fremantle (W.A.), and at Flinders Naval Depot, Crib Point (Vic.).

Later they will go to sea in the aircraft carrier *Sydney*, at present being used as the Fleet training ship, or in smaller vessels.

Of the total intake 247 will enter the seaman branch, 123 the engineroom branch, 63 the communications branch, 22 the elec-

trical branch, and 50 the supply and secretariat branch. Thirty will join the Fleet Air Arm, 20 will be trained as cooks, and 13 as sick berth attendants.

In accordance with the practice of naming each Naval National service call-up after a distinguished historical Australian figure, the forthcoming call-up is known as the Blaxland call-up, in honour of the famous explorer.

Second U.S. Navy guided missile ship

The United States Navy has commissioned a second guided missile cruiser, the *Canberra*.

The U.S. Navy already has in operation the *Boston*.

As with the *Boston*, the *Canberra* will be equipped with the rocket-propelled "Terrier" — a supersonic surface-to-air guided missile.

The *Canberra* will be also equipped with a flame deflector which presents accidental ignition of the missile.

Photography hurricanised by rocket-camera

American tests to determine the feasibility of rocket nose cones containing cameras have been completed in the vicinity of Wallops Island, Virginia, by destroyers and aircraft from the U.S. Atlantic Fleet.

This dress rehearsal of recovery techniques is the first phase of a project to photograph hurricanes with rockets, under sponsorship of the Office of Naval Research and the Naval Research Laboratory. The project, part of the National Hurricane Research Project established under sponsorship of the U.S. Weather Bureau, will photograph the entire hurricane cloud system from an altitude of approximately 100 miles.

In tests of recovery techniques, P4Y2 aircraft from the U.S. Naval Research Laboratory dropped an

inert rocket nose cone at an altitude of 18,000 feet, 100 miles off the coast of Wallops Island. It parachuted to the sea and floated until recovered. Two destroyers, the *Wren* and the *Ross*, were the recovery ships.

During the East Coast hurricane season this summer, four two-stage rockets will be launched under the direction of the Pilotless Aircraft Research Division of N.A.C.A. at its facilities at Wallops Island. The rockets will be equipped with cameras and air and seaborn location and recovery devices. Floating rocket nose cones containing the cameras will be disengaged from the rockets and parachuted to the sea surface. Ships from Destroyer Flotilla Four will recover the cameras.

Cadet-training ship's cruise to islands

The Royal Australian Navy cadet-training ship *Swan* visited Vila (New Hebrides), Noumea (New Caledonia) and Lord Howe Island last month on a training cruise.

On board were 21 cadet-shipmen who passed out of the Royal Australian Naval College last December.

They will leave Australia for the United Kingdom in September.

After 16 months' training at the Royal Naval College at Dartmouth they will return to Australia as acting sub-lieutenants and be appointed to ships of the Fleet to gain additional experience before being confirmed in sub-lieutenant's rank.

H.M. ships exercise in Western Atlantic

A submarine depot ship, three anti-submarine frigates and five submarines sailed from the United Kingdom early in June to take part in anti-submarine exercises with U.S. and Netherlands Naval Forces in the Western Atlantic.

They were H.M.S. *Adamant*, submarine depot ship, H.M. Ships *Wakeful*, *Roebuck*, and *Whirlwind*, and H.M. Submarines *Artful*, *Tiptoe*, *Andrew*, *Tabard* and *Thermopylae*.

They were joined by two frigates, H.M. Ships *St. Austell Bay* and *Morecambe Bay*, from the America and West Indies Station, and H.M. Submarine *Alderney* of the 6th Submarine Squadron based at Halifax, Nova Scotia.

Only 14 R.N. admirals are sea-going

Only 14 of the Royal Navy's 98 admirals are sea-going, the Parliamentary Secretary to the Admiralty, Mr. George Ward, told the House of Commons last month.

Of the rest, 52 are on active duties in the executive branch, five are awaiting appointments and 27 serve in the professional and technical branches.

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NEW FAST AIRCRAFT FOR U.S. NAVY

The U.S. Navy recently announced that it has placed a contract totalling more than \$20,000,000 for additional production of F8U-1 Crusader jet aircraft, including fighter and photographic versions.

THE new contract for deliveries of the Crusader, described by the Navy as the world's fastest Navy fighter and operating "in an entirely new speed range well beyond the supersonic," followed earlier production orders of \$45 million in March, 1956, and \$100 million in December, 1955.

The experimental prototype KF8U-1 made its first flight on March 25, 1955, exceeding the speed of sound in level flight. The first F8U-1 production model flew on September 30, 1955. Expected to be the Navy's primary first-line fighter when it reaches the fleet, the Crusader recently went aboard the U.S.S. *Forrestal* for carrier qualification trials.

Powered by the afterburner-equipped Pratt & Whitney J-57 turbo-jet, the Crusader was designed to operate from aircraft carriers at exceptional speeds. Specifications called for a high rate of climb, exceptional combat ceiling, and penetration of the speed of sound in level flight.

The U.S. Navy's second XP6M-1 Martin SeaMaster recently began its flight tests, the Navy has announced.

It is a 600-mile-per-hour multi-jet seaplane for minelaying and photo-reconnaissance.

Production models of the SeaMaster will carry a crew of four, including pilot, co-pilot, navigator-minelayer, radio and armament defense operator.

Flight tests of the present SeaMaster were delayed in order to install test equipment of the type lost on board the first aircraft,

which crashed in the mouth of the Potomac River last December 7. Before the accident, the prototype had successfully completed 79 flight and taxi test hours in the Chesapeake Bay area.

The minelaying and navigation systems originally built into the second airplane have also been removed temporarily in order to carry out with the one aircraft what it had been planned to accomplish with both seaplanes under two separate flight test programmes.

The accident in which the first aircraft was lost has been attributed to a malfunction of the control systems. Remedial steps

have been taken on the second seaplane to cover all possible contributing factors to the mishap.

Like many other commodities, the cost of aircraft has risen very sharply in recent years. The United States Department of Defence in a recent statement points out that during World War II the U.S. Navy's first-line fighter aircraft cost \$75,000 to \$100,000 each. The cost of to-day's first-line fighter and attack planes averages well over half a million dollars.

Likewise the cost of training a naval aviator has risen sharply. The U.S. Navy's latest figure on the cost of the 18-month training programme for naval aviators is \$89,500 per student.

SHIPS IS HELICOPTERS

The American escort aircraft carrier U.S.S. *Siboney*, which sailed recently to participate in amphibious exercises in the Mediterranean area, carried 15 helicopters of Marine Helicopter Transport Squadron 262.

"SLEEPING BEAUTY" TRIAL FOR RESERVES

FOR the first time since "Sleeping Beauty" exercises were started twelve months ago, Reserve officers and ratings have been used to bring a ship from reserve and prepare it for operational service in the shortest possible time.

The "Commissioning party," made up of the officers and nine ratings of the London and Solent Divisions of the Royal Naval Volunteer Reserve, undertaking their annual period of continuous training, reported to H.M.S. *Hornet*, the Coastal Force base at Portsmouth, on June 10.

At this base in the course of "Exercise Sleeping Beauty III," which was controlled by the Flag Officer, Reserve Fleet, Vice-Admiral Sir Peter Cazalet, K.B.E., C.B., D.C.O. and Bar, D.S.C., they brought an inshore mine-

sweeper forward from reserve, embarked stores and ammunition and sailed for sea trials by June 23.

After commissioning, the mine-sweeper sailed for Portsmouth for inspection by the Flag Officer, Reserve Fleet, before undertaking a shake-down cruise.

The Admiralty commented: "The use of Reserve officers and ratings for this exercise was of great practical importance as it is on them that the mobilisation of Reserve Fleet ships will to a large extent fall in the event of war."

Similar exercises held during the past year have involved bringing forward the frigate *Eglinton* at Hartlepool and the Daring Class ship *Dainty* at Barrow-in-Furness. In both bases, R.N. officers and ratings were employed.

New Naval Apprentice School Opens



The first 50 apprentice artificers recruited by the R.A.N. recently entered H.M.A.S. "Nirimba" at Quaker's Hill, N.S.W. the only naval apprentice training school in Australia. Two of the recruits, Tony Collins, 16, of Woy Woy, N.S.W. (left), and Robert Moores, 16, of Bexley, N.S.W., with their first Navy rig move to their quarters. The school accommodates 400 boys.

"Sydney Morning Herald" picture.

NEWS FROM VICTORIA

By a Victorian Correspondent

THE Queen's Colour, presented to the Victorian Division of the Sea Cadet Corps last year by the Governor of Victoria, has been placed in the custody of the Geelong Grammar School Unit, commanded by Lieut. J. R. Nicholas, A.S.C.C.

The honour of holding the Colour on behalf of the Division is given to the unit considered the most efficient by the Director of Naval Reserves. The position is reviewed annually.

On this occasion the transfer was made from the Mildura Unit.

Captain J. A. Walsh, O.B.E., R.A.N., Naval Officer in Charge, South East Australian Area, presented the Colour to the Gram-

mar School Unit in a ceremony which was without doubt the finest exhibition of parade drill ever staged by Sea Cadets in Victoria.

The cold glitter of bayonets and swords, the crimson and gold of the Colour, and the rigid Cadets formed an unforgettable picture as the solemn notes of the National Anthem rolled across the Parade Ground, bringing the ceremony to its climax.

The State President of the Navy League, Captain J. P. Williams, O.B.E., the headmaster of the school, Dr. J. R. Darling, the Senior Officer of the Division, Lieutenant F. G. Evans, R.A.N.V.R., and the Executive

Officer, Lieutenant L. M. Cruise, R.A.N.R., accompanied Captain Walsh.

From the Bendigo Unit we learn that several very enjoyable film nights have been arranged by the local committee, with the ladies supplying supper. The programme consisted of films with a nautical flavour, travel films and comedies.

The local committee has at last been able to secure a permanent home for the unit by buying the building that they now occupy at Lake Weeroona from the Bendigo Rowing Club.

A series of 35 m.m. colour slides are now being prepared showing the various activities of the unit. From previews they appear to provide a useful recruiting medium as well as a permanent record of the unit.

If you are heading south for the Games, let us know, we will be happy to meet you.

Personalities

Orient Commodore Retires After Notable Career

AFTER a long and distinguished career, Captain N. A. Whinfield, Commodore of the Orient Line fleet, has retired.

Born in October, 1895, his early training was with Sir Arthur Munro Sutherland of Newcastle. In the First World War he served as Second Mate in H.M. Transport Ramsey from 1916 until the end of the war. While in this ship he was commended for gallantry and good seamanship during an action with a submarine which was engaged and sunk off Dakar.

He joined the Orient Line in September, 1923, as 5th Officer in the first Orsona, and by 1929 had reached the rank of Chief Officer.

He came ashore in May, 1936, to act as Assistant Marine Superintendent and, with the exception of two voyages in Orontes as Staff Commander and later in command, he remained in this appointment until March, 1947.

During the early part of the war the Orient Line fleet had to undergo drastic alterations to fit the ships as troopers. The supervision of this important work, together with the conversion of four Dutch ships were among Captain Whinfield's many responsibilities at this time.

U.S. RESEARCH ROCKET

The U.S. Navy's "Acrobee Hi," fired recently at the White Sands Proving Grounds, New Mexico, is an improved Navy research rocket and is the largest of the rockets which will be used by the United States during the International Geophysical Year for making direct scientific measurements in the upper atmosphere.

In March, 1947, he rejoined the sea staff and was stand-by Captain of the Orontes during her refit, which lasted until May, 1948.

Later he commanded the Ormonde, the Orion, and the Orcades. He was Captain of the Orcades at the Coronation Naval Review when, carrying Government guests, she led the merchant vessels through the lines of assembled warships.

He was made Commodore of the Fleet on September 1, 1954.

Captain Simpson

The Maritime Services Board has appointed Captain J. H. Simpson as Harbour Master of Sydney.

He succeeds Captain Donald MacRae who has retired after having been Harbour Master in Sydney since 1951.

Captain Simpson has been Harbour Master in Newcastle since 1952.

He joined the Maritime Services Board as a first class pilot in 1946 after serving with the R.A.N. in World War II.

Admiral King, U.S.N.

Fleet Admiral Ernest J. King, 77, who brought the U.S. Navy from disaster at Pearl Harbour to victory in World War II died in Portsmouth Naval Hospital, Maine, after a heart seizure, on June 26.

Admiral King opposed General MacArthur's drive on the Philippines.

He held that the war in the Pacific could be won more quickly by a drive straight at Japan and a naval blockade.

Admiral Settle, U.S.N.

American Vice-Admiral Thomas G. W. Settle, relieves Rear Admiral John H. Carson, U.S.N., as Chief, Military Assistance Advisory Group, Norway.

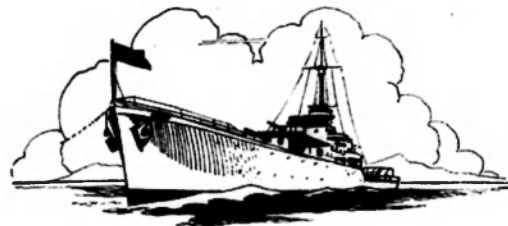
He was formerly Commander, Amphibious Force, Pacific Fleet.

R.N. Appointments

The Admiralty has announced the following appointments:

Captain R. A. Ewing D.S.C., to

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be Naval Secretary to the First Lord of the Admiralty, in succession to Rear Admiral J. D. Luce, F.S.O. and Bar, O.B.E., serving in the acting rank of Rear Admiral (August).

Rear Admiral L. F. Durnford-Slater, C.B., to be Flag Officer (Air) Mediterranean, and Flag Officer, Second in Command, Mediterranean Station, in succession to Vice-Admiral M. Richmond, C.B., D.S.O., O.B.E. (October).

Rear Admiral J. D. Luce, D.S.O. and Bar, O.B.E., to be Flag Officer (Flotillas) Home Fleet, in succession to Vice-Admiral R. G. Onslow, C.B., D.S.O. and three Bars (August).

Captain C. H. Hutchinson, D.S.O., O.B.E., to be Chief of Staff to the Commander-in-Chief Far East (to serve in the rank of Commodore 1st Class while holding the appointment).

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Sand-blasters—"Men from Mars" to their workmates—were well clothed to beat the Winter cold when they began work on a slipway cradle at Garden Island.
—"Sydney Morning Herald" picture.

New Electronic Switchboard

▲ TRANSISTORIZED
A all-electronic telephone switchboard which uses no vacuum tubes or mechanical stepping switches has been developed for the United States Navy.

The switchboard is a 100-line, 15-link system for shipboard installation.

The U.S. Navy says that the transistorized switchboard offers advantages which make it particularly adaptable for shipboard use. It is compact, requiring less than half as much space as systems now in use, and weighs about one-quarter as much as a corresponding electro-mechanical board.

Since the switching is done elec-

tronically, problems of dust, wear, and corrosion which affect the moving parts of present systems are eliminated.

The new switchboard performs the functions found in conventional dial switching systems, such as line finding, circuit switching, and tone signal generating. These functions are performed entirely by the approximately 4,500 transistors and 5,000 diodes employed in the set, replacing the electro-mechanical system now in general use.

A developmental model of this set has been delivered to the U.S. Navy. No major production is contemplated for it until final evaluation has been completed.



"Away All Boats," by Kenneth Dodson; published by Angus and Robertson (Sydney).

▲ NY reader of novels about the last war—particularly those by American authors—would be justified in having an impression that the World War II fighting man was a morbid introvert, constantly tormented either by fear or lust.

Kenneth Dodson happily veers away from this pattern of melancholy psycho-analysis. Apart from a Quiggish captain—but a likeable one—his men are much healthier animals than the terror-ridden psychopaths we have been told about in so many earlier war novels.

For that reason alone his book comes to us like a fresh sea breeze. But it has much more merit than that. Mr. Dodson writes of the sea with powerful realism and his accounts of combined operations against the Japanese held islands in the Pacific bear the unmistakable stamp of authenticity. He has woven a story around a U.S. Navy attack-transport, and the men who served in her, with unforced drama that holds our interest throughout 500-odd pages.

It is obvious that Mr. Dodson knows what he is writing about and that his book, to some degree at least, is based on his own experiences.

We are told that he first went to sea at 17 when he shipped out of San Francisco as an ordinary seaman. Later he went to navigation school and got his master's ticket on a trans-Pacific freighter.

When America entered the war

he sailed in some of the first convoys to Australia and the islands.

He got the idea for his book when serving on the Navy attack—transport U.S.S. Pierce.

—J.C.

"Walker R.N.," by Terence Robinson; published by Evans (London).

Walker R.N. is the biography of Captain Frederic John Walker, Royal Navy, without doubt one of the outstanding and most inspiring figures of the Battle of the Atlantic. From first to last his ships, or the Escort Groups he commanded, destroyed more than 20 U-boats. In one remarkable cruise of 20 days his five small ships sank six submarines and captured the entire crew of one of them. As Admiral Sir Max Horton, C-in-C. Western Approaches, was to write: "In my opinion no single officer at sea did more than Frederic John Walker to win this battle, the hardest and longest drawn out of the war."

This most gallant officer did not live to see the end of the war. As the result of a stroke brought on by heavy strain he died, aged 48, on 9th July, 1944, and was buried at sea.

It is surprising to realise that a man who proved himself such a fine fighter and brilliant leader in war was passed over for promotion to Captain in peace. Much of his earlier career had been spent in the anti-submarine service, a branch of the Navy which seems then to have been regarded as something of a backwater. In command of a sloop in China, and

then as second-in-command of a battleship, he appears to have been adversely reported upon, even to the extent of being described as "lacking power in leadership." Maybe he was too unorthodox and outspoken to his immediate superiors.

The outbreak of war found him on the staff of the Vice-Admiral, Dover, for anti-submarine duties, a mundane shore job which irked him. Itching for a seagoing command in the U-boat war which was raging, he was appointed in command of an Escort Group in the Western Approaches in 1941. This was his real *metier*. Always a strong advocate of offensive tactics he was soon to make his name. Within a few months he was awarded a D.S.O. and then a bar for his successes against U-boats. In June, 1952, realising they had passed over an officer of exceptional capability, their Lordships tardily promoted him to Captain and later granted him two years additional seniority. Created a C.B., an exceptional award for one of his rank, he afterwards earned second and third bars to his D.S.O., thus making his fourth award of this decoration. (Incidentally, since bars to the D.S.O. were instituted in 1916, no more than 17 officers in all the Fighting Services have earned three bars.)

Though it ended more than 11 years ago, it is well we should be reminded of the Battle of the Atlantic, 68 months of a relentless struggle upon which all else depended and in which the U-boats nearly succeeded. It was not until the spring of 1943 that the tide definitely turned in our favour.

Terence Robinson, who wrote this book with material from many sources, official and private, is to be congratulated. Walker R.N. deserves to be widely read, and I most cordially recommend it as the

ASHORE—A DEMOCRATIC TOUCH



life story of a modest and most courageous and resourceful officer whose name will pass down to history as a fighting sailor.

If further editions of this well illustrated book are called for, as I hope they will be, may I suggest that its permanent value would be enhanced if the author added short appendices giving details of Captain Walker's career in the Navy and the ships in which he served; the dates of his various awards and promotion; and the numbers of the U-boats for whose destruction he was responsible and the dates they were sunk. A chart showing the "kills" would also be of service.

—"TAFFRAIL," in the London "Navy."

When Captain R. J. Robertson, D.S.C., R.A.N., Commanding Officer of the cadet-training ship H.M.A.S. "Swan," was appointed Chief Staff Officer, East Australian Area, some of the ship's company took him to a Sydney hotel and bought him a few beers.

A Sydney "Daily Telegraph" photographer took this informal picture of the Captain with Able Seaman D. C. Morris (left) and Engineer Mechanic J. C. Turner.

The men told the photographer that they didn't often ask captains to have a drink, but they liked Captain Robertson's company. Also at 39 he was the youngest man ever to become a captain in the Royal Australian Navy—and that was worth a celebration.

25,000 OFFICERS DISCHARGED

Approximately 25,000 "inactive" American naval reserve officers who have not participated in navy training programmes for at least three years will be given honourable discharges effective October 1, the U.S. Department of the Navy has announced.

All the officers affected have,

for various reasons, failed to participate in training programmes that are conducted by the Navy to maintain the reserve in readiness for wartime or emergency duties. Civilian affairs or geographical location have contributed to this lack of participation in many instances.

THE NAVY



MARITIME NEWS OF THE WORLD

From our Correspondents in
LONDON and NEW YORK

By
AIR MAIL

Japan now second in world shipbuilding

Japan was again the world's second greatest shipbuilding nation after Britain during the second quarter of 1956, according to Lloyd's Register of Shipbuilding Returns, published July 24.

Britain's tonnage under construction during the quarter (334 ships totalling 2,028,132 tons) was just over 28 per cent. of the world total.

Japan had 129 ships, totalling 1,116,490 tons under construction. Germany was third with 251 ships totalling 806,679 tons.

Japan launched 71 ships totalling 322,704 tons; Britain, 76 ships, totalling 306,053 tons; and Germany, 111 ships totalling 289,207 tons.

In the same period, Japan began work on 90 ships totalling 447,292 tons; Germany, 100 ships totalling 328,787 tons; and Britain, 62 ships totalling 277,108 tons.

Harpooned whale roms Australian whaler

A harpooned whale charged a 100-foot whaler in Byron Bay (Queensland) recently and smashed a hole three feet in diameter in the port bow.

The crew moved gear and cargo to starboard to keep the hole above water, plugged the hole and

struggled into Byron Bay with the whale in tow.

The whaler was commanded by Captain Laurie Mills, who harpooned the whale.

Captain Mills said he thought the whale was done but as he moved in to put a killing shot into it it swung its head and charged the ship.

Captain Mills said the whale was 42 feet long and weighed 42 tons.

British ketch wins ocean sailing race

The 103-ton British ketch, *Movana*, was declared the overall winner of last month's Torbay-Lisbon sailing race.

The Norwegian full-rigged ship *Christian Radich* was second, and the Turkish yawl *Ruvami*, third.

In the under 100-ton class, *Artica II*, of Italy, was placed first, and *Juana*, of Argentina, second.

165 Indians drowned in disaster series

More than 165 people were drowned in boating tragedies in India and Pakistan last month.

Ninety-five people were drowned when a boat carrying 125 passengers sank in the Chenab River, about 80 miles north-west of Lahore.

More than 70 people are feared

drowned after a ferry-boat's capsize in the River Cossave, near Binpur.

The ferry capsized during a commotion as boatmen collected fares.

Korean shipping link with Australia

South Korea has approved a plan to open a regular freight shipping service between Pusan in South Korea and Sydney.

According to the Office of Marine Affairs, South Korea, two Government-owned freighters will be put on the run.

The freighters are the *Masan* and the *Pusan*, each 3,800 tons.

British ship detained by Indonesian Navy

A British ship ran into trouble recently in the Celebes Islands.

An Indonesian naval ship detained her because Indonesian officers claimed that the ship did not have "proper papers."

The ship was the 2,500-ton *Inchislav*.

Indonesian divers save 13 lives

Thirteen members of the crew of the Grimshy fishing vessel *Osaka* were rescued recently by means of inflatable liferafts floated to them on lines by a trawler.

The *Osaka* foundered in heavy

seas and the crew swam for their lives.

The carriage of inflatable life-rafts in all United Kingdom registered fishing vessels between 50 feet and 145 feet in length will become compulsory on October 1.

"Hit-run" charge against freighter

The U.S. Government last month impounded a German freighter, the *Anne Marie*, on charges of "hit-run sailing."

The Nickel Plate Railroad claimed that the vessel rammed one of its bridges spanning the Calumet River, at Chicago, causing 10,000 dollars (£4,460) damage and did not stop.

Orient liner sets record time

The 28,000 ton Orient liner *Oronsay* recently established a record run from Brisbane to Sydney.

The liner took 24 hours — only

RADIO WAVES FROM VENUS

SCIENTISTS at the United States Naval Research Laboratory in Washington, D.C., have detected radio waves from the planet Venus, the Department of the Navy has announced.

Very weak radio emissions were observed by three radio astronomers, using 50-foot radio telescope and specially designed electronic equipment at the high radio frequency of 10,000 megacycles.

Venus can now be seen as the bright evening star and is rapidly

three hours slower than the Brisbane express.

The *Oronsay* covered the 515 nautical miles at an average speed of 24.4 knots.

The previous record time for the trip was held by the Orient line's *Orama* — 25½ hours in 1928.

nearing its closest approach to the earth, a distance of 27 million miles. This is closer to the earth than any other major astronomical body except the moon.

The surface of Venus cannot be seen through telescopes because the planet is covered by a thick blanket of white clouds. It is sunlight reflected from these clouds that makes Venus such a brilliant object in the sky.

The Naval Research Laboratory scientists expect measurements of the radio waves emanating from Venus to provide more information about the planet.

SEA CADET APPEAL

Only three weeks after the Wolongong Navy League's £1,000 appeal opened, more than £400 was subscribed. The appeal is to provide headquarters for the Wolongong Sea Cadets.

Sea Communications are Vital

By ADMIRAL SIR GERALD DICKENS, K.C.V.O., C.B., C.M.G.

(In London)

WHEN at the close of the late war the trumpets sounded the *Cease Fire* the Western Powers found themselves faced with a situation demanding preparations for a new war in which nuclear weapons would be a dominant factor.

Our government, much of the Press, and many amateur strategists jumped to the conclusion that such a war, both in its defensive and offensive aspects, must be an affair almost entirely for land-based aircraft.

A war would be decided in a few days, or hours, by the bombers of the contending nations. So the Navy was coldly informed that the final chapter of its glorious history had been written and that it must now consider itself an auxiliary service of quite secondary importance. A similar naval policy had been suggested in the United States, but the Navy Department, enjoying far greater political backing than that at the disposal of our Admiralty, fought back and won: rightly so, for its arguments were based on sound principles.

So to-day we see the Royal Navy a mere shadow of its former self, a mere adjunct in war of the massive United States Navy. This is, indeed, an unhappy state of affairs for reasons I will try to explain.

Can war be won and won quickly by bombing alone? The now generally accepted answer to that is that nuclear bombing at this stage might bring a war to a close but that that would not spell victory for either belligerent; so appalling would be the loss of life, so great the destruction of

property, treasure and means of production, in fact the break up of civilisation over a vast area.

Now war is the last expedient in international disputes and is fought to gain some definite object. But seemingly to gain that object and then to find one has lost all does not make sense. These things have been pondered the world over and it seems probable that, for the present, belligerents would go warily with their hydrogen bombs.

The pattern will, of course, change with the inevitable development of counteracting measures. No doubt, under present conditions, nuclear weapons would be judiciously used against military targets (in which merchant ships would certainly be included), but neither side would want to start general and terrorist bombing. They would, then, fight on the old principle which is to defeat the enemy's armed forces. That, after all, must be, as it always has been, the surest and most economical, not to say the most humane, way of imposing one's will on the enemy.

Russia surely thinks on these lines (although we may not expect much consideration about humanity), otherwise why does she continue at prodigious expense, to build up great land and sea as well as air forces? A glance at the accompanying table will show how the Russian navy has, in many ways, outstripped ours.

That navy is obviously for use against our sea communications. Now, our imports, practically all seaborne, are enormous in normal times: in war we must import mil-

lions of tons of munitions, raw materials for the forging of weapons, and oil and petrol, without which none of the three fighting services can move, let alone fight. Then, too, a high percentage of our food must come from overseas; otherwise we starve.

Our sea communications are also vital militarily. The Commonwealth and Empire countries being scattered the world over, we must, to concentrate their armies at the chosen striking points, embark them in transports and, when landed, these armies, and the air forces as well, must be kept supplied from the sea.

Thus, to take one of a thousand examples, was the Battle of Alamein made possible. Why was the Normandy landing postponed for a whole year? Because so much of our shipping had been destroyed. That weary year cost us billions. An adequate navy could have been had for a few millions.

These, you may say, are things of the past. Maybe, but weapon developments have increased the danger to our sea communications. There has now been time to consider the impact of modern weapons on the conduct of war, and opinion has hardened to the fact that sea power is as much a decisive factor as in the past. The threat is, indeed, greater. Germany started the war with some 50 submarines and these caused us heavy damage. Russia would start with 400 and a great fleet of naval aircraft.

The United States, Britain, and the Commonwealth keep a large part of their fleets in reserve. It would take time to get those

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reserves into action. *ALL the ships in the Russian navy are in full commission ALL the time.* A disturbing thought. Even more is sea power an important factor, for not only is the threat to our communications greater, but the aircraft carrier—a British naval invention, mark you—gives the Navy the means of far-flung offensive operations against enemy territory.

Heavy Shipping Losses

I now expect this question from you: What about the massive American Navy? The Royal Navy may be small, but surely the two navies together, as well as the smaller N.A.T.O. navies, could deal satisfactorily with Russian sea power? The answer, I think, that many naval officers would hazard, is that no doubt we would eventually gain ascendancy at sea, but not before we had lost millions of tons of shipping. The war would be long drawn out, and we would suffer, as in the late war, stupendous losses avoidable were our sea power adequate.

Our navy should therefore be much bigger than it is. And I would put this to you for another reason. Is it right and proper that we with the largest active merchant navy in the world, that this mighty Commonwealth and Empire, should so readily and without any shame, palm off such a great part of a most vital responsibility to another Power?

It is a question of prestige. Some people will say: "Does that really matter? No good being proud if we are poor." The answer to that is that we are not all that poor—or needn't be—and that prestige is an enormous factor in Commonwealth and international spheres.

There is no question of jealousy in such an attitude. We are proud and happy to have the splendid United States Navy with

COMPARISON OF NAVIES				
Ships Building, in Commission and in Reserve				
Note 1. Some of the figures for Russia are approximate, but on the conservative side.				
Note 2. A large part of the U.S. and Commonwealth fleets is maintained on a reserve basis. All Russian ships are kept in full commission.				
Type	United States	Russia	United Kingdom, Australia, Canada, New Zealand	
Carriers, Large	6	—	—	—
Medium	15	—	—	—
Small	80	—	11	—
Battleships	13	—	5	—
Cruisers	—	—	—	—
(Guided Weapons)	2	—	—	—
(Guns)	70	30	31*	—
Destroyers and Frigates	600	180	400*	—
Submarines (Nuclear)	5	—	0	—
(Battery)	180	400	60	—
Amphibious Operations	500	—	30	—
(Ships, not craft)	—	—	—	—
Combat Naval Aircraft	—	—	—	—
Shore and/or Carrier Based	8,000	4,000	800	—

* Mostly old.

us and we know that that navy is indispensable to the cause of the N.A.T.O. countries.

There can be no doubt whatever that this country has lost prestige due very largely to the dwindling of our sea power. This falling off started between the two world wars and the effects showed themselves sharply outlined right through the late war. For several years we could not make the sea reasonably safe for our own and neutral shipping.

We had to withdraw every warship from Far Eastern waters. We gambled on the United States dealing with the Pacific if Japan threatened. What happened? Pearl Harbour, and the U.S. Navy hamstrung while the Japs took Hong Kong, Singapore, the East Indies and much else. It is a bitter truth that we have not recovered the prestige thus lost in the Far East.

But war apart. The world had got used to seeing the White Ensign constantly in every sea, cruising from port to port, whether large or small and remote. And "Trade followed the Flag." What an arresting sight is

a British man-of-war steaming into harbour! What a combination of beauty and concentrated and disciplined strength; the embodiment of sea power. The crew fallen in on the upper deck, the marine band playing rousing tunes. I'll warrant that a thrill is in the heart of any watching Briton. And foreigners cannot help being impressed.

Psychological Effect

These things do count and the psychological effect is enormous. And now? Rarely, alas, is a British man-of-war seen for we keep so few ships in commission. So we see parts of the Empire and Commonwealth falling away and twopenny-halfpenny states, such as Egypt, pushing us around.

This question of British prestige leads us to thoughts on a much higher plane. It is surprising and humiliating to see our people so casually and indifferently accepting the fact, even though it were an unavoidable one, that the United States has so displaced Britannia on the sea. It is infuriating to hear the complacent remark, as one so often does,

"The United States and Russia, the two great Powers." Arc we then a minor Power? Yes, I suppose we are if we think of ourselves as a unit by itself.

That kind of dim outlook is all too prevalent these days, due no doubt to too much thought on Welfare and too little on State. As a state we are but a fraction of a great Commonwealth and Empire—the United Kingdom, Canada, Australia, New Zealand, the Colonies, and associated nations. Do we not see here a very Great Power, perhaps in time to be again greater than any Power in the world? We have only started to develop it! Our whole future is bound up in it, but seldom do we hear our statesmen mention the Commonwealth and Empire.

For example, the Commonwealth countries want more

British stock. It should surely be major policy for our Government to encourage this, but so far they seem to have shown little interest. Meanwhile, those countries have to import foreigners, which is not the way to keep the Empire together.

All Britain's major problems must be thought of imperially. The Navy is one of them. Sea power will always be a great factor in the stuff of Empire.

The Navy has felt bitterly the cavalier treatment it has undergone, but, encouraged or discouraged, it will never lose heart. Never have the Royal British and Commonwealth Navies been more up to date in their technical knowledge.

They and our scientists and engineers know quite as well as Americans what a modern fleet should be. There is, however, one

essential quality which our officers and men will lose unless they get more sea time and that is the highest possible standard of seamanship.

Sea-sense once lost cannot be quickly recovered. Not only are ships in reserve useless for training but, as has so often been insisted by naval officers and those who have written the histories of our wars, such ships must not be included as part of our sea strength at the opening of a war for they can be of little or no use for several weeks. This applies more than ever to-day, for a war may be lost in that time.

The only answer is more ships in commission. Give them the ships.

—From the London "Navy."

I slept, and dreamed that life was beauty;
I woke, and found that life was duty.
—Hooper.



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 also sponsors the Australian Sea Cadet Corps to interest the right type of lads in the Royal Australian Navy—either to start them upon a career or to provide a healthy pleasurable means of qualifying them to be of service in the Senior Service in the event of emergency.

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?

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Hon. Secretary: 12 Pirie Street, Adelaide, South Australia.
Hon. Secretary: Box 1441T, G.P.O., Brisbane, Queensland.
Hon. Secretary: 62 Blencowe Street, West Leederville, W.A.
Hon. Secretary: 726 Sandy Bay Rd., Lower Sandy Bay, Hobart.
Hon. Secretary: 49 Froggatt Street, Turner, Canberra, A.C.T.

CANADA'S LATEST A.S. DESTROYER

From a London Correspondent

H.M.C.S. St. Laurent, Canada's most modern anti-submarine destroyer escort, completed earlier this year, visited London recently on completing her duty as part of the escort of the Royal Yacht BRITANNIA during the Queen's State visit to Stockholm.

THE St. Laurent is of unusual design and is one of the most modern anti-submarine vessels afloat. She is one of a class of 14 such ships being built in Canada. The St. Laurent is designed to combat the fast modern submarine.

Her powerful turbines can drive the ship at more than 25 knots, her electronic devices provide "eyes" for operations in fog and at night, her anti-submarine weapons can be directed on to a target with great accuracy by sonar fire-control systems. These things, and her accommodation and sea-keeping qualities, all make her an outstanding ship.

She was designed with smooth lines and a clean superstructure to minimise ice formation during the North Atlantic Winter and to ensure that she can, if necessary, be rapidly cleansed of contamination

by chemical or radio-active material.

In construction, stress was laid on health, comfort, and the efficiency of the ship's company at sea. Foam rubber mattresses and electric shaving devices are provided. Galley equipment includes electric bread slicers, automatic toasters, steam pressure cookers, electric coffee urns, dish washing machines and garbage disposal units.

She has storage space for 90 days' frozen provisions, compared with space for 14 days' provisions in Canadian escort ships built during the Second World War.

Known in the Royal Canadian Navy as the "Electrical Wonderland," H.M.C.S. St. Laurent has electrical and electronic systems more comprehensive and more complex than those carried in ships

twice her size during the last war.

Much of this equipment is of Canadian design and most of it was produced in Canada. She has five generators capable of producing 1,400 kW—equal to the generating capacity of an 18,000 ton aircraft carrier.

The ship was wholly designed and built in Canada by a new engineering technique known as "unit construction." A large quantity of aluminium has been worked into the interior and superstructure, making for less weight and higher speed.

The St. Laurent was laid down in November, 1950, and launched by Lady Alexander, wife of the then Governor General of Canada, in November, 1951. Her displacement is 2,600 tons, her length overall 366 ft., her beam 42 ft., and her war complement 20 officers and 270 men. She cost approximately 15 million dollars to build.

FLYING DISPLAY

DISTINGUISHED visitors, including the British Ambassador in Turkey; Sir James Bowker; Minister of Defence; Mr. Semi Ergin; and the Chiefs of Staff and Senior Officers of the Turkish Armed Forces, witnessed a flying display from H.M.S. Eagle in the Aegean, off Izmir, during a visit of units of the Mediterranean Fleet to Turkey early in June.

The Commander-in-Chief, Mediterranean, Admiral Sir Guy Grantham, transferred from H.M.S. Birmingham to H.M.S. Eagle to see the demonstration, which included firing at towed targets and smoke floats.

A DARING SALVAGE FEAT

By a Special Correspondent.

SILVER tankards from the Wardroom of the battleship H.M.S. Valiant have been presented by Admiral the Earl Mountbatten of Burma to Nos. 138, 214 and 543 Squadrons of the R.A.F., which are equipped with Vickers "Valiant" bombers. The ceremony took place recently at Bomber Command's H.Q. and, being in private, no report of Lord Mountbatten's speech has been publicly given.

Now I wonder if Lord Mountbatten related one in particular of the many secret stories of Valiant, concerning damage to its screws? Here is the story, which has not been told before.

In December, 1941, after a terrible series of reverses, the two main units of the Fleet in the Eastern Mediterranean were H.M.S. Queen Elizabeth and Valiant. One calm night, Italian one-man submarines sneaked into Alexandria Harbour — it is believed in the wake of an incoming cruiser — and attached limpet mines to these two battleships.

At dawn the next morning, both Q.E. and Valiant had gaping holes in their hulls, the former being particularly badly damaged. It was a brilliant success for the enemy as the strength of the Fleet was already in jeopardy by the loss of the battleship Barham shortly before.

Eventually, Q.E. and Valiant were patched up and got away for repair. Valiant next came into prominence at Ceylon, where she suffered from a Japanese attack. The Japs went for the dry dock in which Valiant was under examination, and as the dock collapsed two of the ship's four propellers were badly damaged.

The reason for Valiant being at

Ceylon was the intention to use her as a bombardment ship when the long-planned attack on the Malay coast was put into operation. As this time was rapidly approaching, and advantage had to be taken of seasonal weather, it was important to get Valiant battle-worthy quickly.

Repair and maintenance facilities at Trincomalee were limited, and as by now the tide of battle had receded from Egyptian waters, it was decided to remove Valiant to Suez.

This trip was effected under her own power, though the damaged screws made steering highly erratic across the Indian Ocean. It was on this voyage that a major decision was taken. With four good screws Valiant could make 22 knots, but using only two screws under emergency operation she could make 18 knots.

Lord Mountbatten decided that 18 knots was more than sufficient for coastal bombardment, and thus the critical question became: could the damaged screws be removed

so that the ship could be properly steered at the accepted reduced speed?

The time factor was of maximum importance: there was no possibility of getting Valiant into dry dock for the surgical operation as Lord Mountbatten had given the ship exactly one week to finish the job!

So far, all expert opinion had described the task as impossible, but there was then in the Middle East an experienced salvage officer who had already brought off some sensational coups. This was Lieutenant-Commander L. A. J. ("Peter") Keeble, of the South African Naval Forces, formerly in the British Merchant Navy and an R.N.R. Officer, and before that an R.A.F. pilot.

Keeble had collected at the Alexandria base a small special-service unit for salvage work. Valiant's requirements were made known, and with Petty Officer Nicholls he went to Suez to perform an "impossible" underwater feat.

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The situation was that Valiant was riding in about 90 ft. of water, and the damaged screws were 32 ft. below water-line. It was, therefore, possible to cut away the damaged screws.

Note that there was nothing for the salvage experts to stand on—no sea bed or other platform beyond the shaft leading to the screw in each case. Each screw was held in position by an A-bracket, a sort of triangular stay projecting from the bottom of the hull, inverted, with its apex at the shaft.

Each screw, with blades and shafting, weighed about 20 tons, and this whole unit was what Keeble proposed to detach from the ship like a gardener pruning a tree.

This involved an unprecedented feat of underwater cutting. Each A-bracket was of cast steel, dimensions 4 ft. 6 in. x 14½ in. thick. The shaft itself was

17½ in. thick, and hollow bored . . . a fact which was to create much trouble.

Commander Keeble and P.O. Nicholls started on the task and cut remorsefully for more than four days almost non-stop. Both men were underwater for six-hour stretches, and for long periods could not see exactly what they were doing.

First the A-brackets were severed, so that the shaft projected from the hull without support. Indeed, it was whipping with the motion of the water, and this unsteady platform was what they had now to work on.

The only way to make the final cutting was to sit on this 20-ton unit and cut on the forward side. Imagine a couple of surrealist jockeys astride the shaft which, when it did snap, would instantly plunge to the sea bed—and there you have the idea of this underwater scene.

The risk was that the salvage diver could not know precisely when the break would come, and if he was not quick enough he would be carried down with the screw, the sudden increase of water pressure then converting him to red jelly.

The hazards and the cold courage of these two men are shown by the fact that serious trouble began as the hollow-bore of the shaft was reached by the oxy-hydrogen burners. As the sea water entered the shaft bore, it boiled and thus created a steam spout.

"We didn't mind the steam," Commander Keeble said later, "but it carried small particles of molten metal which rapidly etched a frosted pattern on the face glass of our diving helmets."

So, what had to be done was to grope unseen and feel how the cut was going—and as a life-long souvenir Commander Keeble has burred thumbs that look as

though he had been tortured by the Inquisitors.

When the shaft was more than half-cut, tactics were changed. Using special buoy markers, a line was attached to each screw, so that after severance the screw could be removed. A small stick of gelignite was inserted in the shaft, and the divers surfaced.

No. 1 charge was touched off, and all went to programme. A few seconds after the underwater explosion, the marker buoy bobbed to the surface. But with No. 2 charge fired, no marker appeared, and an inspection was necessary. What had happened was that the shaft had properly separated, but the marker line had become fouled by the screw as it descended. Gyrating downwards it had wound up the line.

Commander Keeble now lives in Cape Town. He has, as one of his proudest war memories, a copy of a signal made to Admiralty by Captain G. E. M. O'Donnell, D.S.O., R.N., Commanding Officer of Valiant, which reads:—

"A feat of underwater cutting was performed by the Fleet Salvage Officer Lieutenant Commander Keeble, which is described in detail in item report. The speed and handiness of Valiant is greatly improved as a result of this daring feat carried out in very short time. I wish to draw your Lordships' attention to this very daring and successful operation, ably and personally carried out by Lieutenant Commander Keeble."

Peter Keeble has a wry comment to make on his damaged thumbs. "I wonder," he speculates, "what Sherlock Holmes would deduce if he saw me in his room in Baker Street?" Surely the great man would maintain his reputation by diagnosing: A very valiant man.

—From the London "Navy."

For Sea Cadets

A DISASTER GAVE US SEA LANES

By KENNETH C. RATHBONE

A TERRIBLE shipping disaster, in which about 350 people were drowned in the Atlantic on a foggy afternoon after a collision between an iron ship and a wooden passenger liner, prompted an American naval officer to think of the idea of shipping lanes—those lines linking seaports seen on some maps and charts of the Atlantic.

His name was Lieutenant Matthew Fontaine Maury, and it is just a hundred years since he suggested that if steamers kept to fixed lanes or tracks it would reduce the risk of collisions like that between the American Collins liner Arctic and the French steamer Vesta. If a tragedy did occur there would also be more chance of survivors being picked up (there was no radio then) if many ships steamed along the same route.

The Arctic, a wooden paddle-steamer of 2,860 gross tons, and one of the three ships which held the Atlantic speed record for the U.S.A. from 1851 to 1856, was about 65 miles off Cape Race, Newfoundland, at noon on September 27, 1854. She was steaming through dense fog at 12 knots, carrying 260 passengers and 130 crew from Liverpool to New York.

Suddenly the hazy outline of another ship appeared out of the fog. In less than a minute the two ships were locked together in a collision. With a terrific crash and a tearing and grinding of metal and heavy timbers, which brought startled passengers running out on deck, the iron stem of the Vesta dug into the starboard bow of the Arctic.

The Arctic's wheel was put

hard a-starboard, and the engines full astern, to separate the two ships. Captain J. C. Luce of the Arctic thought the Vesta was sinking fast so he ordered two boats to be lowered to pick up people from her. Mr. Gourley, the Chief Officer, left in the starboard quarter boat, but before the other could be lowered the Captain had second thoughts and countermanded the order. He then asked the Second Officer, Mr. Baahlam, to go over the side to look at the damage. Mr. Baahlam found three large holes, two of them below the waterline, about 60 ft. abaft the stern. One of the holes was about 5½ ft. by 1½ ft.

The ship was turned towards Newfoundland, in the hope of getting there, or at least of getting much nearer. Water was rushing in. Cargo and equipment were thrown overboard to try to lighten the ship and raise the holes above water. Passengers helped the crew working desperately at the pumps. But the water steadily gained on them. In thirty minutes there was 6 ft. of water in the hold and the lower fires in the boilers were washed out. Hope of saving the ship was abandoned.

Many passengers started to panic. They feared there was not enough room for all in the boats, and there was no means of summoning help. They crowded into and around the boats as they hung in the davits making it difficult for officers and crew to lower them. At first the engines were still running because the engineers were unable to carry out the order to stop them. This made the launching of boats more hazardous. As one boat was being lowered the rope falls used to lower it broke

and all those in the boat were thrown into the water, all being lost except a lady who clung to a sailor. Another boat got away crammed with passengers, but with no officer or seamen in it. It was never seen again.

Lots of other men and women did not wait for boats, they just jumped overboard.

Second Officer Baahlam and two of the crew managed to lower the port guard boat. He asked the Captain what he was going to do and the Captain replied that he would share the fate of his ship. Second Officer Baahlam then offered to take the Captain's ten-year-old son, but the Captain said the boy would share his father's fate. On the Captain's orders Mr. Baahlam then cut away the rope falls and the boat dropped astern. About twenty people jumped overboard and he managed to pick up seventeen of them.

In a report later Mr. Baahlam wrote: "The last sight we had of the ship her guards were level with the water, and the surface of the set strewn with human beings who had jumped or fallen overboard, to whom, however, it was impossible for us to lend any assistance, and we soon lost sight of all, as the fog continued to be very dense."

They then met a boat from the starboard side and took some people out of it to lighten it. There were now twenty-six people in the Second Officer's boat and nineteen in the other. Besides Second Officer Baahlam there were Fourth Officer Graham, the purser, twenty-eight seamen and fourteen passengers. They were not the only survivors from the Arctic; later, a few more, including

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Captain Luce, were picked up from wreckage and a drifting life-boat by passing ships.

Both boat crews agreed to be commanded by Second Officer Baahlam, who wrote later: "After pulling for forty-two hours with nothing to guide us but the run of the sea, which I took to be heaving from the southward, and in a thick fog, which lasted all the time, we reached Broad Cove, some twelve miles from Cape Race."

They went by land to Renew's, where the purser immediately hired a schooner. Second Officer Baahlam sailed out in it to search for more survivors. None was found. Among those lost were the wife, daughter, son, sister and brother-in-law of Mr. E. K. Collins, the founder of the Collins Line.

Things were less hectic on board the *Vesta*. At the time of the collision she was steaming at eight knots in the opposite direction to the Arctic, en route from St. Peter's to Granville, France.

Only thirteen of her 147 passengers and fifty crew were lost. One person was killed and several hurt by the collision. Two boats were lowered immediately, but one sank. Two of the crew and several passengers got away in the other, but when Captain Duchesne later ordered them back on board they refused to obey. A few minutes later the boat was run down by the Arctic, and only one escaped from it by climbing up a rope hanging over the bow of the Arctic.

It seemed at first that the *Vesta* was sinking, but later she rose again. The bows were smashed, and the foremast damaged by the violence of the crash, but the forward collision bulkhead was undamaged. Cargo was thrown overboard to lighten ship and the foremast was cut away. To strengthen the forward bulkhead

150 mattresses and luggage were piled against it, backed by sails and planks, the whole being lashed with cables. She arrived in St. John's, Newfoundland, three days later.

So in 1855, while this disaster was still fresh in everyone's memory, Lieutenant Maury published his plan for shipping lanes.

He suggested a lane or track for eastward-bound ships about 20 miles wide crossing longitude 50° West in latitude 42° North and a lane for westward-bound ships crossing longitude 50° West 200 miles to the north of the eastward lane.

His idea, and variations of it, were widely discussed in the following years. From 1872 the U.S. Navy Hydrographic Office repeatedly urged the adoption of shipping lanes.

A conference of twenty-six maritime nations at Washington in 1889 refused to set up compulsory shipping lanes, but urged leading shipping companies to adopt regular routes for their ships.

In 1891, the Cunard Line, White Star Line, Inman Line, National Line and Guion Line, the five leading Atlantic companies at that time, got together and did this.

At the International Convention for Safety of Life at Sea, in London, in 1913-14, it was agreed by fourteen maritime countries that the choice of routes should be left to shipping lines, but the Governments taking part promised to instruct the shipping lines of their countries to give public no-

tice of the routes their ships would follow. They also agreed to try to persuade all ship-owners to follow the routes of the leading companies.

Lane routes have varied according to the season of the year so that as well as lessening risk of collision with other ships they reduce the danger from icebergs, and from collisions with fishing vessels on the Grand Banks of Newfoundland.

Maury was born near Fredericksburg, Virginia, U.S.A., in 1806. He entered the U.S. Navy as Midshipman in 1825. After an accident ashore in 1839, which left him permanently lame, he was deemed unfit for active service, and put in charge of a charts and instruments depot in 1841. This depot later developed into the U.S. Naval Observatory and Hydrographic Office.

He did a great deal of work in oceanography, meteorology, and navigation, and published many books and papers. In 1855, the year he suggested shipping lanes, he was put on the retired list, but after a public outcry he was later brought back and promoted to Commander.

In the American Civil War, Maury joined the South in 1861, and was chief of coast, harbour and river defences. During this period he invented an electric torpedo for defence.

After the Civil War he was a refugee in Mexico and then in England. The British people presented him with a testimonial raised by public subscriptions and he was made an LL.D. of Cambridge University.

In 1868 he was able to return to America. He became professor of meteorology at the Virginia Military Institute. He died in 1873, and so did not live to see the shipping-lanes plan come into use.

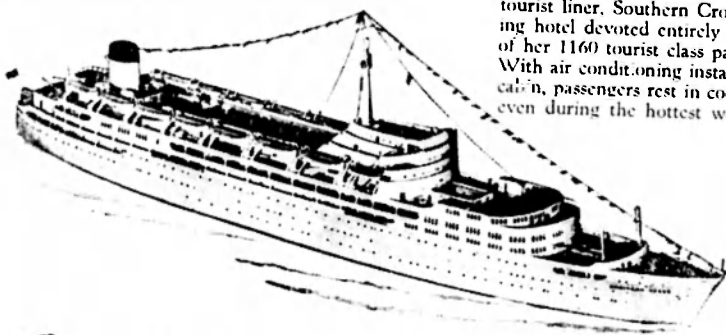
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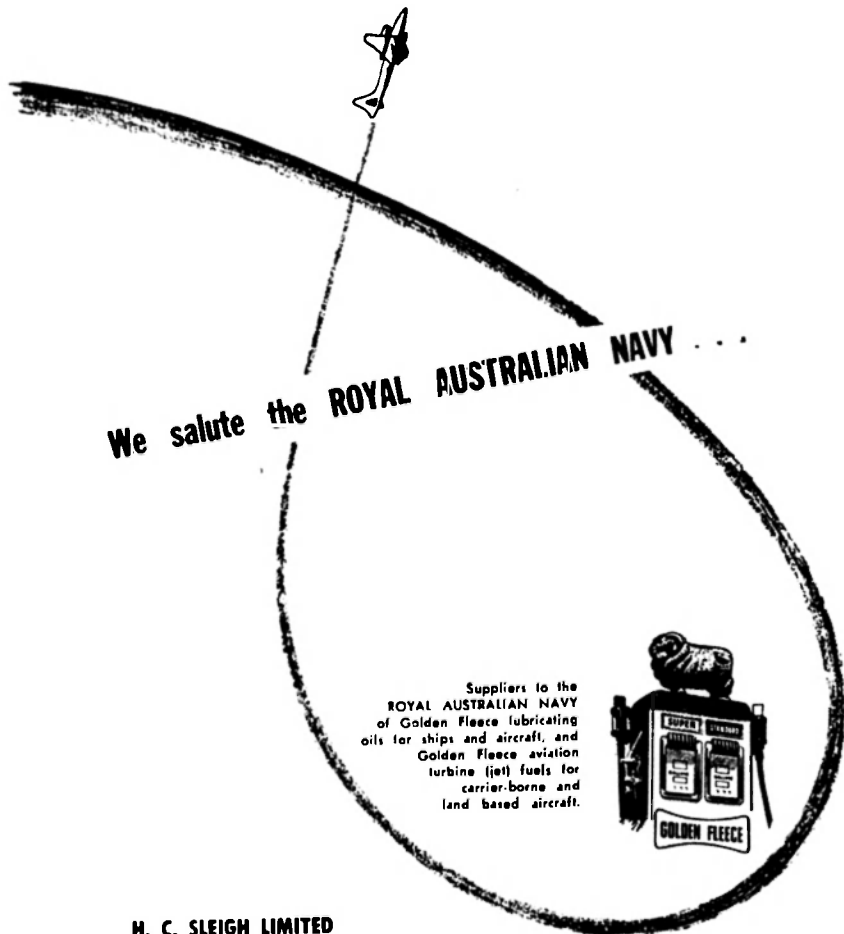
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THE CANAL CRISIS

On July 26 Egypt's President Nasser made an announcement which shook the maritime world. Egypt, he said, would nationalise the Suez Canal, the world's most important waterway.

A glance at these figures shows just how important it is: last year Canal traffic averaged 40 ships a day, with a total of 154 million tons. Oil cargoes amounted to 70 million tons. The industries of the United Kingdom, Western Europe and the Scandinavian countries depend on the Suez Canal traffic for no less than half their oil requirements.

Egypt's obligations concerning the Canal are laid down in two main agreements. First is the Concession, which is in fact a series of agreements over many years between Egypt and the Suez Canal Company. Egypt endorsed the conditions of the present Concession as recently as June this year. The second is the Suez Canal Convention of 1888. A vital provision of this is that the Canal shall be open in war or peace to every vessel, merchant or warship, without distinction of flag.

In the Anglo-Egyptian Treaty of 1934, both Egypt and Britain expressed their determination to uphold the 1888 Convention and to recognise the

Canal as a waterway of international importance economically, commercially, and strategically.

Like other dictators President Nasser has an eye for the dramatic, particularly for the rabble-rousing balcony scenes favoured by Mussolini. His nationalisation announcement was made to a crowd of 100,000 cheering Egyptians in Alexandria's Liberation Square. "The Suez Canal Company is an exploiting company," he declaimed. "We shall build the (Aswan) High Dam by restoring our rights in the Suez Canal. We shall industrialise Egypt and compete with the West. . . . We shall fight to the last drop of blood. . . . We are marching from strength to strength. . . . After 100 years the rights of the Egyptian people have been vindicated."

Clearly President Nasser hopes to use the Canal as a kind of golden-egg laying goose to finance his industrial and arms programmes. Their size can be gauged by Egypt's own estimate of the cost of the Aswan dam—£stg.400 million—and the vast expenditure which Egypt must be incurring to buy the modern warplanes, tanks, guns, and other equipment to build her new fighting services for the predicted war against Israel.

Many Western authorities point out that the Canal Company for some time has been setting aside reserves to enlarge the Canal's capacity. This work is estimated to cost £stg.20 million, with additional heavy expenditure periodically over the

next 15 years. It is not hard to guess what would happen to these plans for improving the Canal—under Egyptian control—while Egypt is preoccupied with her own enormous financial problems.

This, however, was not the reason for the swift and angry reaction, particularly from Britain and France, which followed President Nasser's nationalisation statement. Despite her assurances, control of the Suez by Egypt, ill-disposed to Britain and France and smarting over Britain and America's refusal to finance the Aswan dam project, threatened the free movement of shipping—for who could foretell Egypt's future policy?

Britain's Prime Minister, Sir Anthony Eden, bitterly commented: "That is how Fascist governments behave. The world knows what it costs to give way to Fascism. With dictators you always have to pay a higher price later on—their appetite grows with feeding."

And with the Arab bloc cock-a-hoop over Egypt's successful Canal grab, might not the nationalisation of oil follow? Behind these doubts was an uneasy feeling that Egypt had not taken this important, provoking step alone—that she might well have had secret support from the Soviet, which had already wooed her with arms and technical aid.

Despite this shadow of the Soviet, swiftly and ominously Britain and France began military

preparations, concentrating naval, air, and land forces in the Mediterranean—almost on the doorstep of defiant Egypt. The threat of war was obvious. Sir Anthony Eden told the world where Britain stood: "We have too much at risk not to take precautions . . . that is the meaning of the movements by land, sea, and air of which you have heard." And then quietening to some degree American fears of war, he added: "We do not seek a solution by force but by the broadest possible international agreement."

The international agreement came in a surprising sense when 22 nations attended the London talks on the Canal crisis and 18 of them agreed to a plan to solve the issue. Sponsored by the United States, this plan was for the establishment of an international board to control the operation of the Canal, at the same time recognising Egypt's ownership of the Canal. The board would represent the maritime nations which used the Canal most, and Egypt.

The 18 nations, controlling 95 per cent. of Canal shipping, chose Australia's Prime Minister, Mr. R. G. Menzies, to lead a five-nation delegation to place the plan before President Nasser.

This month should tell of the success or otherwise of that delegation. Regrettably, Egypt's attitude so far does not augur well for the outcome.

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The West's Guided-Missile Ships

The Western Powers' progress in developing guided weapons ships is one of the most important factors in world naval assessment. The United States now has two of these ships. Britain recently commissioned her first—a trials ship—on whose results the future composition of the Royal Navy will to a great degree depend. The following articles describe these history-making ships.

THE commissioning of H.M.S. *Girdle Ness* as the Royal Navy's first guided weapons trials ship—an event marking the Navy's entry into a new era of weapon power—took place at Devonport on July 24.

H.M.S. *Girdle Ness* was built in Canada as a landing craft maintenance ship. She has the hull of a Victory type merchant ship and displaces 10,000 tons. In the early days of guided weapons development it was appreciated that a special ship would be needed to test the weapons at sea. The possibilities of converting a cruiser or aircraft carrier, of building a new ship or of converting a ship like the *Girdle Ness* were considered. High speed, and other attributes of a normal warship, were not required and as it would have been extravagant to employ a modern warship for the task, the *Girdle Ness*, of eminently suitable shape and size, was chosen.

In October, 1953, she was taken in hand at Devonport Dockyard and since then has been completely stripped and reconstructed for her new role. She is now about to set out on her task, which is to prove ship-launched guided weapons for service in the Fleet and to gain experience in handling and maintaining, and the tactical uses of these weapons.

The weapons are extremely complex. Research and development trials have taken place ashore, some at the Ministry of Supply Research Establishment at Aber-

By a Special Correspondent in London.

forth in Wales, and some at the Weapons Research Establishment at Woomera in South Australia. But it has been found by experience that a weapons system, or any other piece of fighting equipment, which works well ashore is not necessarily fully suitable for use at sea.

The guided weapons equipment fitted consists of radars, displays and communications equipment to select targets and control missiles in flight, magazines and handling gear for stowing and transporting the missiles, and a launcher. In addition, there are elaborate facilities to obtain instrumental data from the trials.

The trials will be planned jointly by the Admiralty and the Ministry of Supply in conjunction with other interested parties, and the results will be analysed chiefly by a special team at the Royal Aeronautical Establishment at Farnborough.

Some aspects will, however, be analysed by firms or establishments particularly concerned. A prolonged period of firings will be necessary to obtain all data required for the design of new guided weapons ships for the Fleet. The design of these ships, referred to in this year's Navy Estimates White Paper, will be considerably influenced by work done by the *Girdle Ness*.

The complement of the *Girdle Ness* is 80 officers and 370 men.

U.S. NAVY'S BIG LEAD

By R. B. V. Blackman

AFTER more than six months of exhaustive trials and shake-down cruises, the world's first guided missile cruiser, the newly converted U.S.S. *Boston* (CAG 1), has joined the United States Navy to become the first operational combat ship capable of firing supersonic anti-aircraft guided missiles.

According to the United States Department of Defence, "this ship, with its associated radars and guidance systems for 'Terrier' and other anti-aircraft missiles, repre-

sents a complete new naval weapons system specifically designed to further the Navy's mission of control of the seas."

The *Boston*, as transformed into her new guise, certainly does constitute the most interesting reconstruction and conversion project to reach fruition during the past year. She was originally a heavy cruiser with a displacement of 13,600 tons standard and 17,200 tons full load with an overall length of 673½ feet, a beam of 71 feet and a draught of 26 feet.

Her armament comprised nine 8 inch guns in three triple turrets, two forward and one aft; twelve 5 inch guns in six twin mountings, two on each beam abreast the forward and after superstructures, one before the bridge and one abaft the after control; fifty-two 40 mm. anti-aircraft guns and twenty-three 20 mm. anti-aircraft pieces.

She carried four aircraft lifted from a hangar in the stern by two cranes mounted on the counter and operated from two catapults on the quarter deck. She was protected by 6 inch side armour belts and 3 inch and 2 inch decks. Four Babcock and Wilcox boilers and General Electric geared turbines of 120,000 shaft horsepower turning four screws gave her a speed of 34 knots. She was built by the Bethlehem Steel Company, Quincy, having been laid down as the CA 69 on June 30, 1941, launched on August 26, 1942, and completed on June 30, 1943.

But as converted into a guided missile ship by the New York Shipbuilding Corporation, Camden, New Jersey, and representing an entirely new naval category known as CAG, she has undergone drastic changes in layout and appearance in preparation for the mission of aircraft defence.

The ship's superstructure has been entirely remodelled to accommodate easily the new weapons. One of the two funnels was removed altogether, which vastly alters the silhouette of the vessel. The pole foremast has been replaced by a sturdy lattice pylon just abaft of which is the new squat, considerably wider single funnel surmounting trunked up takes.

The after 143 ton 8 inch triple gun turret and the aftermost 5 inch twin mounting have been suppressed in the conversion, and two twin guided missile launchers, each capable of firing two "Ter-

WIVES AHoy!

When H.M.S. Tyne, flagship of Admiral Sir John Eccles, K.C.B., K.C.V.O., C.B.E., C-in-C. Home Fleet, sailed from Southampton to Portsmouth at the conclusion of the Home Fleet spring cruise on July 19, she had on board wives and children of members of her company.

H.M.S. Tyne is a Portsmouth ship and the families of most of her officers and men live in the Portsmouth and Southampton area. About 150 wives and 120 children made the trip.

Similar facilities were extended to relatives by H.M.S. Apollo, from Teignmouth to Devonport, and H.M.S. Defender, from Sheerness to Chatham, when these ships concluded their cruise programmes.

The privilege was extended to families to give them an opportunity of seeing their husbands engaged in normal ship's tasks, thus bringing them more closely into the naval community.

rier" weapons simultaneously, have been mounted. The stowage of the "Terriers" is below decks in two magazines, dubbed the "coke machines," which are completely automatic loading devices.

Radar apparatus and electronics equipment for detecting targets and for guiding the missiles represent the most radical change in the ship. This equipment is the most modern available and is designed for a maximum degree of automatic operation.

In addition to the "Terrier" guided weapons and all their associated gear, the Boston carries twelve of the latest pattern 3 inch

anti-aircraft guns in six twin mountings abreast the masts and after control, and these replace all the former A.A. guns of smaller calibre.

A slim, needle-nosed supersonic weapon, the "Terrier" is designed to intercept aircraft under any weather conditions at longer range and higher altitudes than conventional anti-aircraft guns. The "Terrier" was developed by the United States Navy Department's Bureau of Ordnance under the technical direction of the John Hopkins University Applied Physics Laboratory, Silver Spring, Maryland. The missile is being produced in quantity at the Naval Industrial Reserve Ordnance Plant at Pomona, California, operated by Convair, a division of the General Dynamics Corporation.

The "Terrier" was fired experimentally in fleet operations in November, 1954, from the U.S.S. Mississippi, the U.S. Navy's oldest battleship, which had been converted into a test ship for this purpose. These operations marked the completion of the "Terrier's" operational test firing programme. The missile was successfully demonstrated in "Operation Lantflex" in 1954.

Although still armed as a conventional cruiser forward and amidships, the Boston will be used primarily to fire the U.S. Navy's new anti-aircraft missiles, or "Terriers." The ship is the first of two guided missile cruisers recently taken in hand for conversion at the New York Shipbuilding yards. Her sister ship, the U.S.S. Camberra, CAG 2 (ex-CA 70) has just had her surface-to-air guided weapons installed and was recommissioned on June 15.

The name "Boston" has appeared almost continuously in the history of the United States Navy. The first ship of the name, a 24-gun frigate, became part of

the tiny fleet in 1776. The present Boston became the sixth U.S. Navy ship to bear that name when first completed and commissioned on July 30, 1943. She set out for Pacific waters the same years and there participated in a major share of action in the Second World War. At the end of hostilities the Boston was decommissioned at Bremerton, Washington, and laid up in a state of preservation in the Reserve Fleet. She was later taken out of "mothballs" and towed to Philadelphia for conversion into her present role. She was recommissioned with special shipboard ceremonies on November 1, 1955, at the U.S. Naval Base, Philadelphia, to mark her emergence from the heavy alteration work carried out in her, and she has been working up ever since.

The Commanding Officer of the new guided missile ship Boston is Captain Charles B. Martell, U.S.N., who is well versed in guided missile usage and developments. Prior to his present assignment he commanded the U.S.S. Mississippi, the battleship of both the First and Second World Wars, which now serves as the Atlantic Fleet experimental gunnery ship and guided missile test ship. This ship was the first naval ship to successfully employ guided missiles in fleet operations. From 1948 to 1951, Captain Martell held the post of Assistant Director of the Atomic Energy Division, Office of the Chief of Naval Operations in Washington, where he assisted in developing the U.S. Navy's ability to conduct atomic warfare.

The Boston is the first guided weapon ship. But soon there will be many other guided weapon ships in the United States Navy, for several new ships are being built with guided missiles and other ships are being converted to mount guided weapons. The newly designed and converted ships comprise all categories from



A Gannett anti-submarine aircraft about to be catapulted from the flight deck of the carrier H.M.A.S. "Melbourne" during recent exercises off the east Australian coast.

NAVY OFFERS ENGINEERING COMMISSIONS

The R.A.N. is offering short-service or permanent-service commissions in the Engineering Branch to qualified engineers and undergraduates.

Qualified engineers possessing a degree or acceptable equivalent in mechanical, aeronautical, or electrical

engineering are eligible for either a permanent or short-service commission (five years).

Those who hold a degree in naval architecture are eligible for a permanent-service commission.

Undergraduates studying for a degree in mechanical, electrical, or aeronautical engineering may apply for either a short-service or permanent service commission at any time in their final three years. Those studying for a degree in naval architecture may apply for a permanent-service commission in their final year.

battleships down to submarines, and in a few years guided missiles installed as a matter of course will be just as commonplace as any other gun battery of which guided weapons are merely a new and improved type of longer range.



The B.I.'s 'Chandpara,' built in 1950, is one of the company's "C" Class ships used extensively, particularly in the Australian trade.

"The B.I." has Its Hundredth Birthday

IT is admitted by her friends, her rivals, and even her enemies, that the experience of Great Britain in the maritime affairs of the world has been unique. It is simply a fact of history that the shipping lines based on that small island in the eastern Atlantic are remarkable in strength and efficiency, these qualities rooted deeply in the natural instincts of an insular people with a long history of stable government behind them.

It is therefore an occasion of true international importance when one of the largest and oldest shipping concerns in the world celebrates its centenary. This occurs in September this year when the British India Steam Navigation Co. Ltd.—so much better and so affectionately known as "the B.I."—celebrates its hundredth birthday.

The occasion will be marked by appropriate celebrations in London, Calcutta and other bases of this fine old shipping line. It is more permanently memorialised in the official history — "B.I. Cen-

tenary," by George Blake, the novelist and maritime historian.

It is a truly romantic story, fit for the pen of an experienced novelist, throwing into high relief the personalities of many remarkable men of the pioneering type, the dramatic growth of trade by sea in Eastern waters, the many dangers — and occasional comedies — of seafaring, and the intrusion of the steamship into ports that had never before seen anything more advanced than an Arab dhow or a masula boat. Historians of the future will see clearly that the development of the B.I. from small beginnings was (however one may care to look at it politically) a phase of world history.

The founder of the company was William Mackinnon. He was born in 1823, in Campbeltown. From this small seaport on the western coast of Scotland he went to Glasgow as a young man and there became familiar with the ways of Eastern trade in the office of what was then called an "East Indian merchant." The facts can-

not now be known with certainty, but it is on clear record that William Mackinnon arrived in India in 1847, and that he was immediately in touch with another native of Campbeltown, Robert Mackenzie. It is said that Mackenzie persuaded the young Mackinnon to come to India and seek his fortune in that rich and rapidly developing country.

However that may be, these two young Scotsmen ultimately formed a partnership as general merchants.

It was not long before they saw that their trading interests could be extended by the use of ships, and they duly bought or chartered a few small sailing vessels to carry goods to Australia, then rapidly expanding as the discovery of rich deposits of gold was attracting immigrants from the United Kingdom. These settlers could absorb almost any amount of consumer goods, and the partners in Calcutta set out energetically to supply the demand.

This trade was so profitable that in 1853 Robert Mackenzie himself set out for Australia to oversee

the disposal of a large mixed cargo — from sugar, rice, coffee and tea to bedsteads and soap. Having sold these at good prices, he embarked in the small steamship *Aurora* on his return to India. This underpowered ship was wrecked on Gabo Island, off Cape Howe, on May 15, 1853, and Mackenzie was drowned. William Mackinnon was left alone to carry on the growing business in India.

Mackinnon was a small man with delicate features, but his commercial brain was razor-keen. To help him in his expanding mercantile business he brought out to India several young relatives and friends from his native Scotland. At the same time he was dreaming and planning for the expansion of trade by means of shipping.

He saw clearly that the great potential wealth of the sub-continent could not be developed by railways alone, and that India could most easily get her goods into the world markets through a service of steamships that would open up innumerable small ports from Calcutta southwards and, round Cape Comorin, northwards to Bombay. He was in advance of his time in deciding that his steamships should be "screw steamers," the propeller in preference to the side-paddle.

His chance came in the mid-1850's when the Hon. East India Company, then the effective Government of both India and Burma, invited bids for a contract to carry mail between Calcutta and Rangoon on a strict schedule

WOLLONGONG APPEAL

The Wollongong Navy League's public appeal for £1,000 to provide headquarters for Wollongong Sea Cadets closed last month.

The gross sum contributed was £1,242, and after expenses have been met the organisers expect the result will be about £1,100 clear.

of regularity. Mackinnon was quick to make an offer; he would form a limited liability company to run at least two screw steamers between the two great ports, the promptitude of their services guaranteed. This was accepted.

William Mackinnon then hurried home to Scotland to raise the necessary capital and buy the vessels he required. The Calcutta and Burmah Steam Navigation Co. Ltd. was registered in Glasgow on September 24, 1856. The capital was what we would regard nowadays as the modest sum of £35,000. It is of interest that Mackinnon reserved shares to the value of £7,500 for sale to his friends in India.

That was the beginning of what is now the British India Steam Navigation Company, Ltd. and the centenary of the B.I. must date from the formation of the Calcutta & Burmah Company.

The first two vessels of the new company were the *Baltic* and the *Cape of Good Hope*. Both were screw steamers, but they were rigged as brigs; and the early steamship skippers never hesitated to hoist sail and so save coal in suitable conditions. Each was of about 500 tons gross, some 190 feet in length. It took these cockleshells months to sail from the U.K. to India round the mass of Africa.

Even so, they did well on the Burma Mail run, the very first axis of the B.I. services in Eastern waters. The mails were only a part of it. A tidy passenger trade developed, and in due course the cargo trade in such commodities as tea and rice grew so large that Rangoon became a base for Mackinnon's ships second in importance only to Calcutta itself. Before the Second World War, for example, 20 vessels on eight different mail and passenger runs used the port. There was not a

day of the week, except Sunday, when at least one B.I. ship was not coming in or going out.

In the meantime, William Mackinnon was rapidly expanding both his fleet and his trade. It was his conviction, shared in Government circles, that coastwise trade would be the solution of many of India's economic and over-population difficulties. So he sent his ships probing southwards towards Madras and Ceylon. Soon they were rounding Cape Comorin and heading northwards, so that Bombay became a terminal port of significance within the scheme of things.

Within five years of the founding of the Calcutta & Burmah Company this shipping venture had prospered remarkably. The vessels were now venturing beyond Rangoon and Moulmein towards Penang and Singapore. A service was working, however infrequently, right round the sub-continent from Bombay to Karachi. A regular mail contract to cover the whole of this route was being negotiated, and the Government was already hinting that it would like Mackinnon and his partners to undertake a similar service, eight times a year, up and down the Persian Gulf.

So William Mackinnon returned to the U.K. in 1861 and there, without difficulty, raised £400,000 to float the British India Steam Navigation Co. Ltd.—and the Calcutta & Burmah had been floated on only £35,000 six years before! Six new ships of size were promptly ordered from British yards. They were twice as large and twice as powerful as the *Baltic* and *Cape of Good Hope* of 1856. The new B.I. Company was registered in Scotland on October 28, 1862.

The mercantile firm of Mackinnon, Mackenzie & Co., which William Mackinnon had formed

with the friend drowned in shipwreck became, as they are to this day, the Managing Agents, presiding over the fortunes of a great fleet from the towering office building in Strand Road, Calcutta.

The mail service of B.I. ships up and down the Persian Gulf started in 1862, and it was a step into the nearly unknown, into the dream-world of a modern film producer.

The Gulf, a sufficiently dangerous area in these days of radar and other navigational aids, was then virtually uncharted. The climate is highly variable from one end to the other—torrid heat below the Straits of Hormuz and then the killing *shamal* within. At one stage, even the deck officers of B.I. ships on the route threatened a sort of strike for better conditions on such a difficult tour of duty. Like their colleagues on the, Calcutta-Rangoon-Singapore run, they had to do much of their own charting, buoying and lighting. The Persian officials on one side and the Arab dignitaries on the

other were apt to be less than friendly to the invaders from Europe. There were always wild men about, carried as what were then called deck passengers—Afghans who had to be forced to surrender their arms on boarding the ships, and offshore pirates.

Less than 20 years after it had been founded as the Calcutta & Burmah Co. the British India S.N. Co. Ltd. had become a formidable force in the shipping world. The ships listed in the company's hand book for 1873 numbered 31, running up to 1,780 gross registered tonnage. Four new ones up to 2,500 G.R.T. were building. That was a big fleet for 1873.

It was not merely that the basic routes—Calcutta-Rangoon and beyond, Calcutta-Bombay, and Bombay-Basra—were doing well. The ships with the white-striped funnels were adventuring up towards China and Japan. There were explorations in the direction of Mauritius and the Seychelles. On occasions the B.I. was asked to carry British troops so far afield

as New Zealand. Small units of the fleet circled the island of Ceylon.

The largest development towards the end of the 19th century, however, was that of the carriage of deck or unberthed passengers, although circumstances have largely changed in these days.

Indian labour was looking for employment overseas. It was ready and willing to work in the rice paddies of Burma, in the rubber plantations of Malaya; it would move far afield to the sugar plantations of the Pacific Islands and even across that ocean to the West Indies.

The British India Company's business as shipowners was to cater for this trade—to give the Indian worker a passage to his chosen field of labour at cheap rates and in decent circumstances. The ship specially designed to carry the deck or unberthed passenger was evolved, most of this type working out of Madras across the Bay of Bengal to Burma and Malaya. Two of these specialised craft, the

Rajula and the *Rohna*, at one time held the most comprehensive passenger certificates ever issued. Both vessels were authorised to carry more than 5,000 passengers—much more than the two great Cunard Queens were ever allowed.

During its early years of expansion the British India Company operated exclusively in eastern waters, using Calcutta as its main base. The opening of the Suez Canal in 1869 was to alter the whole pattern of her firm's trading.

The first vessel to pass northwards through the new canal was the B.I. ship *India*, homeward-bound to have her engines brought up-to-date.

The opening of the Suez Canal gave the B.I. the opportunity of running for a while the longest mail service in the history of shipping—from London to Brisbane. This voyage took fully two months to complete. The service was inaugurated by the B.I. vessel, *Mer Kara*, which left London on February 12, 1881, and anchored in the approaches to the harbour of Brisbane on the evening of April 13 that year.

The history of the B.I.'s contacts with Australia in the later decades of the 19th century is curiously confused. Long before William Mackinnon founded his shipping company, he and his partner, Robert Mackenzie, had been speculatively trading with Australia. It was not until the arrival of the *Mer Kara*, carrying immigrants and a cargo of refrigerating machinery, that a regular service was established.

The idea was largely that of Queensland forceful Premier, Sir Thomas McIlwraith. He realised that emigrants from Britain, travelling by the conventional route south-about round Cape Leeuwin, were tempted to land at the first Australian port of call—

Adelaide, Melbourne or Sydney—and he wished to attract to Queensland more than the riff-raff left at the end of the long voyage; not to mention the goods a community in the pioneer stage sorely required. Against bitter opposition, he therefore pushed through the Legislative Assembly a bill to provide £55,000 a year for a mail contract with the B.I.

The direct London-Brisbane service petered out in 1895. The B.I. had put on a service from Calcutta to Queensland, but the ships from London had taken to coming south-about, getting the advantage of calls at Fremantle and other ports on the way. Economic troubles within Queensland itself checked the stream of assisted immigration.

The most dramatic among the many legends of the B.I. comes out of its Australian associations. This was the wreck of the *Quetta* on the hitherto uncharted rock that now bears her name.

She was homeward-bound and in charge of a Torres Strait pilot when she struck the reef on the night of February 28-March 1, 1890. She sank within three minutes, and the loss of life was heavy. Among the survivors was a baby girl, and it was long enough before her identity was established. She was taken into the household of Captain Thomas Brown, a Torres Strait pilot, and brought up as Quetta Brown. On Captain Brown's death the child was adopted by his brother, Villiers Brown, of Brisbane, and in due course she married his son. This young man was killed in the First World War, and Quetta Brown ultimately took a second husband in Mr. Malcolm McDonald, of Brisbane, where she died in 1949.

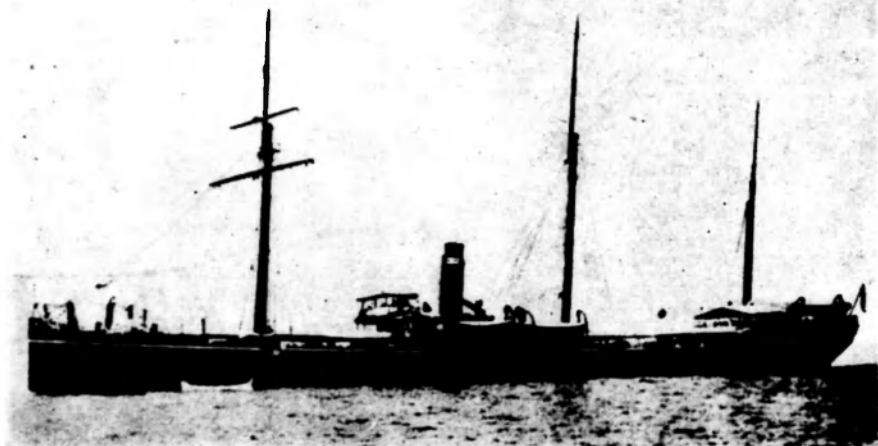
It is now known that she was the only child of a widower, Cope-

land, by name, who had himself been accidentally drowned not long before, and that she was being sent home to relatives in England. There is still a Quetta Memorial Chapel on Thursday Island. There, to this day, hangs the ship's bell.

The B.I. services to and from Australia were interrupted by the two World Wars, but they are now on a firmer footing than they have ever been before. In conjunction with the vessels of the P. & O. and Federal Companies, three B.I. ships with refrigerated space are on the regular U.K.-Australia route by way of Mediterranean and Red Sea ports. Another service from the Persian Gulf carries goods for the island continent, touching at Karachi, West Coast of India ports and Ceylon. A third service runs from East Coast ports of India and Pakistan, touching at Colombo and Singapore on the way. The three services circle Australia, both by the Torres Straits and Cape Leeuwin.

It is of interest that, on the first of these routes, the B.I. chooses to employ its tow fine cadet ships, *Chindwara* and *Chantala*, each accommodating a score and more young men in training as officers. High-spirited in the way of youth, they are familiar visitors from Brisbane round to Fremantle.

In its centenary years the B.I. Fleet consists of 61 vessels with a total gross tonnage of 442,088. Five new ships are being built or fitted out—up to the giant *Nevada* of 20,000 tons, designed as a troop-carrier under the company's management. Five large oil-tankers will be added before the end of this decade. In an average year the British India Company's ships carry some 3½ million tons of cargo and nearly 300,000 passengers over three million nautical miles of sea-routes.



A three-masted steamer, square rigged on the fore end of 2661 tons, the "Scindia" was the first of the B.I. Company's coasters. Legend has it that because of the vessel's size two pilots were employed to navigate her when she came up the river Hooghly for the first time. This vessel saw service in the South African War.

NEWS OF THE WORLD'S NAVIES

"Braking" parachute for fast Navy bombers

A landing deceleration parachute, designed to help reduce "rollout" of the U.S. Navy's largest carrier-based bomber, the Douglas A3D Skywarrior, is now being fitted to all production A3D aircraft, the U.S. Navy has announced.

Installation of the 'chutes followed an extensive testing programme at Edwards Air Force Base carried out jointly by the Douglas company and the U.S. Navy.

The Navy announcement said that the 70,000-pound twin-jet bomber has low-speed landing characteristics and a nonskid braking system that will normally stop it in a short distance. However, addition of the deceleration 'chute, which measures 24 feet in diameter, will assure safe landings on wet runways, during instrument landings made under GCA conditions, or emergency landings made with high gross weight. The system is designed for a normal touchdown speed of 150 knots and an emergency speed of 170 knots.

The 'chute is for landing conditions on land only and is not intended for shipboard use.

Housed in the tail section compartment of the aircraft, the 'chute is deployed after touchdown, and is actuated by a single electrical switch controlled by the pilot of the three-man crew. The control system has safety features to prevent premature and accidental release of the 'chute and to permit jettisoning of the 'chute in an emergency.

The A3D, a long-range, high-altitude bomber, is capable of taking off from an aircraft carrier in

one ocean, completing a mid-continent bombing mission, and landing on a carrier in another ocean.

Powered by two Pratt and Whitney J-57 turbojet engines, the Skywarrior is rated in the 600-700 m.p.h. class, is faster than many jet fighters and can operate at altitudes in excess of 40,000 feet.

Three killed in Navy aircraft crashes

The pilot and observer were killed when a Sea Venom jet fighter crashed into the sea off Moreton Island, Queensland, on August 9.

The crash occurred just after the plane took off from the carrier H.M.A.S. Melbourne.

The carrier was engaged in working-up exercises east of Moreton Island.

The two dead are Lieutenant B. Y. Thompson, whose wife lives in London, and Lieutenant K. C. M. Potts, whose next-of-kin is his mother, of Shenton Park, Perth.

The Minister for the Navy, Senator N. O'Sullivan, on behalf of the Naval Board, expressed sympathy with the relatives of the two officers.

He said that an inquiry into the crash had begun.

It was the second Navy air crash that week.

A few days earlier a Vampire jet crashed near Nowra Air Station, killing the pilot.

Big U.S. contract for guided missiles

A 12 million-dollar contract for production of "Regulus II," an improved version of the "Regulus I" guided missile, has been awarded to Chance Vought Aircraft,

Incorporated, the United States Navy has announced.

Development of the new missile stems from the successful use of "Regulus I," the U.S. Navy's first operational offensive missile. "Regulus I" has been used in extensive operations at sea with submarines, cruisers and aircraft carriers, and from bases ashore.

The U.S. Navy stated that the development of "Regulus I" began in 1947, when the Navy asked Chance Vought to design a surface-to-surface missile with provision for a recoverable test version as well as a tactical version.

Pinnace from H.M.S. Bulwark does 960-mile trip

A pinnace from H.M.S. Bulwark (Captain J. M. Villiers, O.B.E., R.N.), returned to the ship at Portsmouth recently after a 960-mile trip through canals in Germany, Holland, Belgium, France, and across the North Sea.

The trip, which was planned as an exercise in initiative and resourcefulness, started on July 1 from Copenhagen, which the Bulwark was visiting at the time.

The 36-ft. pinnace was manned by four officers and 11 ratings.

Visit by Royal Navy ships for Olympic Games

Three Royal Navy ships from the Far East Fleet will visit Australia during the time of the Olympic Games.

They will be the cruiser Newcastle and the destroyers Cockade and Consort.

The ships will arrive at Melbourne on November 21 and will remain in Australian waters until December 10, when they will sail for New Zealand.

The Flag Officer Second-in-

Command Far East Station, Rear Admiral W. K. Edden, C.B., O.B.E., will fly his flag in H.M.S. Newcastle.

New Zealand cruise for H.M.A.S. Warramunga

The Royal Australian Navy Tribal class destroyer Warramunga left Sydney on September 3 on a training cruise to New Zealand. She will return to Sydney on September 28.

Announcing this the Minister for the Navy, Senator Neil O'Sullivan, said that the Warramunga would arrive at Wellington on September 7 and remain there until September 12. She would reach Napier on September 13 and leave for Auckland four days later. She would stay at Auckland from September 19 until September 24, on which day she would leave on her passage back to her home port.

Senator O'Sullivan added that the ship's complement would comprise 14 officers and 241 ratings, among whom would be reserve officers and ratings and permanent naval force recruits.

Navy divers descend to record depth

The divers of H.M.S. Reclaim, the deep diving vessel, established a record dive in an observation chamber at the end of June in Norwegian waters.

When the Reclaim, commanded by Lieutenant-Commander G. M. H. Drummond, R.N., returned to Portsmouth later, it was learned that all Reclaim divers took part in trials and descended to a depth of 1,000 ft.

The deepest dive was made by the ship's First Diver, Commissioned Bosun G. A. N. Wookey, R.N., whose home is at Plymouth. Mr. Wookey, who is 34, took part in diving operations which assisted in the location of H.M.S. Affray when she was lost in the English Channel in 1951.

The record dive was to a depth of 1,060 ft. It was made in an experimental chamber which may, as the result of the trials, be adapted for future use in underwater observations. The chamber is only 1 in. thick.

At the depth reached there was an estimated pressure of 30 tons per sq. ft. on the casing.

After the record dive had been made the following message was signalled by H.M.S. Reclaim to H.M.S. Kingfisher, the Submarine Rescue Bell and Target Ship:

The time has come, old Hookey said, to talk of many things, Of chambers, dives, and squalus dips, and disengaging slings, But when it comes to record runs, "Reclaim" has got you beat, Eight hundred isn't deep enough, we've done a thousand feet.

Australians to serve in Royal Yacht

The Queen has approved that one officer and four ratings of the Royal Australian Navy shall be included in the ship's company of the Royal Yacht Britannia when the ship leaves the United Kingdom at the end of August with the Duke of Edinburgh embarked for Melbourne to attend the Olympic Games.

The officers and ratings will remain in the Britannia until she arrives back in the United Kingdom early in 1957.

The Australian Naval Board has selected Lieutenant R. M. Baird of Geelong (Vic.), Able Seaman J. D. Young of Glencoe East (South Aust.), Signalman C. R. H. Owen of Leichhardt (N.S.W.), Engineering Mechanic (1st Class) F. J. Stevens of Kalgoorlie (West Aust.), and Cook (S) G. E. Parry of Colac (Vic.) for the high honour of serving in the Britannia.

The Minister for the Navy, Senator Neil O'Sullivan, said last month that the Naval Board was

confident that the officer and ratings would uphold the highest traditions of the Service and would be a credit to Australia.

Senator O'Sullivan said that in addition to the cruise to Australia, the Britannia would visit New Zealand and Antarctica.

American Defence Services' huge property holdings

The United States Navy, Army and Air Force held property and other assets valued at nearly 135,000 million dollars at the end of last year, the U.S. Defence Department has revealed.

Of this amount the Navy held 58,700 million dollars worth, the Army 34,500 million dollars worth, and the Air Force 41,700 million dollars worth.

The U.S. Defence Department stated: "The total figure does not include the value of properties and equipment of the National Industrial Plant and Equipment Reserve under control of the General Services Administration, supplies and equipment in overseas field Army depots, or minor items of equipment issued to using units of the Army. It also excludes real and personal property under the jurisdiction of the Army Engineers' Civil Works Division.

Of the total, 104,300 million dollars worth are in the United States, the rest in U.S. territories, foreign countries or "in transit."

Naval officer wins world gliding contest

At the prize-giving ceremony at the world gliding championships at St. Yan, Central France, on July 13, the British pilots, Commander Nicholas Goodhart, R.N., and Captain Frank Foster, British European Airways, were declared world champions in the two-seat class and were presented by M. Pinton, Minister of Public Works, with the Federation Aeronautique Internationale cup.

TEN LIVES LOST WHEN COLLIER CAPSIZED

Ten of the crew of 14 were lost when the 640-ton coastal collier *Birchgrove Park* capsized and sank about four miles south of Broken Bay (central N.S.W. coast) early in the morning of August 2.

The vessel was on her way from Newcastle to Sydney with 500 tons of coal.

It was the second collier to have foundered off the Australian coast within five weeks. The other was the *Vicky*, formerly the *Caldere*,

which sank in heavy seas in Bass Strait on June 25 with the loss of eight lives.

Survivors of the *Birchgrove Park* said the vessel was listing heavily for some time before it sank, after being hit beam on by a large wave.

First indication that the ship was in distress came at 2.30 a.m. when the South Head signal station (Sydney) picked up lamp signals—sent at such high speed that it was unintelligible.

The signalman on duty said: "I got a letter here and there but could not hang them together to make sense. I quickly realised something was wrong. Every time I tried to speak the signalman on the *Birchgrove Park* interrupted me and tried to speak urgently."

"The last word he sent was the distress call, S.O.S. Then a rocket was fired."

Right (opposite page): Survivors Joseph Butler and Kenneth Fabian leaving H.M.A.S. "Wagga" at Garden Island. Below: During the rescue operations the submarine "Thorough" confers with one of the launches. A Neptune bomber circles overhead.

Aircraft and surface craft which took part in the intensive search and rescue work which followed included the collier *William Macarthur*, the Sydney pilot steamer *Captain Cook*, the coastal vessels *Canopus* and *Teralba*, the N.S.W. Police launch *Nemesis*, the Navy boom defence vessel *Kookaburra*, the minesweepers *Cootamundra* and *Wagga*, the submarine *Thorough*, and two Neptune anti-submarine aircraft from the R.A.A.F. station at Richmond.

Petty Officer A. Baurdet dived into the sea from the *Wagga* to rescue one of the survivors, who was sighted in the water near the entrance to Broken Bay nearly nine hours after the *Birchgrove Park* went down.

Baurdet fought desperately to keep the survivor, Able Seaman Kenneth Fabina Fabian, afloat. Then as high waves crashed over them, he lost hold of the life-line he had taken overboard.

The *Wagga's* first officer, Lieutenant Percy, took another line, dived fully clothed into the sea and reached the two men.

About an hour earlier the *Thorough* picked up another survivor four miles off Barrenjoey. The two other survivors after spending hours in a water-filled lifeboat were washed ashore at Lobster Bay, near Gosford.

U.S. COLLISION

A big legal battle is looming over the collision between the two luxury liners *Andrea Doria* and *Stockholm* off the coast of Massachusetts (U.S.A.) on July 25.

The *Andrea Doria* sank ten hours after the collision. At least 25 persons died and another 27 are missing.

Early this month the Swedish-American Line, owners of the *Stockholm*, and the Italian Line,



owners of the *Andrea Doria*, each accused the other of causing the collision.

The Swedish Line filed a petition in an American Federal Court accusing the *Andrea Doria* of having caused the collision and giving notice of its intention to sue for damages.

Both lines fear that damage suits to be brought against them will

total more than 11 million dollars (£4.9m).

The general manager of the Italian Line in the United States and Canada, Mr. Giuseppe Ah, issued a statement in which he alleged that the *Stockholm* made a sharp right turn without sounding the required whistle signal.

This actually brought about the collision, he said.

NAVY'S HELP IN OLYMPIC GAMES

AT H.M.A.S. Lonsdale, Port Melbourne, the Royal Australian Navy has nearly completed a large number of brightly-coloured buoys for marking courses for the forthcoming Olympic Games yacht races, which will be held in Phillip Bay. The three courses to be used will extend from a point off St. Kilda Pier to a point near Picnic Point, Sandingham.

R.A.N. hydrographic officers will survey the courses so that they will be marked out in time for the national trials in October, as a result of which the Australian yachts and crews that will compete in the Olympic races will be selected.

As well as extending its present co-operation towards ensuring the success of the yacht races, the R.A.N. will provide valuable assistance while they are in progress. It will also give considerable help in arrangements for other aspects of the Games.

The Minister for the Navy, Senator Neil O'Sullivan, last month said that the R.A.N. would be closely associated with the plans for the visit of the Duke of Edinburgh, who would open the Games, and with the visit of the Royal Yacht Britannia, the ships of the Royal Navy and foreign countries. It would provide a massed band that would play with other massed service bands at the opening and closing of the Games and would mount Royal guards of honour for His Royal Highness on some of the occasions on which they would be required.

In addition more than 400 officers and ratings would assist in controlling and ushering crowds at the athletic and other events.

Besides doing much preliminary work related to the yacht races the R.A.N. would provide three warships as starting and control

ships and would provide communication officers and ratings on the ships and at yachting headquarters ashore.

To facilitate the speedy transmission to all parts of the world of press messages dealing with the whole of the Games it would also assist the Overseas Telecommunication Commission by making extra communication channels available.

Thirty Finn monotype yachts that would compete in some of the races were being built at Williamstown and when they were finished would be stored at H.M.A.S. Lonsdale. They would be guarded by R.A.N. sentries.

So that skippers who hoped to take part in the races could keep themselves physically fit they had been given permission to use the big gymnasium at H.M.A.S. Lonsdale. The gymnasium would also be used as a physical training centre for the gymnasium teams that will visit Melbourne from all parts of the world.

Senator O'Sullivan added that, as already announced, seven Australian warships would join at least 17 from the United Kingdom and other countries in Melbourne for the period of the Games.

The Australian ships would be the aircraft carriers Melbourne and Sydney, the Tribal class destroyer Warramunga, the cadet-training

frigate Swan, the ocean mine-sweeper Cootamundra, the boom working vessel Kimbla and the ocean-going tug Sprightly.

The Warramunga, Swan and Sprightly would be used as starting and control ships for the yacht races.

Eleven of the other warships would belong to the United States Navy and would be in port from November 21, the day before the opening of the Games, until November 29, and a heavy cruiser, four destroyers and a submarine whose stay will last from December 1 until December 9, the day after the Games end.

It was expected that at no time during the Games would fewer than 19 warships be berthed in the port of Melbourne.

As the foreign warships entered Port Phillip Bay they would fire national salutes to the Australian Commonwealth and the fort at Queenscliff would return them.

The Duke of Edinburgh would arrive in Melbourne from Canberra by air on November 22. The Royal Yacht Britannia, in which he would travel from the United Kingdom to Port Moresby, where he would disembark, would not reach Melbourne until November 19 after having visited Sydney for naval dockyard assistance in necessary maintenance work.

It was possible that Russia would send a big merchant ship to Melbourne to serve as an accommodation vessel for competing athletes from the Soviet Union.

Death of noted American Admiral

Admiral Charles Turner Joy, 61, one-time chief truce negotiator in Korea, died in San Diego (California) Naval Hospital early in June.

He retired from the U.S. Navy two years ago.

Personalities

New Appointments for Six Senior R.A.N. Officers

Changes of appointments for six senior officers of the Royal Australian Navy were announced by the Minister for the Navy, Senator Neil O'Sullivan, on September 1.

CAPTAIN G. G. O. Gatacre, D.S.O., D.S.C. and Bar, and captain of the aircraft carrier Melbourne, has been appointed Deputy Chief of the Naval Staff at Navy Office, Melbourne, from January 4, 1957, and will be succeeded in command of the Melbourne by Captain O. H. Becher, D.S.O., D.S.C. and Bar, who is now doing a course at the Imperial Defence College, London.

Captain J. S. Mesley, M.V.O., D.S.C., at present Deputy Chief of the Naval Staff, has been appointed captain of the Fleet training ship, the aircraft carrier Sydney, from January 7, in place of Captain W. H. Harrington, D.S.O., temporarily appointed to H.M.A.S. Lonsdale, Port Melbourne.

Captain V. A. Smith, D.S.C., squadron commander of the First Frigate Squadron and captain of the fast anti-submarine frigate Queenborough, has been appointed captain of the R.A.N. Air Station at Nowra (N.S.W.) and Resident Naval Officer at Jervis Bay from January 14, in succession to Captain P. E. Fanshawe, O.B.E., D.S.C., R.N., who will return to the United Kingdom. Captain C. M. Hudson, A.D.C., at present Director of Plans at Navy Office, succeeds Captain Smith as squadron commander of the First Frigate Squadron and captain of the Queenborough.

All six officers are graduates of the Royal Australian Naval College and all had distinguished records in the Second World War. Captain Gatacre was awarded

the D.S.C. for his services in H.M.S. Rodney in the operation that led to the destruction of the Bismarck. He received a Bar to his D.S.C. in 1943 for skill and resolution in the Guadalcanal action and in 1953 gained the D.S.O. for services in Korean waters.

Captain Becher was awarded the D.S.C. for his services in H.M.S. Devonshire during the withdrawal of troops from the Namsos area of Norway and a Bar to the D.S.C. for his part in the attack on the Japanese base at Sabang (Sumatra) while he was captain of the R.A.N. destroyer Quickmatch. He was awarded the D.S.O. for his services in Korea as captain of H.M.A.S. Warramunga and was also made an officer of the Legion of Merit by

the United States Government. Captain Mesley was awarded the D.S.C. for his share in the operations at Lingayen, Balikpapan and Labuan. He was invested with the M.V.O. in his cabin in H.M.A.S. Anzac by the Queen in March, 1954, for his services as captain of the Anzac, which had acted as ferry between the Royal Yacht Gothic and the shore when Her Majesty and the Duke of Edinburgh visited north Queensland ports.

Captain Harrington commanded H.M.A.S. Yarra for 2½ years in the Second World War and served in her in the Mediterranean, the Red Sea, the Persian Gulf and the East Indies. He then became executive officer of H.M.A.S. Australia and was present in her at the Battle of the Coral Sea and the landing at Guadalcanal and at many bombardments in the New Guinea area.

Captain Smith, who is a qualified Fleet Air Arm observer, was serving with the Royal Navy when the Second World War broke out, and was mentioned in despatches



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for the part he played in the attack on the *Scharnhorst*. He was awarded the D.S.C. while serving in the aircraft carrier *Ark Royal* between April and November, 1941. Later he served in *H.M.A.S. Canberra* and *H.M.A.S. Shropshire* and *H.M.S. Tracker*. He helped in planning the introduction of naval aviation in the Royal Australian Navy.

Captain Hudson was appointed to the 1st Mine sweeping Flotilla of the Royal Navy on the outbreak of the Second World War and served in *H.M.S. Sharpshooter* and *H.M.S. Seagull*.

"VANGUARD" ALLOCATED TO N.A.T.O.

THE last of Britain's battleships to be placed in reserve, *H.M.S. Vanguard*, is to be allocated to the N.A.T.O. Atlantic Forces.

This was announced recently by the N.A.T.O. Supreme Allied Commander, Atlantic, Admiral Jerauld Wright, and the First Lord of the Admiralty, Viscount Cilcennin.

Admiral Wright said that several American battleships also were earmarked for the same purpose.

The vital task of battleships in a N.A.T.O. role, he said, would be to prevent units such as the powerful Russian cruiser *Sverdlov* "rampaging about the Atlantic."

In answer to later Press inquiries, the Admiralty explained that apart from *H.M.S. Vanguard* the great bulk of R.N. ships were earmarked for N.A.T.O. service, and would be available to the appropriate Allied Supreme Commanders in an emergency.

The only ships excluded were those required for local defence and coastal duties and for theatres outside the N.A.T.O. area.

The First Lord, in the debate on the Navy Estimates in the House of Lords, said that the *Vanguard* was still a useful ship. The four King George V class battleships had not been modernised but it would be premature to scrap them until it was known that they had reached the end of their useful lives. They were held in reserve at very little cost. The possibility of converting them to platforms for guided missiles had been examined and rejected.

The First Lord added that the Admiralty could not afford to build more cruisers until it was known what future weapons would be. The effective cruiser strength had to be maintained and it had been decided to complete the three Tiger-class cruisers.

In the destroyer field, he said, it had been decided to employ the highly successful Darings. Thirty-one destroyers were being converted to anti-submarine frigates and the first ships of the new construction programme were now being commissioned.

A considerable number of new frigates would be commissioned in the next few years and a balanced and up-to-date escort force obtained.



K-men, by C. D. Bekker; published by William Kimber (London).

The publishers of *K-men* are to be congratulated on securing the English rights of one of the best of the German accounts of the war at sea. "K" is the first letter of the German for "small battle-weapons" and the author—a naval officer—describes the daring exploits of the German frogmen, operating either as frogmen or as the crews of human torpedoes, explosive torpedo boats and midget submarines. It is an exciting story, told objectively in simple, non-technical language, admirably translated and holds the reader's interest from start to finish.

Despite the pre-war development by the Japanese of a one-man submarine, despite the successful attack on the *Queen Elizabeth* and *Valiant* at Alexandria by Italian midgets in December 1941, the German naval authorities seem to have given no thought to what they called "small battle-weapons" until September 1943. The brilliant attack on the *Tirpitz* by British midget submarines, however, made a tremendous impression on them and after two of the midgets had been fished up from the Alten Fjord and transported to Kiel Bay, a beginning was made in January 1944 with the training of 30 men in underwater warfare.

But by then it was too late. These "K-men" did wonderful work as frogmen, fixing mines to and destroying the main lock at Antwerp and the important allied bridges at Nijmegen and also in the River Oder on the Russian front. But their human torpedoes and one-man and two-man sub-

marines were never properly developed and tried out before use, and gave very inadequate results for the effort put into them. No less than 325 one-man submarines ("Beavers") were constructed during the last year of the war, but they accomplished practically nothing. The "Seal"—the two-man submarine, which started operating towards the end of 1944—was more efficient. By leaving the diesel engine running (with the exhaust valve set to the pressure at 60 feet) she was able to dive in five seconds, the engine subsequently stopping of its own accord before the air was completely exhausted.

The reader cannot fail to be impressed by the splendid bravery and determination of these German frogmen particularly when operating under the most appalling conditions on the Russian front in the final stages of the war.

—G.P.T. (in the London "Navy")

Above and Under Hatches, edited by Christopher Lloyd; published by Batchworth Press (London).

The naval recollections "in shreds and patches with strange reflections" of Commander James Anthony Gardner have for long been a favourite of the members of the Navy Records Society, and Mr. Lloyd has now made them available to a wider circle of readers. It is certainly the most entertaining autobiography which has come down to us from the sailing era.

Gardner served under Hood, Howe and Bridport but he was not concerned with the great figures of his day or the historical events; it is the quaint antics, the hard

drinking, and the good fellowship of the midshipmen's berth and the wardrobe that fill his lively pages.

He always penned a description of the officers with whom he served. "All jaw and drink;" "drunk grog and died;" "waspih, snappish and disagreeable;" "never ended a speech without saying 'damn your whistle';" "better acquainted with rope-yarns and bilge-water than with Homer or Virgil" are typical entries.

It is all most entertaining and great fun. It is more than that; it gives a real insight into the daily life on board a sailing man-of-war.

It is to Gardner that we owe the inimitable description of Billy Culmer who remained a midshipman throughout his career because he preferred to be the oldest midshipman rather than the junior lieutenant.

This frank, racy and colourful account of life at sea, which is in such striking contrast to the life of the modern sailor and illustrates the remarkable change in the type and character of the naval officer in the last 150 years, is unique in the field of autobiography, and Mr. Lloyd has done a service to the general reader.

—W.M.J. (in the London "Navy")

Illustrious, by Kenneth Poolman; published by William Kimber (London).

H.M.S. Illustrious was one of that sextet of fleet carriers on which fell the main burden of the air war at sea. All six of them were famous ships, with perhaps the *Illustrious* as the most famous of them all. Mr. Poolman has chosen her as the subject of his new "ship" biography, and from her many adventures he has produced a story that will recall to many her proud exploits.

Perhaps Taranto is the best-known of those exploits, and it was entirely an *Illustrious* affair.



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Remains of a lifeboat from the collier "Birchgrove Park," washed up on Kilarc Beach, N.S.W., South of Gosford, after the collier had capsized off Broken Bay.

But Taranto was not by any means her sole claim to fame, and in this book her other engagements are all given their full due. Mr. Poolman writes of them from the inside, from the viewpoint of the pilots and observers actually engaged in the operations, a method which brings considerable added interest to the descriptions. Yet it is a method that has its dangers, for to the reader there must inevitably be a suspicion of fiction in the thoughts and conversations recorded more than ten years after they were uttered.

Nevertheless, this modern method of presenting recent history has its points. It serves to focus the attention and to lift each and every event on to a personal plane that heightens the interest. To those who want their war history slightly glamorised, this is the book. Mr. Poolman gave us much the same treatment when he wrote the story of the Kelly; he is now more adept in the method, and as a result has written a much better book in his story of the famous *Illustrious*.

—P.K.K. (in the London "Navy")

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AMERICAN G-M SHIPS

ONE of three new guided-missile frigates ordered for the U.S. Navy will be named the USS "King," in honour of the late Fleet Admiral Ernest J. King, the U.S. Navy announced last month.

The keel of the "King" will be laid sometime in 1957 at the Puget Sound Naval Shipyard, Bremerton, Washington. She will have an extreme beam of 50 feet and will measure 512 feet in length. Her displacement will be 3,900 tons.

The "King" will be equipped with "Terrier" guided-missiles aft and 5-inch gun batteries forward. She will be used primarily in anti-aircraft defence for high-speed task forces and will screen other ships by intercepting enemy aircraft at ranges unsuitable for more conventional weapons.

The construction of four additional guided-missile frig-

INVENTOR'S DEATH

PROFESSOR Geoffrey Terence Roland Hill, who died in Londonderry, Northern Ireland, recently, was the inventor of the world's first tail-less plane and a well-known aviation pioneer.

Professor Hill was a pilot in the Royal Flying Corps in World War I, and won the Military Cross for shooting down over France the first German hydrogen balloon which carried an explosive missile. After the war he was Handley Page's chief test pilot for two years, and then he went to the Westland Aircraft Company where he invented "Pterodactyl," the first tail-less plane in the world.

He was Westland's chief designer and test pilot until 1934 when he took the chair of Mechanical Engineering in London University. In 1939 he was seconded to the Air Ministry and the Ministry of Aircraft Production for research work.



MARITIME NEWS OF THE WORLD

From our Correspondents in
LONDON and NEW YORK

By
AIR MAIL

Explosion holes British ship in Cyprus Harbour

An explosion blew a hole in the side of the British tank-landing ship *Charles McLeod* as it lay in Famagusta Harbour, Cyprus, during the night of August 30.

It is believed to have been caused by a limpet mine attached to the ship's side by Cypriot terrorists.

The ship, under charter to the British Ministry of Transport, arrived in Famagusta from Tobruk the day before with Army stores.

No one was injured.

Another "life-boat ship" held at Fremantle

Reports from Perth (W.A.) early last month told of another "life-boat ship" held up at Fremantle with nine of her 22 life-boats affected by wood rot.

The ship is the immigrant ship *Aurelia*, which arrived from Trieste, with 1,129 passengers.

Press reports said that in two boats sections of the planking crumbled to dust when struck by a surveyor's hammer.

New Shipping Line plan for Tasmania

Unofficial reports last month indicated that a company would be floated soon to set up a new shipping service between Tasmania and east Australian mainland ports.

It was stated that a prospectus

for the company would be issued about the middle of this month. The company would seek £500,000 capital.

Backers of the company are said to have at least two 1,500-ton ships under option to begin the service, which will carry potatoes and general cargo.

Shipwrecked cadets get heroes' welcome

Fifteen boys between the ages of 15 and 18 have taken a beating—and been hailed as heroes.

They are Merchant Navy cadets of the ketch *Moyana*.

Their beating came from the sea when the *Moyana* sank during a gale while returning from Portugal, after having won the Torbay-to-Lisbon international sailing race.

Their rescue ship, the *Clan Maclean* (6,000 tons), landed the boys, almost unrecognised, at Fowey, Cornwall, on July 30.

Further up the Channel, a heroes' welcome was awaiting them at Southampton.

The master of the *Moyana*, Captain Harry Stewart, said last night: "Although the cadets had never been to sea before, they were magnificent. They behaved as if nothing was happening.

"There was no trace of panic. They stood at their posts. One cadet stayed at the wheel until I ordered him to leave."

Disaster hit the *Moyana* when the 80-mile-an-hour storm that had buffeted her for hours worsened.

When the *Moyana* began to take water, distress signals were flashed and eventually the *Clan Maclean* manoeuvred alongside.

She lowered scramble nets and within seven minutes the cadets were safe.

France to build 55,000-ton liner

France plans to build a new 2000-passenger 55,000-ton superliner for the transatlantic run to replace the *Ile de France* and *Liberte* in 1961.

Estimated cost of the ship, to be named *La France*, is £A.34 million.

Helicopter rescues a reluctant victim

A helicopter scooped a man out of the sea half a mile off the North Cornwall coast at Lusty Glaze, Newquay, early this month.

But the man, James Chatwin, did not want to be rescued. He is an expert swimmer, holds medals for lifesaving, and was merely having a pleasant swim.

A beach attendant phoned for the helicopter when he thought Chatwin was in trouble.

The helicopter took Chatwin to its base, where a doctor examined him and passed him fit. Then an ambulance took him back to the

beach where his wife was waiting in a deckchair—wondering what had become of him.

Search for oil off Victorian coast

A Victorian company will prospect for oil off the Gippsland coast.

The Government has granted a licence to the company, Woodside (Lakes Entrance) Oil Co. Ltd.

The licence entitles the company to search for oil over 158 square miles of ocean south of Snake Island and Port Albert, to the mainland near St. Margaret's Island.

Ship brings atomic reactor shell

The freighter *Australia* recently brought to Sydney the outside shell of Australia's first atomic reactor.

It is a steel tank 13 ft. 6 in. high and 12 ft. 6 in. in diameter, lined with lead four inches thick. It weighs 65 tons.

The floating crane Titan from Cockatoo Dock unloaded the shell. It was later taken to a 75-wheel truck to the Australian Atomic Energy Commission's site at Lucas Heights, 20 miles south of Sydney.

Amerien's Oldest Veteran

THE average U.S. veteran is 38 years old, the U.S. Veteran's Administration reported recently.

Only one veteran of the Union armies of the American Civil War is still alive. He is former drummer-boy Albert Woolson, of Duluth, who celebrated his 109th birthday on February 11 last and received a telegram of congratulation from President Eisenhower. He has outlived 2,675,000 comrades.

There are 176 living veterans of the Indian Wars, averaging 89 years of age, and 68,000 living Spanish War veterans averaging 78 years of age.

In the Korean War participants from the U.S. numbered 6,807,000, including 1,476,000 who also saw service in World War II, and 54,000 died or were lost in battle. Average age is 27.

The youngest World War I veteran appears to be Samuel Nisenhoff, of South River, New Jersey, now 51, who enlisted in the U.S. Army in 1917 at the age of thirteen.

Nisenhoff was overseas with the U.S. Fifth Division and was in action during the St. Mihiel offensive of 1918.

Then his parents discovered that he was not, as he claimed, at a Boy Scout Convention, and the Army hastily shipped the 14-year-old soldier back from France and honorably discharged him.

—From "The World Veteran."

TRANSLATION BY MACHINE

C'est une exemple d'une traduction faite par la machine à calculer

THE sentence in French had been typed out and transferred to a perforated sheet, which was fed into the machine. The machine chattered, gadgets moved and whirled, lights blinked; there was a clacking of keys, and out came the English version: "This is an example of a translation made by the machine for calculation installed at the laboratory of computation of Birkbeck College, London."

"It's all a matter of mathematics," said Dr. A. D. Booth, head of the laboratory. He predicted a future for such machines in translating news from cable and radio messages for editorial use or in translating speeches at international conferences.

The present machine, however, is a large valve-studded panel with criss-crossing wires, and with a great many condensers, relays and similar gadgets, and with a "memory" stored in a thick metal cylinder. Such a machine is not likely to find a place either in a schoolroom or an editor's "den." But, says Dr. Booth, when the valves are replaced by transistors—minute amplifiers no bigger than matchsticks—the translator will fit into a shoe box.

NEW POLICY ON APPRENTICESHIPS

UNTIL this year the R.A.N. recruited its artificers exclusively from industry—that is to say, every naval artificer was indentured and served his apprenticeship before joining the Navy.

In some cases there was a naval flavour about the apprenticeship, notably at Garden Island and Williamstown Dockyards, as well as at some of the major shipyards in Australia.

The Navy's new policy, put into effect with the recent opening of its first naval apprentice training school at Quaker's Hill (N.S.W.), is to train its naval artificers within the Service. These youngsters will provide most of the artificers of the future, but there will still be an avenue for journeymen tradesmen to join the Navy in selected trades and, of course, they will as usual form the backbone of the Naval Reserve.

The new system of apprentice training within the Service follows that of the Royal Navy, which for the past 50 years has trained a large proportion of its own artificers.

These are the classifications of artificers to be trained in the R.A.N.'s new school:

Engineroom Artificers, who will be subdivided into the trades of fitter and turner and boilermaker. Both these subdivisions include a full course in all types of welding.

Electrical Artificers, who will be divided into electrical artificers and radio electrical artificers.

Ordnance Artificers.

Air Artificers.

Naval Shipwrights. This course includes training in carpentry, joinery, cabinet making, mast and spar work and boatbuilding, painting, plumbing, marking off and mould-loft work, welding, docking and cable work.

Naval artificer apprentices will be given four years' craft training,

followed by one year's journeyman time at sea or, in the case of air artificers, at a Naval Air Station.

The syllabus of training has the full approval of trade unions, which have signified their willingness to accept the artificers trained at this establishment into their unions when they complete their service in the Royal Australian Navy.

School subjects such as mathematics, science, electricity and magnetism, mechanics, hydraulics, naval architecture, English, naval history and current affairs will be taught throughout the four years' course.

At the end of their second year the apprentices will take an examination of matriculation standard and their final examination in school subjects will be of an appreciably high standard.

It is felt that a solid education is required to enable them to assimilate the technical subjects which will be taught them according to the particular branch in which

they have elected to serve.

Considerable stress is placed upon laboratory work and, to this end, laboratory training will begin early in the first year of training. In general, each principle of technical instruction will begin in the schoolroom, be followed through the laboratory, and finally applied in the workshop.

The apprentices will be given instruction in seamanship, including boat pulling and sailing, bends and hitches, knots and splices, elementary naval signalling, field training and ceremonial drill, musketry and assault training, life-saving and first aid. They will spend short periods at sea in the training ship H.M.A.S. *Swan* at selected intervals throughout their course.

Facilities for all types of recreation are available and it is hoped to field representative teams at football, cricket, athletics, hockey, tennis and rifle shooting. Hobbies such as model-making, photography and gliding will be encouraged.

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THE CASE FOR THE "BLIMP"

By Lieutenant-Commander F. P. U. Croker, R.N., Retd.

THE case for the blimp rests on the proposition that for certain naval purposes she is more effective than aircraft or ships, or more adequately represents the principle of economy of force, this capacity deriving from two inter-linked features: firstly her power of sustained flight for periods of up to a week or more without refuelling, or indefinitely when refuelled from a ship on passage; secondly, here ability to fly slowly or hover with negligible fuel consumption. (This ability to hover is shared with the helicopter, but the helicopter in hovering flight must use full or nearly full power, resulting in heavy fuel consumption.) The blimp derives her lift statically from the displacement of air by a lighter gas such as hydrogen or helium, and not dynamically from the rotation of aerofoil lifting surfaces as in the helicopter, or from the rapid passage of fixed wings through the air as in the case of the conventional aeroplane. Thus she is the counterpart of waterborne vessels, all of which rely ultimately on the displacement principle for their support. There is no counterpart of the aeroplane in the maritime world; even planing craft rely on the displacement principle when at rest.

During the First World War more than 200 blimps were built in Britain; most were used as anti-submarine escorts for convoys and for spotting moored minefields; tasks which they performed with reliability. Development culminated in the construction of the "North Sea" class, which had a gross lift, or displacement, of about 11 tons. In 1919 one of this class carried out an endurance flight of 101 hours, i.e., over four

The author states: "The purpose of this article is to invite attention to the potential value of the Royal and Commonwealth Navies of the smaller, non-rigid type of airship known colloquially as 'blimp.' Despite the advent of nuclear weapons the outcome of a future major war may not necessarily be decided in the course of a few days and the Navy will then be called on to fulfil its traditional role of protecting friendly merchant shipping upon its lawful occasions and driving the enemy from the seas."

days, without refuelling, a performance which cannot be approached by any aeroplane so far constructed.

Unfortunately, blimps were scrapped in Britain after the war, not because they were in any way deficient in promise or performance but rather for reasons of economy and retrenchment. The United States Navy, however, had by this time become interested in their possibilities and development continued in America, the manufacturers being the Goodyear Company.

During the Second World War this concern built 156 blimps for the U.S. Navy which used them mainly for anti-submarine and general patrol work in American waters, though one squadron flew across the Atlantic and operated along the Moroccan coast and in the Straits of Gibraltar.

There is no record, either in the First or Second World War, of a successful submarine attack

on a convoy whose escort included blimps.

Progress has continued since the war and two new classes are at present under development. In May, 1954, a ship of the new "N" class carried out an endurance flight without refuelling of 200 hours, i.e., over eight days. In addition to comprehensive equipment for the detection and destruction of submarines, this class carries a crew of 14 to allow the working of a proper watchkeeping system, with good messing and sleeping accommodation. The noise level is low and there is little vibration, thus crew fatigue is avoided. The "N" class have a displacement of about 26 tons and a speed range from 0 to 75 knots. This type has a range of 4,000 miles at cruising speed in still air. The second new class is believed to be of about half the displacement of the "Ns" and performance figures have not, so far as is known, been released.

The main roles in which U.S. Navy blimps function to-day are:

- (1) Anti-submarine escort for convoys.
- (2) Airborne early warning radar cover for the fleet.
- (3) Independent patrol and search.

Minor uses include air-sea rescue and coastguard duties in peacetime, including ice warnings for shipping.

A brief examination of these uses follows:

Anti-submarine Escort. In the Second World War conventional aircraft were employed successfully in conjunction with naval units in the detection and thwarting of U-boat attacks. At that time, U-boats often operated on the surface or at periscope depth

and airborne radar proved capable of detecting the small target presented by a Schnorkel.

Since the war the situation has changed radically with the emergence of the true submarine, capable of remaining submerged almost indefinitely. Although aircraft can use sonobuoys and other aids for attacking a submerged submarine her presence within a fairly small area must first have been established.

Thus the importance of the asdic has been enhanced and that of radar diminished. The conventional aeroplane cannot use asdic. On the other hand the difficulties of the anti-submarine frigate have been increased as a result of the greatly improved underwater speed of the modern submarine.

This has rendered obsolete all the anti-submarine frigates and corvettes of the Second World War because these have insufficient surface speed to catch the submerged submarine.

In Britain the situation is being tackled by the conversion of destroyers and the building of new fast anti-submarine frigates. This is expensive and will swallow a large slice of the Navy vote, while the provision of crews will strain naval manpower resources.

Lastly, as in Nelson's day, there will never be enough of them, particularly as the threat of nuclear attack will force convoys to steam in open order and a wider front will require to be screened.

What is needed is a craft with the endurance of a ship, capable of using asdic and of carrying anti-submarine weapons with a speed and manoeuvrability sufficient for hunting the fast submarine, economical in first cost and maintenance and in its crew requirement.

The blimp, which can use a dipping asdic, satisfies these requirements. The helicopter does

so to a limited extent only, as her endurance is short so that she must operate from a ship or nearby shore base. It should, however, be stressed that these aircraft are complementary to each other and not rivals. The high speed of the conventional aeroplane has little relevance to the problem.

An American Admiral has commented as follows by way of analogy: "If you drop a small object you don't run around the room, especially if the light is bad, to find it—you crawl on your hands and knees." The aeroplane must of necessity "run around," otherwise she will fall into the sea; the blimp, on the other hand, can conduct a careful, step-by-step search.

OWING to the curvature of the earth, ship-borne early warning radar has a range of only 12-15 miles when dealing with targets on or near the surface.

This is hopelessly inadequate in present-day conditions, representing no more than a minute and a half's flying time. Nor does it offer much scope in hunting for enemy surface ships. Moreover, the heavy airdials and structure for their support are situated in the worst conceivable place from the point of view of stability of the ship. The only answer to the problem is to send the early warning radar aloft in an aircraft.

Assuming that the set is sufficiently powerful, the earth's curvature will permit a radar vision of some 60 nautical miles at a height of 3,000 ft. In the case of the blimp the operating height must be restricted to about this level if too much lift is not to be lost and endurance compromised; but if more frequent fuelling is acceptable an operating height of up to 9,000 ft. might be adopted, at which the maximum radar range

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would be over 100 nautical miles.

However, even the lesser figure of 60 nautical miles is a fourfold improvement on the range possible for ship-borne installations and is a sixteenfold increase in the area of surveillance.

Conventional aircraft can be adapted to carry early warning radar to greater heights with some increase in radar range but they lack the endurance of the blimp. Here again, the two types of aircraft are more complementary than rivals.

IN parts of the globe where enemy air activity is likely to be small, in particular in the Southern Seas, the independent operation of blimps should be practicable and the risk factor acceptable.

No one who has studied the history of the depredations of German surface raiders such as the *Emden* in the First World War and *Ship 16* in the Second will be in any doubt about the necessity for preventing a recurrence of such activity in a future war. Ship research is severely limited by the restriction of radar vision noted above. Blimps would stand a much better chance of locating such raiders. Having done so, it should be possible for them to shadow their quarry until a naval unit could be brought to the scene. It may be argued that such a raider would carry an aircraft capable of destroying the blimp, but there are grounds for thinking that the blimp would not be a "sitting duck."

On this basis there is clearly a strong case for the restoration of the small airship as a naval adjunct. It remains to deal with certain misconceptions and prejudices which exist in this country, partly as a result of unfortunate (though mainly avoidable) catastrophes in which large rigid air-

ships were involved in the interval between the wars.

The main objection raised against the airship is that it is said to be vulnerable to enemy attack and to the weather. The idea of vulnerability to attack really stems from the recollection of Zeppelins shot down in flames during bombing missions over this country in the First World War (a purpose, incidentally, for which they were not designed).

These Zeppelins were filled with the inflammable hydrogen gas and this may well be too dangerous for future operations of war. American blimps are filled with helium which, in contrast to hydrogen, is a most efficient fire extinguisher. This gas is only obtainable in the United States, but there is no reason to suppose that it would not be supplied to N.A.T.O. powers requiring it.

Critics also point to the large target presented by a blimp and to the fact that if the envelope is holed it will eventually collapse and the blimp will fall into the sea. This is true if the damage is sufficiently serious, but it takes many large holes and a considerable time to bring this about. Small holes can be repaired by the crew in flight.

If a submarine commander were to surface and engage a blimp with gunfire it is unlikely that he would be able to impair her flying capacity quickly enough to prevent her from sinking the submarine by bomb or depth charge. The blimp might not be able to repair the damage inflicted by the submarine, but her subsequent descent would be gentle and the crew would stand a good chance of survival. The loss of the blimp would be a small price to pay for the destruction of a submarine. If the blimp were acting as part of the anti-submarine screen of a convoy, the submarine

would not surface and so give away her position and invite retribution from surface forces. Thus the action envisaged above would only be likely to occur if the blimp were operating independently: this would be the exception rather than the rule.

THERE are those who profess to believe that blimps would be pounced upon (in the middle of the ocean?) by flocks of jet fighters and so destroyed. Where these fighters might come from is never explained.

There are, of course, areas into which a blimp would be unwise to venture without fighter cover. It is hardly a coincidence that these areas would also be avoided by shipping in similar circumstances. As for hostile long-range aircraft, should a blimp meet one of these when outside the protective cover provided by a convoy escorting force there are grounds for hoping that with air to air guided missiles she might prevail.

The same applies in the case of attack by the spotting aircraft from a surface raider.

To sum up, the vulnerability of the blimp to enemy attack in the normal circumstances of her employment will be quite small. Losses, doubtless, there would be, for losses are inevitable in war; but they should not be heavy in comparison with the services rendered.

The charge of vulnerability to weather is another "left over" from the earlier days of aviation, and even then, the record of the blimps was surprisingly good. In 1918, from 1st January to 10th November when hostilities ceased, there were only nine days on which no airship ascents were made in Britain.

The modern blimp has a much better bad weather performance than those of the First World

War. As regards winds, her speed of 75 knots will enable her to maintain her station in all conditions except those of storm or exceptional turbulence. Fog, the greatest of all weather hazards to aeroplane operation, does not stop the operation of airships with their capacity for flying slowly and remaining airborne for long periods.

Lastly, there is the question of icing. It is not a simple matter to compare the effects of icing on airships and aeroplanes for while the exposed surface of a blimp is far greater than that of an aeroplane, the aeroplane suffers in addition from the alteration in the shape of her wings as a result of ice formation, and this can detract from her lift to a greater extent than the mere weight of ice accretion. Moreover, the envelope of a blimp is continuously flexing and this tends to break off any ice that forms. There is no reason for believing that a blimp would be worse off in icing condition than an aeroplane: the contrary may well be nearer the truth.

Finally, it is sometimes held that airships are unmanoeuvrable. This is certainly not true of blimps when airborne and the idea probably springs from memories of large handling parties required in the early days for getting rigid airships into and out of their sheds but normally an airship only goes into a shed for overhaul and at other times remains moored to a mast in the open.

Leaving and returning to the mast require small handling parties of a few persons only on the ground. In the United States a mobile mooring mast has been developed which runs the blimp into her shed when refit is necessary. This has done away with the need for large handling parties for this particular operation.

A BRUSH-UP BEFORE THE PARADE



Sea Cadet Cox wields the brush on Cadet McMillan to spruce him up for the ceremonial transfer of the Victorian Division's colour to the custody of the Geelong Grammar School Unit from the Mildura Unit. Cadet S/Lt. McKensie (in background) keeps an eye on the proceedings.

Examination of the objections to small airships reveals in each case that they have little or no substance. Examination of their merits show that their potential value in maritime operations is more than sufficient to warrant their inclusion in the naval armory; indeed, it is not an exaggeration to say that we cannot afford to be without them.

— From the London "Navy."

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BRITAIN'S NAVAL SHIPBUILDING PROGRAMME

TWO more ships of the Blackwood Class of frigates in July were provisionally accepted by the Royal Navy from their builders — H.M.S. *Kephal* from Messrs. Yarrow & Co. Ltd., Scotstoun, Glasgow, and H.M.S. *Pellow* from Messrs. Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne.

The Blackwood class frigates are fitted with the latest equipment for locating and destroying submarines, and their hull form enables them to maintain a high speed in heavy seas. They are prefabricated and all-welded.

The operations rooms are fitted to give the command a picture of tactical and strategical situations. The ships have a single screw and are powered by geared turbines, which are extremely economical at cruising speeds. The armaments consist of three 40 mm. Bofors guns and two three-barrelled anti-submarine mortars.

Dimensions are: Length (extreme) 310 feet, length (between perpendiculars) 300 feet, beam (extreme breadth) 33 feet. The normal peacetime complement of each ship is seven officers and 104 men.

Also during July the name ship of the Whitby class of frigates was commissioned for service with the Royal Navy, following on the commissioning of one of her sister ships, H.M.S. *Torquay*, in May.

Frigates of the Whitby Class incorporate the latest equipment for locating and destroying submarines and have facilities for directing A/S aircraft. The armament consists of a twin 4.5 in. gun mounting and a twin-barrelled 40 mm.

The Admiralty has issued the following list of ships which were launched and accepted into service during the six months January 1 — June 30:—

LAUNCHINGS	
SUBMARINES	
Porpoise Class H.M.S. Porpoise	Vickers Armstrongs (Shipbuilders) Ltd., Barrow-in-Furness . . . 25.4.56
A/S FRIGATES	
Blackwood Class H.M.S. Palliser	Alex Stephen and Sons Ltd., Lint-house, Govan, Scotland . . . 10.5.56
COASTAL MINESWEEPERS	
H.M.S. Maddiston	Harland & Wolff Ltd., Belfast . . . 27.1.56
H.M.S. Wasperton	White's Shipyard (Southampton) Ltd., Itchen, Hants . . . 28.2.56
H.M.S. Upton	J. I. Thornycroft & Co. Ltd., Woolston Works, Southampton . . . 15.3.56
H.M.S. Yarnton	W. Pickersgill & Son Ltd., Sunderland . . . 26.3.56
H.M.S. Wotton	Philip & Son Ltd., Dartmouth, Devon . . . 24.4.56
H.M.S. Maxton	Harland & Wolff Ltd., Belfast . . . 24.5.56
H.M.S. Wilkieson	Cook, Welton & Gemmell Ltd., Beverley, Yorks . . . 26.6.56
INSHORE MINESWEEPERS	
H.M.S. Neasham	J. S. White & Co. Ltd., Cowes . . . 14.3.56
H.M.S. Shriivenham	J. Bolson & Sons Ltd., Poole . . . 28.3.56
H.M.S. Rackham	Saunders Roe (Anglesey) Ltd., Beaumaris, Anglesey . . . 27.4.56
H.M.S. Hovingham	Fairlie Yacht Slip Co. Ltd., Ayrshire . . . 24.5.56
H.M.S. Putterham	J. I. Thornycroft (Hampton) Boatyard Ltd., Hampton, Middlesex . . . 25.6.56
TUGS	
H.M.S. Confident	A. & J. Inglis Ltd., Pointhouse Shipyard, Glasgow . . . 17.1.56
H.M.S. Director	Yarrow & Co. Ltd., Scotstoun, Glasgow, W.I. . . . 11.6.56
ACCEPTANCES	
Experimental Submarines H.M.S. Explorer	Vickers Armstrongs (Shipbuilders) Ltd., Barrow-in-Furness . . . 8.5.56
A/S FRIGATES	
Whitby Class H.M.S. Torquay	Harland & Wolff Ltd., Belfast . . . 10.5.56
A/S FRIGATES	
Blackwood Class H.M.S. Dundas	J. S. White & Co. Ltd., Cowes . . . 16.3.56
H.M.S. Murray	Alex Stephen and Sons Ltd., Lint-house, Govan, Scotland . . . 5.6.56

A.A. gun. For anti-submarine action there are two three-barrelled mortars. Two twin and eight single torpedo tubes are also installed.

Highly manoeuvrable, and designed to maintain high speed in heavy seas, the Whitby is also extremely economical in fuel consumption at cruising speeds. She has twin screws and rudders and is powered by geared turbines built by Cammell Laird & Co. Ltd., to a design by the English Electric Co. Ltd.

H.M.S. Whitby is prefabricated and all-welded. The dimensions are: Length (extreme) 370 ft., length (h.p.) 360 ft., beam, i.e., breadth extreme, 41 ft. The normal peacetime complement is nine officers and 180 men.



N.O.I.C.S.E.A. Captain J. A. Welsh, O.B.E., R.A.N., places the colour of the Victorian Division in the custody of the Geelong Grammar School Unit after it had been brought down from Mildura. Cadet Sub/Lt. White is the Colour Officer.

COASTAL MINESWEEPERS	
H.M.S. Santon	Fleetlands Shipyard Ltd., Gosport . . . 21.2.56
H.M.S. Shavington	Whites Shipyard (Southampton) Ltd., Itchen, Hants. . . . 1.3.56
H.M.S. Penston	Cook Welton & Gemmell Ltd., Beverley, Yorks. . . . 9.3.56
H.M.S. Aldington	Camper & Nicholson Ltd., Southampton 18.4.56
H.M.S. Blaxton	J. I. Thornycroft & Co. Ltd., Southampton 24.4.56
H.M.S. Carhampton	Wiven Shipyard Ltd., Wivenhoe . . . 30.5.56
H.M.S. Lullington	Harland & Wolff Ltd., Belfast . . . 1.6.56
INSHORE MINESWEEPERS	
H.M.S. Pulham	Saunders Roe (Anglesey) Ltd., Beaumaris, Anglesey . . . 10.1.56
H.M.S. Elsenham	Ailsa Shipbuilding Co. Ltd., Troon . . . 11.1.56
H.M.S. Shipham	Brooke Marine Ltd., Lowestoft . . . 3.2.56
H.M.S. Pagham	Jones (Buckie) Slip & Shipyard Ltd., Buckie 22.2.56
H.M.S. Portisham	Dorset Yacht Co. Ltd., Hamworthy, Poole 26.3.56
H.M.S. Downham	J. S. White & Co. Ltd., Cowes . . . 27.3.56
H.M.S. Rackham	Saunders Roe (Anglesey) Ltd., Beaumaris, Anglesey . . . 26.6.56
FAST PATROL BOATS	
H.M.S. Dark Avenger	Saunders Roe (Anglesey) Ltd., Beaumaris, Anglesey . . . 12.4.56
FLEET SUPPLY SHIPS	
H.M.S. Tiderace	J. I. Thompson & Sons Ltd., Sunderland 24.1.56
H.M.S. Tiderange	Sir James Laing & Sons Ltd., Sunderland 26.3.56
TUGS	
H.M.S. Confiance	A. & J. Inglis Ltd., Pointhouse Shipyard, Glasgow 29.3.56

R.A.N. COLLEGE EXAM

Two hundred and eighteen boys aged between 15½ and 16½ years sat at 71 different centres in all States of the Commonwealth on August 28 for the qualifying educational examination for entry to the Royal Australian Naval College.

Of these boys 36 live in Queensland, 82 in New South Wales, 53 in Victoria, 15 in South Australia, 22 in Western Australia and 10 in Tasmania. They applied for admittance to the College under the "normal" entry and are required to pass an examination approximately equivalent to the intermediate standard.

Those successful in the educational examination will later have to submit themselves to a medical examination and afterwards appear before a selection committee which will select the boys to join the College.

Those chosen will enter the College as cadet-midshipmen next January and will spend three years there.

NEWS FROM THE UNITS

By D.J.M.

THE long-awaited ceremony of the presentation of plaques sent from the County of Shropshire (U.K.) to T.S. Shropshire took place on July 1.

Captain F. N. Cook, representing the Flag Officer in Charge East Australian Area, made the presentation.

It was a proud day for T.S. Shropshire's commanding officer, S/C Lieutenant Lars Seymour, who was instrumental in obtaining the plaques.

Among those present at the ceremony were the Federal and N.S.W. Divisional president of the Navy League of Australia; Rear Admiral H. A. Showers, and Mrs. Showers; the Naval Liaison Officer for the N.S.W. Division, Lieutenant Commander G. M. Dixon, R.A.N.V.R.; the Divisional Senior Officer, S/C Commander L. E. Forsythe; the secretary of the N.S.W. Division of the Navy League, Mr. Ian Rae; the Mayor of Canterbury; and parents and friends of the cadets.

After the ceremony, afternoon tea was served and the visitors looked over the "ship."

The annual inspections are now in progress. Captain A. W. R. McNicol, C.B.E., G.M., who recently relieved Captain Rosenthal as Director of Naval Reserves and Senior Officer (Reserve Fleet), is making the inspections. T.S. Australia and T.S. Sydney have been inspected and remarks made by the inspecting officers suggest that the inspections were successful and satisfactory.

Advancements:

Cadet Leading Seaman to Acting Petty Officer: J. E. Mildner, E. W. E. Murray (T.S. Australia).

Transfers:

A.B. Hillyer, T.S. Condamine to T.S. Sydney; A.B. Bennett, T.S. Condamine to T.S. Australia. Joined H.M.A.S. *Nirimba* (Apprenticeship School):

T. Lloyd, J. Vass (T.S. Sydney).

On Loan to T.S. Sydney for Communication Branch (Qualifying):

A.B. Stobbie (T.S. Warrego); A.Bs Coyle, Clarke, Staggs and Hillyer (T.S. Sydney); Ord, Sea (Special entry) Ellis and White (T.S. Sydney); A.Bs Lynch, Scott and Bate (T.S. Albatross); A.Bs Currey, Ingle, Daniel, McDonough and Clarke (T.S. Tobruk).

Cadets remain members of their respective units during the course in the Signal School.

Entries:

T.S. Sydney: 1527 M. R. Poole, 1530 B. J. White, 1531 R. F. Neville, 1532 C. W. Banks, 1533 F. Dobbs, 1534 E. W. Gray, 1537 G. Hatfield, 1539 G. H. Ellis, 1540 G. R. Bunker.

T.S. Warrego: 1543 R. J. Frame, 1562 S. Deveridge.

T.S. Condamine: 1526 A. W. Field, 1535 P. Smith, 1536 H. N. F. Tallock, 1552 D. Fisher, 1555 R. D. Quill, 1557 B. Earl.

T.S. Sirius: W. W. Judd, 1551 W. R. Beacham, 1560 F. Greenhill.

T.S. Albatross: 1541 R. C. Yabsley, 1553 G. Todman, 1554 R. W. Mitchell, 1561 T. J. Ford.

T.S. Tobruk: 1528 T. F. Struck, 1529 J. A. Robertson.

T.S. Shropshire: 1544 G. J. Davis, 1545 H. Rowes, 1546 L. D. Kerr, 1547 P. T. Travers, 1548 J. Pierce, 1550 A. R. Coe, 1556 G. M. Hilder.

The Empire Day march brought home to me very forcibly the sad

lack within the Corps of a bugle and drum band. There appears to be little excuse for this. T.S. Sydney, T.S. Australia and T.S. Condamine have 15 side drums, 1 base drum and 1 tenor drum between them and there are six bugles between the six Sydney area units.

During the Navy League Sea Cadet Corps day the Corps boasted of a very fine drum band and during the S.T.D. Snapper Island peak days they had an excellent band some 20 strong. A Corps with instruments available should not have to rely on bands outside the Corps.

Appendix V to the Sea Cadet Corps Training Manual gives full details on the training of bugle bands. The training follows that officially authorised for similar bands in the Royal Marines. It is known that such a band if formed could be trained in Naval Establishments, but there must first be a guarantee that once formed, the band will persevere and become really efficient.

A proposal is expected eventually whereby boys may be recruited for the Sea Cadet Corps bugle band. This will mean a boy must first complete his three months new entry course, after which he will be transferred to the band. He will in no way be prevented from qualifying for higher rate.

Boys who will attain their 14th birthday before January 1, 1957, are invited to join the Sea Cadet Corps for the drum band. They will be required to join either T.S. Sydney, T.S. Australia or T.S. Condamine for the present, until other units have drums.

A good drum and bugle band is an asset to the Corps, and a very good pattern is the North Sydney High School Cadet Corps Band. There is no reason why The Sea Cadet Corps could not parade a similar band.

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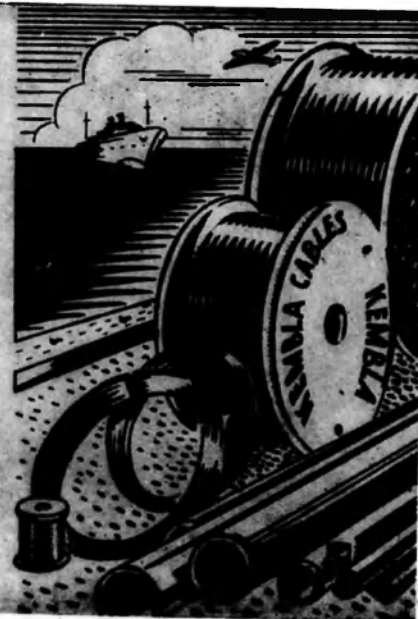
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