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OUR FIRST DARING CLASS

The commissioning at Sydney later this year of the Royal Australian Navy's Daring-class ship, Voyager, will highlight an important advance in shipbuilding—the development of the technique of welding.

H.M.A.S. Voyager, a many-purpose warship larger than the normal destroyer and almost in the light cruiser class, will be Australia's first all-welded ship.

Her completion will serve to draw attention to the interesting history and rapid progress of welding in ship construction.

The greatest progress in the technique of electric welding as applied to shipbuilding has been most evident in the postwar years. But as far back as World War I, British and American shipbuilders were investigating the possibility of constructing all-welded ships.

In England in 1918 a Kent shipyard received an order to build a number of barges for service between England and France and on the French canals. The barges were needed urgently, but at the time in England there existed an acute shortage of skilled labour for erecting and riveting.

The shipbuilders decided that as an experiment one of the barges should be electrically welded. So late in 1918 they launched the barge A-C1320—the first sea-going vessel to be all-welded in England.

Meanwhile, in America during World War I, the wartime Emergency Fleet Corporation set up a special committee to consider the construction of welded ships.

After the committee reported favourably, plans were made for a full-scale experimental assembly and, later, authority was given to construct an all-welded ship of 10,000 tons.

Welding, as applied to shipbuilding, received its first major setback in America when two projects, both of which were well under way, were cancelled with the 1918 Armistice.

British and American shipbuilders continued to experiment with all-welded vessels, but up to 1934 the largest all-welded ship was the American 1,255-ton Poughkeepsie Savannah.

Three years later a British shipyard built the all-welded freighter Franquinia, which had a dead weight of 3,050 tons and an overall length of 289 feet.

Then, about the same year, an American company built the 11,600-ton tanker J. W. Van Dyke, an all-welded giant of its time. The Van Dyke was a landmark in the history of all-welded shipbuilding.

This was not only because of the size of the ship, but also because it represented the first use on a large scale of automatic welding in shipyard work.

To-day, the change-over from riveted to welded construction involves a complete revision of working methods in shipyard fitting departments.

In many shipyards provision has now been made for fully weld decks in pre-fabricated panels of up to approximately 3,150 square feet in area, complete with beams and girders.

These covers the full breadth of the largest ships building, and with about 20 lifts the complete deck of a large liner may be placed in position.

Another factor that influences the change to welded construction is the rapidly diminishing supply of riveting squads for new building.

This is compelling many ship owners, and shipbuilders, to increase the amount of welding in the hull structures of what they intended to be riveted ships.

At the present rate of decline in the number of riveting squads available for new ship building it will not be long before the all-welded ship is a standard product of all yards.

Go Down to the Sea in Ships...

The Broken Hill Proprietary Co. Ltd., has vacancies in its ships for suitable boys to train as deck officers. Applicants must be medically fit, under 18 years of age and preferably hold the leaving certificate or equivalent with passes in English, Mathematics and Physics.

Successful applicants will serve a four-year apprenticeship in the Company's ships, and will be trained to the standard of the British Ministry of Transport's examination for Second Mate's Certificate.

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THE "JOYITA" INQUIRY

New legislation is likely to strengthen the statutes governing locally-owned shipping in Western Samoa.

This is perhaps the most important result of the Commission of Inquiry into the Joyita (reported on page 18). The proposed legislation would give greater control over foreign ships operating in Samoan waters.

The Joyita was registered in Honolulu. She disappeared after leaving Apia, Samoa, last October 3 and was discovered a drifting wreck on November 10. None of the 15 passengers and crew aboard her when she left Apia was on the wreck and no trace has been found of any of them since.

After the commission announced its findings on April 13 the New Zealand Minister for Island Territories and External Affairs, Mr. Thomas Macdonald, told the N.Z. House of Representatives that the New Zealand Government would give the Government of Western Samoa all possible assistance to prepare whatever legislation might be found necessary.
The First Sea Lord, Admiral Lord Mountbatten, during his recent visit to Australia told a nation-wide radio audience that Russia had the second most powerful navy in the world and the greatest submarine fleet in history. Submarines based on Vladivostok could operate in Australian waters without difficulty, he said. The following in an extract of his talk, given in the ABC Guest of Honour session on April 15.

ALTHOUGH Australia is very big, it still remains an island and as such must still depend upon the Navy.

Although, as a sailor, I speak of the Navy, I wish to make it clear that I mean to include all the forces which retain the command of the seas for us and which include, of course, the Coastal Command of the Royal Air Force in the United Kingdom and the Marine Squadrons which co-operate with the Navy throughout the British Commonwealth; for war at sea is indivisible whether fought on or under the sea.

Carrier-borne aircraft are of course part of our Navies. They have a very vital part to play in the war at sea. The aircraft carrier is virtually a mobile airfield which would certainly escape damage through being out at sea during the period of thermo-nuclear bombing. Thereafter it will provide an airfield at whatever place it is wanted, and in the case of Australia that will mean well forward away from the coasts.

The Australian Navy possesses the very latest light fleet carrier in the world, H.M.A.S. Melbourne, which reaches Australia this month. She has the angled deck, the steam catapult and the mirror landing sight and is the last word in carriers.

In the United Kingdom, which is close to the Iron Curtain, we have laid immense stress on the creation of a medium bomber force capable of delivering strategic weapons which we have begun to make as our contribution to the nuclear deterrent. But none of us could possibly wish to see the disaster of the atomic and hydrogen bombing which would be the main feature of a Third World War.

It is important that it should be thoroughly understood that the advent of thermo-nuclear weapons has not changed the need for navies of their primary role. Obviously it must affect the design of ships, the composition of fleets, the tactics of naval warfare. But it does not make navies any less important. Indeed, they become even more important.

This conclusion has been drawn by the major powers in the world, including Russia, who has chosen in recent years to accelerate the building of a truly already powerful fleet.

Clearly Russia recognises that if war should ever come, massive
land and air forces and the thermo-nuclear bomb are not enough. She knows that she must also be able to operate independently of land bases. It is therefore especially valuable for dealing with local wars and preventing them spreading.

Secondly, it is this mobility that helps to give the Navy its great prestige value in peace, because warships are able to pay regular visits to Commonwealth and foreign ports. Majestys Australian ships visits any ports away from home she brings into that country a cross-section of the Australian way of life. The officers and men seen ashore with their smart and courteous bearing give an excellent impression of Australia to the people of the country being visited. And when they receive visitors on board their ship with typical hospitality, then those visitors are able to see Australian communication at its very best. There is no finer way of making Australia known to the world.

Thirdly, there is the role of the Navy in a global war. There are to be wide differences of view about the likely course and duration of a war fought with nuclear weapons. But I suggest that we should be most unwary to assume that in a war, of whatever length, the Navy has not a vital part to play, since any potential enemy would certainly try to starve the United Kingdom into submission and disrupt the British Commonwealth by cutting our sea communications after the interchange of thermo-nuclear bombs had petered out.

Indeed, for what other main purpose should an enemy build so vast a fleet as has now been created on the other side of the Iron Curtain?

It has been suggested that a few atom bombs on the enemy's submarine bases would put an end to the submarine threat. But since it is not we who will decide when a war is to start, the Power that does will presumably have the wit to see that its submarines and, indeed, its entire Navy, are at sea first, with adequate sea-going support to keep them there for a very considerable time, and it is with this threat that our striking forces and our anti-submarine forces will have to reckon.

During the last war the United Kingdom required about a million tons of seaborne supplies each week to keep it going. Twenty million tons of freight enters and leaves Australia annually by sea. The equivalent of freight moved into and out of Australia annually by air is only 2,000,000, or one ten-thousandth of that moved by sea; nor could this proportion be greatly increased, as everyone who has tried to work out this problem knows.

So you will see what disastrous effect a successful submarine blockade backed by naval surface and air power could have on the course of the war after the first week or two unless we were in a position to give adequate protection to our convoys.

Australia could not offer help in the overall defence of the British Commonwealth nor indeed look after her own defence sufficiently far forward unless she could send and support forces by sea.

The Admiralty's intention will be to employ nuclear power in the first instance in submarines. For some years scientists and naval officers, serving at the Atomic Energy Establishment at Harwell, have been collecting the necessary knowledge of this subject, but it has only recently become possible to start practical work on planning a nuclear submarine power plant. But however modern our equipment and ships it is the spirit of the men of whom they are still counts. That is why I was so thrilled to find the morale of the Royal Australian Navy so high.

Finally I should like to thank all the Governments and Civic authorities who may have entertained us for their extraordinarily kind and friendly reception to our wife and myself, and to my party. I should like to thank the R.S.S.A.L.I.A. with which I am associated as Grand President of the British Empire Service League, the Overseas League of which I am President, and the Royal Life Saving Society of which I am also President, for their very friendly reception in every city. The Royal Life Saving Society, which has self-governing branches throughout the world, is doing a particularly fine job in every State of Australia, and I know that our Royal Patron, the Queen, who is herself an avid sailor, will be particularly interested in hearing of its achievements. I should like to congratulate the Navy League on the important part they play in helping to keep to the fore the vital need for the Royal Australian Navy.

The average depth of this part of the Tasman is about 15,000 feet, but we found a series of mountain ranges situated between 200 and 300 miles off the South West coast.

They rise as much as 10,000 feet from the ocean floor and are fairly steep. They stretch in a north and south direction from the east coast of the continent.

"We also examined the bank east of Newcastle. If you compare it with a land feature it would be a steep rock mountain rising steeply from a level plain to a height of 15,000 feet."

"We obtained these soundings by measuring the time that a sound impulse takes to travel from the ship, the sea bottom and return to the ship."

This type of survey is made to obtain knowledge of the topography of the sea bottom. It is important because it sometimes enables a navigator to determine his position by soundings. Also the shape of the sea bottom affects the currents, which in turn affect the climate of a continent and fishing off the coast."
THE NEW FRIGATES

By Oscar Parkes, Ass.I.N.A.

Published in the London "Navy"

THE general form of the frigates now under construction may be said to stem from a design submitted by Thornycroft to the Admiralty in 1938 for a high-speed destroyer, in which the outstanding feature was a long forecastle carried aft as far as the stern gun.

This was opposed to established destroyer practice in which the raised forecastle only extended to the after end of the bridge, making passage beyond this wet and hazardous in heavy weather, although in the fleet mineweppeeps the "Shoreham" class and the "Grimmy" type of sloops, the forecastle had been carried to well abaft amidships.

Thornycroft wanted to incorporate this feature into destroyers, but the Board would have none of it and in 1939, contracts were placed for a number of light destroyers to be named after famous hunts, the short forecastle was retained. Dimensions were 280 x 29 x 73 ft, with a displacement of 1,000 tons, speed to be 27 kts with 19,000 h.p., and an armament of six 4-in., guns, some light A.A., and a set of 21-in. tubes.

But in the prototype Atherstone, stability was found to be insufficient, necessitating the surrender of a pair of guns and the torpedo tubes in the twenty-three vessels of the class. In the next group of thirty-three the hull was "tipped" by 2 ft and with a beam of 31½ ft, it was found possible to mount six guns but no tubes.

Flying them came the twenty-eight "Albrightons" with the same dimensions but mounting four 2 pdr. A.A. in place of the aftermost 4-in., and two 21-in. tubes.

At the same time, Thornycroft were allowed to build two vessels to their own design of 1938, the "Brecken" and "Brueneeden", whose dimensions were 206 x 33 x 9 ft, 1,175 tons, mounting six 4-in., four 2-pdr. A.A., eight 20 m.m. and three 21-in. tubes; the same h.p.s. 19,000 giving an easy 25 knots.

When it was decided to convert the destroyers Rocket and Relentless into "frigates", experience with the "Brocken" confirmed the advantages of the covered passages fore and aft and they were given an extended forecastle with a minimum of bridgework and substantial pylon mast to carry the heavy radar equipment.

In them we see the first presentation of the shape of ships to come — the smooth shapely hull, low built-in superstructure, few boats, a small glazed-in shelter in place of the former high bridge work, underbrow gun positions, and a single low funnel. But now that we know them, the "Rockets" have become quite pleasant looking ships with a considerable air of efficiency and vastly preferable to the "Weapons" and "Daring", so far as appearance goes.

In planning the post-war re-armament programme, initiated in 1950, twenty-seven frigates of four classes were to be built, each intended for a special duty in conjunction on convoy service.

The outstanding feature of each class is high freeboard forward to ensure good weatherly behaviour, with a full length forecastle, except in the smaller 2nd rate "Utility" class, of which twelve are being built. Named after famous commanding officers of the past, their progress is as follows:

"BLACKWOOD" CLASS.

HARDY - Yarrow 1953 10/12/13
MALCOLM - Swan Hunter 1953 1/10/13
RUSSELL - White 1953 14/10/13
PARKER - Harland & Wolff 1954 20/10/13
CRANFORD - Yarrow 1954 11/10/13
BLACKWOOD Thornycroft 1954 10/10/13
DUNCAN - Yarrow 1954 15/10/13
PALLISER - Harland & Wolff 1954 20/10/13

Laid Down: 300/310 x 33 x 10 ft. 1,300/1,700 tons.
Arms: 3-Mk. 9 Bofors; 2 limbo mortars; 2-twin 21-in. tubes.
Arms: Babcock boilers. geared turbine 15,000 SHP = 22 plus; single screw.

It will be seen that they have an unusual profile with the high forecastle sweeping down in a curve to the built-in superstructure only as high as the bulwark in the superstructure, by a light navigating house and control positions. The two masts are of light lattice work with a very narrow funnel, flanked by ventilating shafts. The guns are sited on each side amidships and right aft, and although seemingly a light armament, they are considered a match for any submarine. A three-barrel mortar is mounted on each side of the after shelter-deck.

Although listed as of 22 knots only, their actual speed was considerably higher and well in excess of that of hostile submarines. With a view to rapid conversion in an emergency — although ships of the current programme show no indication of more than leisurably progress, pre-fabrication and welding have been largely employed.

Sections of the hull can be welded at different parts of the yard and assembled on the slipway for incorporation into the hull, which should allow for the ship to be launched and the slip cleared with considerable saving of time. Horizontal welding of deck plates and running surfaces can be done by machine; vertical and curved welding has to be done by hand, which needs greater skill, and pre-fabrication allows for use of the machine.

Six of these first rate anti-submarine frigates are under construction:

"WHITBY" CLASS.

HITBY - C. Laid 1954 10/12/13
HORKHILL - H. Walford 1954 21/12/13
DURHAM - Yarrow 1954 21/12/13
LUXEMBOURG V.C. Yarrow 1954 29/12/13
CEYLON - Yarrow 1954 29/12/13

Laid Down: 360/370 x 41 x 12 ft. 2,000/2,800 tons.
Arms: 2.45-in. x 2-40 mm. x 12-21 in. torpedo tubes; 2 tubes.
Arms: Babcock boilers. 2 sets geared turbines, 20,000 SHP = 20 knots.

To ensure a dry command for the twin 4.5-inch guns forward, the upper forecastle provides extra shelter and protection for incorporation into the hull, which should allow for the ship to be launched and the slip cleared with considerable saving of time. Horizontal welding of deck plates and running surfaces can be done by machine; vertical and curved welding has to be done by hand, which needs greater skill, and pre-fabrication allows for use of the machine.

Pilots of BOS B.R.A.N. Air Squadron studying a chart of the first leg of a recent training flight from Nova to Hobart and Adelaide, then back to Nova. The aircraft, which are to be fitted with specialized equipment of a new type which will make the life of any submarine comes into their orbit uncomfortably hazardous.

Driven by two sets of geared turbines of "advanced design" their legend speed of 30 kts. is expected to be comfortably exceeded.
DIVER—WATCH THOSE WHALES!

The Royal Australian Navy at present is very interested in whales. Not in the commercial sense but to help it understand better the physiological problems which confront deep sea divers and frogmen.

THE Navy Minster, Senator A. Neil O'Sullivan, spoke about this when discussing a recent conference of Naval medical officers in Melbourne.

The conference was on medical aspects of underwater warfare.

The Medical Director-General of the Royal Australian Navy, Surgeon Rear-Admiral L. Lockwood, presided at the conference which was attended by 30 medical officers of the R.A.N., the R.A.N.R., and the R.A.N.V.R.

Members of the Australian Naval Board, the Director-General of Army Medical Services, Major General W. F. Refshauge, the Director-General of Air Force Medical Services, Air Vice-Marshal E. S. Daley, and the Director of Naval Ordinance and Underwater Weapons, Captain W. B. M. Marks, R.A.N., also attended.

Senator O'Sullivan said that whales harpooned by whaling ships could dive immediately to a depth of 500 fathoms and at once rise again to the surface. The greatest depth to which a human diver could descend and from which he could ascend immediately was 150 feet.

If he went lower than that and tried to return without a decompression period he would suffer agonising "bends" and might die as a result of deficiencies brought about in his blood.

If a study of the metabolism, heart beats, and general physiology and anatomy of whales could help to modify the limitations imposed on frogmen and divers, and especially to limit the time spent in "staging," the efficiency of methods that could be used in future underwater warfare would be increased appreciably.

At the conference the Assistant Director of Underwater Weapons, Lieutenant-Commander M. S. Batterham, R.A.N.V.R., predicted that underwater operations by frogmen and other naval divers would play an increasingly important part in future wars.

Lieutenant-Commander Batterham said that the techniques of underwater warfare had been improved considerably since the early days when a seaman with an auger was put in a barrel and sent to bore holes in the submerged sides and bottoms of enemy ships or to blow up gunpowder stored in the vessels by pushing fuses through the holes.

In the Second World War, Allied frogmen were employed from shortly before D-day onwards in clearing Continental ports and beaches of enemy obstructions. They were also used in removing "limpets" which had been placed on the sides and bottoms of Allied ships in Gibraltar Harbour by Italians.

The only known underwater fight between frogmen occurred in Gibraltar Harbour. After a fierce struggle, a frogman of the Royal Navy killed an Italian frogman whom he had found attaching a "limpet" to a ship. He was awarded the George Medal for his heroism in accomplishing that feat.

SEA CADET BALL

A ball for the cadets of H.M.S Sirius was held recently at the Coronation Hall, Armidale, New South Wales.

The principal aim of the ball was to raise funds for building on the new headquarters site at Cahir Park. But it was also an opportunity for the cadets to mix with the people who support their unit. The advent of cheaper and better steel also affected the building of vessels. Again the advantage of steel lay in its ability to withstand higher pressures.

Though it is a far cry from the vessels of the 1870s and 1880s to the ships of today, steel remains the principal shipbuilding material. Aluminium has made its way into yachts and lifeboats and in the superstructure of certain deep-sea vessels, but it has not yet been adopted widely.

As in the early days of steel, cost is a considerable factor, together with the additional problems which the shipbuilder must face when using the new material.

Steel supplies and steel prices are still vital to the shipbuilding industry, and hence to the shipowner and to the country generally.

On neither count should we feel any complacency. Uncertainty of supplies was one of the great complaints of the earlier post-war years, but it was believed that, with increasing production, this problem had been solved. It has raised its head again in the past few months, partly, no doubt, owing to the interruption of supplies during the dock and railway strikes last spring, and partly to the general increase in home requirements for various construction purposes.

The credit squeeze may limit the latter drain. It is greatly to be hoped, however, that the leeway in production from all causes will not be made up by a steel shortage would have serious effects on the output of ships.
It happened in Tripoli

A NIGHT OF PERIL

BY CAPTAIN HENRY F. WAIGHT, O.B.E., R.N., Retd.—in London.

It was evening on 19th March, 1943. It had been a strenuous day. At first light a new convoy of sixteen fully loaded ships, carrying the much-needed petrol, ammunition, and other stores for the Eighth Army, entered the twenty-fourth minefield, shunted through the minefield, leading to the almost completely blocked harbour of Tripoli.

The convoy had been shadowed by enemy aircraft and submarines all the way from Alexandria. Now as dusk was falling, the last ship of the convoy had been secured, so as N.O.I.C., felt a sense of relief which, I am sure, shared by the Commodore in the convoy and the hundreds of ships, thankful to have reached harbour safely with their precious cargoes.

At 5 p.m. the Port Executive, met, under the chairmanship of the Naval Officer in Charge. This meeting was attended by all the V.I.Ps., the plans for discharge were discussed, and also the sailing of a convoy of empty ships to Alexandria at first light. The harbour was full to overflowing with shipping. Not only were there the ships of the new convoy, and the empty ships sailing on the following morning; there were ships arriving from Alexandria on the morrow, and the Mineweeping Flotilla was all set to sweep the channel at first light. In addition, there were patrol craft, landing craft, and gunboats of every description—all the craft which go to meet the needs of a frontline port. There were over one hundred vessels within the harbour.

The Port Executive Committee ended its meeting about 7 p.m. I accompanied the "Senior Officer Inshore Squadron" back to Navy House, our headquarters.

It was just dark, the visibility almost one thousand yards, with haze and a slight drizzle. Our words on parting were, "Not much likelihood of a raid tonight," an expression, perhaps, of wishful thinking. We had hardly parted company when the ack-ack guns opened fire, and aircraft could be heard passing over the harbour. Twelve Italian bombers had got through to raid the port, without being detected by radar. It was a coincidence that the ack-ack guns' crews had just cleared away their guns for action.

Two fully loaded ships, S.S. Varsara, carrying canned petrol, and S.S. Ocean Voyager, carrying a composite cargo, including four hundred hundred-pound bombs, had been hit and were enveloped in flames fore and aft, with the flames rising to a great height.

I knew that no fire fighting equipment to deal with such fires, and immediately concentrated on saving life from the burning ships. I was driven to the boat jetty in a 15-cwt. truck and immediately sent into the harbour every available boat.

Many men were rescued and landed at the Naval Barracks for treatment. During this time I was about superintending the rescue work and seeing that all ships were prepared to deal with the spreading of the fire from these two ships, where explosions were taking place and red-hot drums of high octane petrol were being shot up to a great height and exploding in the air.

On the way out in my boat to S.S. Ocean Voyager, I was detoured from the forecastle of H.M.S. Maltese Prince and warned to keep dear of a floating mine close to her bows. I had already heard one or two mysterious explosions. I had also passed several objects that appeared to be moving under power and creating a bluff but small bow wave, which was very much puzzled me.

Some time had passed since the raid, when I heard an explosion alongside the destroyer H.M.S. Derwent, and on closing her found that she had been hit in the engine-room and was in danger of sinking.

Fortunately H.M. Tug Brigand was close at hand. She was placed alongside H.M.S. Derwent, whose cables were slipped, and Derwent was backed to prevent her from sinking. A large number of her crew were landed and quartered in the Royal Naval Barracks.

The auxiliary machinery of Derwent was kept in action to prevent further flooding.

I had now come to the conclusion that the attacking aircraft had dropped circling torpedoes by parachute, and this theory subsequently proved to be correct.

Circling torpedoes are dropped from aircraft with a parachute attached. On entering the water the parachute becomes disengaged, and the mechanism of the torpedo is started into action. The rudder is fixed to ensure that the torpedo runs in a circle, and its depth is controlled by a mercury operated valve. If a target was not hit whilst the torpedo was in motion, it eventually floated on the surface and became as dangerous as a floating mine.

In the meantime, the two ships hit continued to blaze fiercely, but, apart from the torping of H.M.S. Derwent, no other major disaster occurred and ships of the convoy began to resume discharge operations. My one great worry was the likelihood that the blazing ships might encourage the enemy to make another attack. I decided nothing more could be done until daylight and that officers and men should rest as much as possible.

Shortly before midnight I went up to the flat roof of Navy House and took a survey of the harbour. The flames from S.S. Varsara were now dying down. Even the Ocean Voyager, except for an occasional explosion, did not appear to be burning so fiercely.

The remaining ships in harbour were blacked out; and, except for the clanking of the winches in ships working cargo, all seemed peaceful. I had had a gruelling day, and decided to get a little rest. I sat on my camp bed and had removed one heavy boot, when the whole building was rocked by a terrific explosion.

I was thrown to the floor, and the wooden shutters around the windows were burst open. I saw a huge red glare over the men's quarters and at once thought that we had been caught out by another raid and that bombs had been dropped on the Naval Barracks; but within a few minutes the signalman reported that S.S. Ocean Voyager had blown up at five past midnight.

I had by this time replaced my boot and once again went up to the flat roof of Navy House to make a survey. The scene before me was almost indescribable. The force of the explosion had split S.S. Varsara in two. The Ocean Voyager had dispersed her petrol drums over a very large area in her vicinity, and these had joined forces with those dispersed by Varsara.

The surface of the water in the harbour between the two ships was ablaze with burning petrol reaching four hundred feet in height, and with considerable depth. The wind had freshened and veered, with the result that this wall of fire was slowly sweeping across the harbour from North East to South West and would envelope practically all the ships.

I was confronted with a situation which might prove to be the most critical I would have to handle during the war. Tripoli was the advanced base for the Eighth Army. The entrance was so narrow that only one ship with a pilot on board could pass through safely in daylight.

A blocked channel, with so much at stake, was a risk I had...
to take. I made a signal to all ships: "Weigh and proceed out of harbour independently, paying due regard to the safety of your own ships. No pilots available."

The responsibility sat fair and squarely on my shoulders. For hours I watched large and small ships enveloped in the flames, twisting and turning to get clear and leave harbour.

Some of the larger ones did not manage it: some rail aground in their efforts to get clear; but, by spraying the rigging with water from the hoses at high pressure, the flames were kept in hand until they finally drifted clear.

H.M.S. Derwent, which had been run aground to save her from sinking, was now in the direct path of this roaring line of flame. She was stuck fast and unable to move, but the Commanding Officer had rigged every possible fire hose, and the fire pump was working to full capacity.

As the wall of flame enveloped his ship, every fire nozzle was directed at the water line. The force of water separated the "jerry cans" as they passed by, and thus the intensity of the fire wall was broken down; and, by the gallant efforts of the Commanding Officer and a very reduced crew, H.M.S. Derwent was preserved from destruction and saved at a later date.

With the coming of dawn, the fire had burned itself out. To my great relief and admiration, over eighty ships of all sizes had successfully run the gauntlet through the fire, and had safely navigated the perilous and most important narrow channel at the entrance of the harbour.

Had any ship, large or small, made the slightest error in navigation and caused the channel to become blocked, it might have hazarded the success of the attack which General Montgomery had just opened on the Mareth Line, since it would have restricted for an indefinite period the much-needed supplies of petrol and ammunition.

It is doubtful whether the great danger on that eventful night to the supply line operating through Tripoli was ever fully realised by the "Powers That Be."

The terrible danger was now past; the ships that had run the gauntlet during the night through the blazing wall of fire were now anchored in almost perfect formation. The outward bound convoy of empty ships were assembled and, preceded by the Minesweeping Flotilla, entered the channel for Alexandria.

Ships of the new convoy were again brought into the harbour and rebereathed. The normal port organisation rapidly got into its stride, and in less than forty-eight hours, through the untiring efforts of all concerned, the average daily rate of discharge had been exceeded.

Nevertheless, two very valuable ships with their precious cargoes had been lost, though the enemy (much to our surprise) did not attempt to follow up this outstanding success immediately.

— From the London "Navy."

Dutch ship sunk off Rio de Janeiro

A Dutch motor ship which struck a reef off Victoria, north of Rio de Janeiro, sank a few minutes after the rescue of the 14 passengers and crew. The 6,400-ton ship, Altair, was carrying a cargo of cotton and coffee.

NUCLEAR WEAR

On the page opposite is what Sydney's defenders would wear in a nuclear weapon attack. Wearing the protective clothing are Petty Officer C. Farr (Rockdale) and Shipwright A. Grant (Merrickville). They showed the clothing in a Navy demonstration to Service, harbour and shipping officials.
Broken pipe caused "Joyita" disaster

The Commission of Inquiry into the Joyita disaster found that the ship sank due to a broken pipe in the cooling system, which caused the vessel to be flooded.

The Commission said that examination of the wreck showed no evidence of damage by sudden and violent means, such as ramming by another ship, fire, explosion, or contact with the hull by rock or reef.

There was no evidence, either, of mass murder, organised looting, or explosion.

The Commission reported that the port engine was out of commission not long after the ship cleared Apia Harbour. The Joyita's radio transmitter failed.

The Commission was unable to say why the Joyita was abandoned. Conditions must have been bad, it said, but the ship was at least afloat and offered some degree of security.

Faulty lifesaving gear

A lifeboat on the Italian liner Surrantino had sunk when lowered into the water at Fremantle. Thomas Alan Coles said, in Melbourne Police Court on April 19, Coles is a Commonwealth Investigation Service officer.

He was giving evidence against Capt. Angelo Carminich, master of the Surrantino. Carminich pleaded guilty to a charge of having failed to keep the Surrantino's lifesaving apparatus "fit and ready for use at all times.

Mr. Brenton, S.M., fined Carminich the maximum of £100 with £26 5s. costs.

Coles said that a report by a naval surgeon said that:

"All 26 lifeboats on the Surrantino had some defect. Twelve boats needed major repairs. Nine boats were rotted. One steel lifeboat was holed. Twelve sea-anchors were beyond repair.

The report said that the surveyor had condemned 100 of the Surrantino's lifebuoys because they were faulty.

Blood transfusion in storm-tossed launch

A doctor saved the life of a 70-year-old woman by giving her a blood transfusion in a storm-tossed launch on Hauraki Gulf last month.

The woman is Mrs. Gladys Fayling, of Waiteheke Island. Avarice ulcer on Mrs. Fayling's leg burst. A local doctor could only stem the flow of blood, and advised Auckland police she needed an urgent blood transfusion.

A police launch, with another doctor and the blood plasma, sailed 10 miles through heavy seas to reach Waiteheke Island.

The journey back, during which Mrs. Fayling received the transfusion, took three hours.

Her condition was already improving when the launch reached Auckland.

New ocean-going tug for Sydney

The Sydney Cove, claimed by her owners to be the most modern ocean-going tug afloat, is now being fitted out for her maiden voyage of 13,000 miles to Sydney.

She is the first ocean-going diesel tug Sydney will have.

The Sydney Cove was built on a new system of hull construction. Her engines are 1,300 h.p. and it claimed she has high towing power and improved free running.

Manned by a crew of 11, the tug will sail via Suez.

"Fall-out" protection for Japanese ship

The first Japanese ship to be equipped with safeguards against radioactive fall-out sailed for Australia on April 17.

The ship, the 7,470-ton J.5 Mantetsu Maru, carries geiger counters, plastic hatch covers, respirators, and special suits and covers.

The Japan Shipping Company said that the ship would follow a route about 1,000 miles off the designated danger area for the U.S. nuclear experiments due to begin near the Marshall Islands.

In Sydney, the ship would turn west of its protective equipment to the 8,033-ton Eisuku Maru.

Numerous other Japanese ships are loading protective equipment. The 80,000-strong Japan Seamen's Union early this month demanded measures to protect crews from radioactive fall-out.

Radioactive dust fell on the crew of a Japanese fishing vessel after the U.S. hydrogen bomb blast in 1946. One crew member died.

Lift Suez restrictions, Israel demands

Israel has demanded that Egypt lift all restrictions on Israeli shipping through the Suez Canal.

Israel has made the demand in a message to the United Nations Secretary-General (Mr. Hammarskjold).

Egypt closed the Suez Canal to Israeli shipping in 1949.

Mr. Hammarskjold has received a message from the Israeli Foreign Minister (Mr. Sharett) calling the blockade "a hostile act incompatible with the general armistice agreement."
H.M.A.S. Melbourne arrives in Australian waters

The Australian aircraft carrier H.M.A.S. Melbourne arrived in Fremantle from the U.K. on April 23. She is due to reach Sydney on May 11.

The main interest shown in the new carrier when she was in Fremantle centred around her equipment for protection against the fall-out from atomic explosions.

The entire interior of the carrier, including the bridge, is capable of being sealed off.

The ship's ventilation system decontaminates the air inside and replaces spent oxygen when the ship is sealed.

Remote control equipment allows engine-room staff to leave their posts for half an hour at a time if irradiated water enters the evaporation and cooling systems.

About 60 aircraft were on the angled flight-deck and in the spacious hangar of the Melbourne when she berthed at North Wharf, Fremantle.

They included the first delta-winged aircraft to reach Australia—an Avro 707 "flying research instrument." The plane will be unloaded in Melbourne.

Softer life for S. African sailors

The South African Defence Department has announced sweeping changes in living conditions for sailors in South Africa's 15-ship navy.

Improvements envisaged will give ratings near-luxury living.

In future sailors will no longer live in their sea chests. They will be provided with aluminum wardrobes fitted with drawers and having hanging space for three suits. Hammocks will be abolished and replaced with beds with reading lights. Wooden mess tables will be replaced with plastic top tables with steel legs to reduce the work of keeping them clean. Half-castes — Cape Coloureds — will be employed ashore and afloat as servants for the sailors.

Ratings will have all their laundry done, except their ironing, which they will have to do themselves.

The South African Navy, however, makes it clear that the cleaning of guns and other warlike material will still be the job of the sailors.

Navy offer to medical undergrads

Medical undergraduates who have completed their third year at Australian Universities will soon be given the opportunity to join the medical branch of the Royal Australian Navy while they continue their studies.

Those selected will be appointed sub-lieutenants. As well as being paid salaries as officers-under-training, they will have their University fees paid by the Navy.

On graduation at the end of their sixth year they will be appointed surgeons-lieutenants for a probationary period of 12 months during which they will be resident doctors at a hospital. On completion of this residency period they will be confirmed in their rank.

Nuclear-power study for surface ships

Aircraft Corporation for about $60,000,000 supply of early-warn-
ing radar aircraft.

U.S. Navy's big order or radar planes

The United States Navy has placed an order with the Lockheed Aircraft Corporation for about $60,000,000 supply of early-warn-
ing radar aircraft.

About 60 aircraft were on the angled flight-deck and in the spacious hangar of the Melbourne when she berthed at North Wharf, Fremantle.

The planes will have great range, and will be able to scan thousands of miles of patrol area.

New Forrestal Class carrier commissioned

The United States Navy has placed an order with the Lockheed Aircraft Corporation for about $60,000,000 supply of early-warn-
ing radar aircraft.

America's new aircraft carrier, Saratoga, was commissioned on April 15 in a traditional Navy ceremony.

The 60,000-ton craft, the biggest and most powerful ever built, is the U.S. Navy's second of the Forrestal Class.

The new vessel, a push-button mammoth of power and split-second efficiency, is slightly longer, swifter and is driven by more powerful engines.

She will carry about 100 planes, and her steam-powered catapults will be able to put four of them in the air every minute.

The new ship, air-conditioned
The North Sea Fleet will be roughly half this size. Ships for both Fleets are to be built within four years.

Australia will not sell H.M.A.S. “Hobart” The Minister for the Navy, Senator Neil O’Sullivan, last month roused the surprise of the Australian cruiser Hobart would be sold. No such proposal had been made, he said.

The Hobart underwent a £135,000 refit at Newcastle Dockyard between 1952 and last year.

Gloucester Cup goes to “Quadrant” again For the second year in succession the Duke of Gloucester’s Cup has been awarded to “Quadrant.” In 1953 her Captain was C.B., D.S.O., Captain J. H. G. Gurney; now it has been awarded to her Captain when she was vice-captain, D.S.C., R.A.N., Captain T. K. Morrison, O.B.E., A.D.C., R.A.N. and officers and men who had served in her in 1953.

Her Captain when she was awarded the cup for 1954 was Captain T. K. Morrison, O.B.E., D.S.C., R.A.N., now Australian Naval Attache in Washington.

Russian Navy chief reported sacked British Press reports, quoting “reliable sources,” last month said that the commander-in-chief of the Soviet Navy, Admiral of the Fleet Nicolai G. Kuznetsov, had been dismissed and replaced by his deputy, Admiral S. G. Gorshkov.

Admiral Kuznetsov, who had a meteoric rise to power, became the head of the Soviet Navy at the age of 37.

At the recent Communist Party Congress in Moscow he lost his post on the party’s central committee.

He was appointed to the committee at the 19th congress in 1952, a few months before Stalin’s death.

Several of his colleagues at the top of the Navy Command have also lost their places as full or candidate members of the Central Committee.

Compensation paid by Russia to U.S.A. The U.S. State Department last month announced that Russia had paid £322,000 as half the cost of a U.S. Navy Neptune plane Soviet fighters shot down over the Bering Sea last June.

The incident occurred at a time when State Secretary Dulles and Soviet Foreign Minister Molotov were in San Francisco at a conference of the United Nations.

Mr. Dulles suggested that Russia pay at least half the cost of the Neptune.

The Naval Board has congratulated the Captain of the Quatadrant (Captain V. A. T. Smith, D.S.C., A.D.C., R.A.N.) and officers and men who had served in her in 1953.

Free Diving, by Dimitri Rebikoff (translated from the French by Mervyn Savill; published by Sidgwick & Jackson (London). This is a book which should be read by everyone, not only “aquanauts” — all who go down to the sea in SCUBA.

To quote Rebikoff: “The physical and moral courage of the underwater explorer cannot be measured in metres or feet. As on the mountains, the underwater explorer must set out in a perfectly disciplined group under the leadership of a responsible person, at the same time religiously respecting the experience of his predecessors and the laws of physics if he wishes to discover the wonders of the sea bottom.”

In a chapter “the History of the Free Diving Apparatus,” it is surprising to learn that the first aquanauts of 1865 by Frenchmen Rouquayrol and Denayrouze. However, it was not until the invention of rubber fins by another Frenchman, Commandant de Corlieu, in 1926 and the advent of the high pressure cylinder only made possible through modern industrial methods, that free diving became a practical reality.

The credit for bringing into service together the essential elements, mask, fins, cylinder, demand regulator, belongs to Commandant de Corlieu, in 1926 and the advent of the high pressure cylinder only made possible through modern industrial methods, that free diving became a practical reality.

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Dimitri Rebikoff is Vice President of the Submarine Institute in Cannes, France, and is one of the world’s best known underwater photographers. He is a consulting engineer, and after the war designed the first electronic flashcube in Europe.

The book is designed and manufactured the Rebikoff Colorimeter. His famous Torpille, the electronic flashbait for underwater work, appeared in 1949. He has since perfected a continuous light movie torpedo, which provides power for the camera and a propeller, thus making the operator and equipment effortless mobile. At Cannes in 1953, his documentary colour film “Coral Palace” won the Silver Award at the International Film Festival—B.E.K.


Publication last January of the monograph, Okinawa: Victory in the Pacific, concludes the United States Marine Corps’ series of 15 official monographs describing its part in the war in the Pacific.

The 332-page, narrative by Marine Major Charles S. Nichols, Jr., and Henry I. Shaw, Jr., des-
A SOLDIER needs more than a cup of tea and a night's sleep after battle to restore him to his normal physical and mental balance, a group of American scientists have discovered.

This fact, well known to fighting men since World-War-II days, has now been confirmed by a group of American scientists on the basis of field tests conducted during and after actions in Korea.

Results of the tests have now been published in the "Scientific American" and indicate that the battle-weary soldier takes days, and not merely hours, to return to his normal self.

The first group examined were 24 infantrymen posted 200 yards from the front line, subject to occasional stray shells and the constant possibility of attack. These men, examined after a tour of duty, showed normal reactions comparable to those of businessmen who return to work the next day at the office.

The second group were 24 survivors of a hard-fought action in which 61 per cent of their company was wiped out. Only five of these men were without superficial wounds.

Examined 12 hours, five days and 22 days after the action, at first they showed emotional fatigue and excessive secretion of the adrenal gland, with severe upset of the sodium and potassium balance, and a lowered white corpuscle count.

Scientists have discovered that a hundred photographs and 47 maps and charts—S.C., Washington, D.C.—are liberally illustrated with more than a hundred photographs and 47 maps and charts. It is liberally illustrated with more than a hundred photographs and 47 maps and charts—S.C., Washington, D.C.—and from enemy survivors has been integrated into the history.

Two years of research were required to complete the report. It is illustrated with more than a hundred photographs and 47 maps and charts.

From "The World Veteran."
GAS TURBINE SHIP DOING TRIALS

The first merchant ship powered by a gas turbine, the 9,000-ton London oil tanker Arun, has been operating for thousands of hours in the last six months.

Since her sea trials in November, the ship has been under stationary tests at Barry, Glamorgan.

The main object of the tests is to study the effects of all grades of commercial fuels on the turbine. They will continue for another four months, then an even bigger gas turbine will be fitted. "The present turbine is proving itself very well and we hope that the bigger engine will have even lower maintenance costs," a spokesman for the owners (the Shell Company) said yesterday.

"This turbine will put Britain in the front of marine engine building."

THE NAVY LEAGUE

FOR SERIES

WHY WE CELEBRATE EMPIRE DAY

By John K. Lavett
President, the Sydney Branch of The Royal Society of St. George.

IN JANUARY, 1901, Queen Victoria died, at the age of 81, after a record reign of nearly 64 years.

To commemorate the life and activities of this wonderful monarch, a schoolmistress at Hamilton, Ontario, Canada—Mrs. Clemintine Fessenden—decided that on all subsequent anniversaries of Queen Victoria's birthday, May 24, she would give her pupils an address on the benefits derived from the Queen's reign, then declare the rest of the day a holiday. She called the occasion EMPIRE DAY.

The idea rapidly gained popularity throughout the British Empire, until Empire Day became an established National Day in our life.

The idea of Empire has necessarily undergone a marked transformation in recent years. Nowadays, we more commonly refer to our "Empire" as the British Commonwealth of Nations.

As far back as 1926, Lord Balfour—an eminent British statesman—said: "The self-governing members of the Commonwealth of Nations are autonomous communities within the British Empire, equal in status, in no way subordinate to one another in any aspect of their domestic or external affairs, though united by a common allegiance to the Crown and freely associated as Members of the British Commonwealth of Nations."

Lord Balfour made this reference before the passing of the Statute of Westminster in 1931 (which set the course for the Commonwealth of Nations as we envisage it today), but the essential truth of his statement still holds good.

All that which binds people in unity is to be prized. Empire Day or, if you like, British Commonwealth Day, with its annual com-
The souls of free people have a domain and peace. Empire Day becomes the world is fast learning this truth and is seeking the factors on which it can stand in unity, freedom, and peace, Empire Day becomes of major importance in the scheme of things.

What can we say as to the future of our Empire—our Commonwealth of Nations? What of our destiny?

Our destiny, under a kind providence, will be just what we will make it. It rests in our hands—your hands. A deep and safe and broad foundation has been laid for a bright future.

We in Australia are imbued with the healthy and loyal sentiment which has prevailed in Great Britain for centuries. We are attached to her forms of government, we cherish her precedents and traditions. We have passed from youth to manhood. We are now a fully-fledged Nation within the Commonwealth of Nations in which each allied nation is free and equal but united by a common recognition of and allegiance to the Crown.

May 24, to use the popular term, is Empire Day, a day when we may rededicate ourselves to the common patriotism required of us. Let no one fear to cultivate patriotism to make men illiberal in feeling towards mankind in general. Is any man the worse citizen for being a good son, or brother, or father or husband?

This is a great Empire to which you and I belong. We must never forget our duty to it and to our Creator and our beloved and gracious Queen.

"Then on! Then on! Where duty leads. Our course he onward still."

An aerial view of the flight deck of Australia's new carrier, H.M.A.S. "Melbourne," as she steamed along the Australian coast last month. The carrier arrived in Fremantle on April 23.

THE STORY OF THE NAVAL CROWN

By "TAFFRAIL"—In London

The "Naval Crown," of alternate sterns of old-fashioned ships alternating with square sails, is now incorporated in the badges of all Her Majesty's Ships, as part of the design for use on various naval monuments and by the Imperial War Graves Commission on naval tombs.

It also figures in the badges of the Royal Naval Mine-sweeping Service; the Navy League; the Royal Naval Association, a fraternity of ex-members of the Navy, the Royal Marine and the various Naval Reserves; and of yacht clubs with naval affiliations. It is worn on the buttons and cap badges of the "standard," though not obligatory, uniforms established in 1918 for the Merchant Navy, and is displayed in many other ways, usually in red or in gold, such as befitting or the worn by those who have or have belonged to the Royal Navy.

The "Naval or Royal Crown," the word nautical meaning a column or pillar adorned with the sculptured beaks of ancient palmyreas, has never been official.

Among the ancients, when first introduced, a crown had no regal or royal significance. It started as a simple garland or wreath of leaves and flowers worn round the head by those who had distinguished themselves in the athletic games as a temporary badge of prowess given on the spot.

Later, as the "Triumphalis" of golden laurel leaves, was awarded to a victorious general, and the "Corona Muraltis," adorned with turrets, to the first soldier who scaled the walls of a besieged city. The "Corona Triumphalis," of golden laurel leaves, was awarded to a victorious general, and the "Corona Muralis," adorned with turrets, to the first soldier who scaled the walls of a besieged city. It originated, we may assume, well before the fifth century, and was the precursor of the Naval Crown used by navies.

In 1666 Sir Robert Holmes received a Naval Crown as part of the "honourable augmentation" of arms granted to him by Charles II for his brilliant services against the Dutch, and since then many naval officers of distinction, though by no means all, adopted the same emblem on receiving a grant of arms or an augmentation to those they already bore. The badge, too, formed part of the arms of Greenwich Hospital for Seamen when it was established in 1703.

It was used as an "augmentation" to his coat-of-arms by Lord Howe when he became a peer after the successful relief of Gibraltar in 1782; 12 years before his battle of "The Glorious First of June." Nelson's case is more interesting. In 1797, after the Battle of the Nile, for which he was created a baron, he was granted various "honourable augmentations" to his armorial bearings. The motto of his coat, "Palmam qui meruit ferat," was changed, as was the beak of the right-hand holding a staff with a Commodore's broad pendant, and on the other a lion rampant, regardant, having in its mouth a broken staff with the Spanish flag.

In 1798, after the Battle of the Nile, for which he was created a baron, he was granted various "honourable augmentations" to his armorial bearings. The motto of his coat, "Palmam qui meruit ferat," was changed, as was the beak of the right-hand holding a staff with a Commodore's broad pendant, and on the other a lion rampant, regardant, having in its mouth a broken staff with the Spanish flag.

In 1797, his coat-of-arms was supported on one side by an eagle holding a thunderbolt, and on the other by a winged horse charged with a fleur-de-lis, symbolical of his capture of the French 74-gun ship Pegasus in April, 1782, for which he had been created a Knight of the Bath, then in only one class. His crest had the upper half of Pegasus, the winged horses, issuing from a Naval Crown.

Nelson's case is more interesting. As a Commodore he was created a K.B. for the battle of Cape St. Vincent, and was granted "armorial enigmas" in October, 1797, his crest being the stern of a Spanish man-of-war bearing the name San Josef, the ship he had boarded and captured during the action.

Knights of the Bath were entitled to "supporters" to the shield or escutcheon bearing their arms, and a month after the original grant he was given on one side a sailor armed with a cutlass and a pair of panniers, his right hand holding a staff with a Commodore's broad pendant, and on the other a lion rampant, regardant, having in its mouth a broken staff with the Spanish flag.

In 1798, after the Battle of the Nile, for which he was created a baron, he was granted various "honourable augmentations" to his armorial bearings. The motto of his coat, "Palmam qui meruit ferat," was changed, as was the beak of the right-hand holding a staff with a Commodore's broad pendant, and on the other a lion rampant, regardant, having in its mouth a broken staff with the Spanish flag.
Admiral of the Fleet, Viscount Cunningham of Hyndhope, has two albatrosses as supporters, and his crest is officially described as—"issuant from a Naval Crown a unicorn's head argent, armed, maned and tufted, or, langued gules."

It was in commemoration of its gallant work in the First World War, largely at the personal wish of King George V, that the Merchant Service became known as the Merchant Navy, and an Order in Council prescribed an official or standard uniform with badges and buttons bearing the Naval Crown. The order has never been enforced, many shipping companies preferring to retain their own uniforms which had been traditional for years.

To come to more modern times. Sir John Fisher had no naval crown as a crest or on his escutcheon when created a baron in 1909: but the latter contained the stern of an old-fashioned ship-of-war and his supporters were two straw-hatted sailors of the period.

The Naval Crown appeared in Lord Jellicoe's armorial bearings in the shape of the crest, which was a demi-wolf azure arising out of the crown. Lord Beatty was content with naval supporters, a sailor and a Royal Marine. Admirals of the Fleet Sir Charles Madden and Sir Reginald Tyrwhitt were both created baronets after the First World War. The first-named had a Naval Crown on his escutcheon, and the second, a sailor as one of his supporters.

More recently still, the late Admiral of the Fleet, Lord Keyes, had as his supporters a sailor and a Royal Marine, the sailor carrying a staff with the St. George's palm tree, and a ruined fort, symbolic of the battle.

He also received a second crest in addition to that showing the San Josef. It was officially described as "On a Naval Crown, Or (i.e., gold) the Chelengk, or Plums of Triumph, presented to him by the Grand Seignior . . ." This was the Chelengk he won (or stern) taken from the National Maritime Museum at Greenwich.

Collingwood, Nelson's second-in-command at Trafalgar, already armigerous, was created a baron after the victory and an honourable augmentation made to his escutcheon by the introduction of one of the lions of England, naturally crowned, surmounted by the word "Trafalgar." He also received a second crest showing the stern of his flagship, the Royal Sovereign.

Naval whalers and dinghies race

More than half the tonnage is Norwegian merchant tonnage up

Norway's merchant fleet has grown to 2,439 ships, totalling 7,349,000 gross tons, official figures showed.

More than half the tonnage is tankers.

R.N.S.A. SAILING NOTES

THE East Australian Area—Sailing Association Yacht Schulte has distinguished herself during the current yacht racing season.

This yacht sails under the R.N.S.A. burgee, with Lieutenant L. Cranch, ex-R.A.N.R., at the tiller. She has won the Royal Sydney Yacht Squadron Trophy for the best point score for all yachts in Number 3 Division. She scored 69 points, followed by Walkabout (Lieutenant C. M. Wayland, ex-R.A.N.R.), with 67 points, and Rani (Mr. H. Quinn), 58 points.

Schulte is a Windfall class yacht, the name given to ex-German yachts captured after World War II and given to various R.N.S.A. branches throughout the world.

They Sydney Amateur Sailing Club held invitation races for Naval whalers and dinghies on Saturday, April 14. There was a protest in the whalers' race in that rule 28 (i) of the Yacht Racing Association of N.S.W. was broken. The rule refers to rounding marks properly. As a mark of the course was lifted before the race was completed, the race will be sailed again.

A challenge race for the Braemar Jug was sailed on April 25. Commander R. T. Robertson, D.S.C., R.A.N., Captain of H.M.A.S. Swann, retained the trophy.

The Braemar Silver Jug Challenge Trophy was presented to the Australia Branch by Lieutenant Commander G. Paxton, R.N.V.R., Rear Commodore of the R.N.S.A., as a perpetual challenge trophy. It is contested periodically by 37-foot whalers, coxswains being serving, reserve, or retired officers.

Jeremy Kedge, of Avalon, N.S.W., was one of 33 R.A.N. cadets who passed out as midshipmen on April 23 after a final training cruise on H.M.A.S. Swann. The midshipmen flew the following day from Sydney to Britain for 18 months' training at the Royal Naval College, Dartmouth.

Keep a Good Lookout FOR THE NEXT ISSUE OF THE NAVY
AFTER a year in the Channel Fleet, I found myself, in 1902, appointed to a "gobby," that is one of the port guardships which used to be stationed at various points round the coast of Great Britain and Ireland, for what exact purpose I never discovered.

The ship was the Severn, an obsolete type of cruiser, heavily gunned, but of indifferent seagoing quality. We lay most of the year at a buoy off Harwich. In spite of the odd appearance of the ship, and her antiquated armament and fittings, I felt rather proud of being in command of my small detachment of marines, about 40 of them, and a clumsy old powder firing 18-inch gun on the poop.

When the Captain carried out his annual inspection of one of his tenders, I had also to inspect and render a report on the marine detachment. This was not a very arduous task, as a torpedo gunboat's detachment consisted of a Corporal and three marines. Going on board one of these small ships, after reporting myself to the Corporal and three marines. Going on board one of these small ships, after reporting myself to the Corporal, I walked aft and was received with the customary "present."

This however was not quite as impressive as it might have been, as the "detachment," drawn up, consisted of one man under the Corporal! It appeared that of the "gobbies"—which was assembling at Torbay for annual exercises under Vice-Admiral Sir Gerard Noel. The effort to reach Torbay was almost too much for the antiquated Severn. With some difficulty we managed to get as far as the Nore, and had to be tossed back next day for some further defect to be seen to.

At last we cleared the dockyard and proceeded to stagger round the South Coast at our utmost available speed—13 knots was our full speed, but this was seldom attained. We broke down not less than six times on the way to Torbay and had two hulls* permanently bent on, ready to be hauled. Affairs reached a crisis when our steering gear broke down off Portland Bill and we had to switch to hand steering, with 13 men on the three concentric wheels aft.

As we passed in under the stern of the flagship, everyone on deck became aware of the stony face of the Admiral, as he stepped pacing his stern walk, and fixed a withering look on his laggard cruiser.

After two quiet days by ourselves at Milford, we again found ourselves surrounded by fellow "gobbies" and under orders for sea. Next morning we steamed out in the teeth of a south-west gale, taking our allotted station three miles ahead of the flagship. We discovered this was not as a screening cruiser, but out of consideration for the safety of the remainder of the ships, and our invariable station when cruising with the fleet was either three miles ahead, or astern, of the flagship.

The battleships had preceded us out of harbour and we had to pass through them to reach our position. It was a sight I shall never forget. The "Admiral" class were low freeboard ships, but very heavy with their 16-inch guns and heavy wrought iron armour, and moreover their steering was none too good at the best of times. As the clumsy masses of steel and iron reached the open sea they looked more like a dangerous half submerged reef than a fleet of ships. You could see right down their funnels as they rolled 30 or 40 degrees, in a head sea; what happened in a beam sea I never saw.

After a short stay at Douglas, Isle of Man, where it continued to blow hard, we left for the south. During the passage we had been relegated—for the greater safety of our Fleet, no doubt—to a position three miles astern.

A destroyer attack was to be looked for during the night. This was our unexpected opportunity. The destroyers made their attack on the battle fleet, and passed astern, sighting what only looked like the lights of a tramp steamer coming up behind. Suddenly, to their surprise, our searchlight blazed out and the flotilla came under the close fire of our 18-inch and two 8-inch guns.

We scored heavily, and took our departure from the Fleet two days later with our "stump tail" well up!

* Signal for "not under control."

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A Ship in a Bottle . . .

Children and adults alike are intrigued by those puzzling model ships which find their way into bottles. Some people still attribute it to another mystery of the sea. But all the expert needs is a bottle, several pieces of wood and thin twine—and an endless amount of patience.

His most intricate job is arranging the masts and rigging so they can be raised after the ship has been inserted in the bottle. Lengths of cotton, attached to the tops of the masts and leading out of the bottle, do the trick.

The perfection of detail of some of these ships can be judged by the models which the Bo'sun of this Shell tanker is completing.

Although life on a tanker is extremely active, the crew still has plenty of spare time. One of the most popular hobbies during these off-duty hours is wood carving.

The Shell fleet numbers nearly 100 tankers, which cost more than £135,000,000 each year to run and maintain.

These tankers are continually bringing crude oil to the SHELL refineries at Clyde (N.S.W.) and Goolongong (Vic.). This oil will eventually provide the petroleum products so vital to Australian agriculture and industry.
THE RUSSIAN GESTURE

Neither Britain nor the United States is likely to be caught napping by the Kremlin announcement last month that Russia will cut her armed forces, including her active fleet.

The United States reaction was promptly defined by the U.S. Secretary of Defence, Mr. Charles Wilson, who stated that "we expect to maintain our forces at their present size for years to come and to give them better weapons."

In London, early official comment was wary but newspaper reaction was bluntly cynical. "The Times" Diplomatic Correspondent saw the announcement for "its obvious value as a propaganda gesture," and said the real reason was probably the Soviet need of manpower for industrial expansion. Other London newspapers expressed the view that behind the announcement lay Russia's confidence in her nuclear weapons and her belief that massed armies are becoming obsolete in modern warfare.

The Russian announcement, made in Moscow on May 15, was that she had decided to:

- Disband 63 divisions and separate brigades, including three Air Force divisions and 30,000 men stationed in East Germany;
- Put 375 warships into reserve;
- Reduce armaments, military equipment and military expenditure; and
- Provide the men released with employment in industry and agriculture.

Other Governments, including the Governments of the United States, Britain, and France, in so far as they sincerely want to contribute towards strengthening peace, cannot but follow this example," the Moscow announcement added.

Unofficial Government comment in Washington a few hours after the announcement seized on three important points. The first was that there was no way in which the Western Powers could inform Russia really carries out the reduction of her armed strength. The second was that existing Russian and Western armed strengths were not comparable because Russia maintained her full armed strength after the war while the Western Powers cut theirs. The third was to point to what the First Lord of the Admiralty described as the "necessary changes enable the Navy to meet the latest advances in science and the new developments in strategy?"

The one and only guided weapon trials ship "Girard Ness," is listed officially as part of the Fleet in the coming year. But so far as is known the Navy has not yet fired a single guided missile at sea, although the U.S. Navy has several guided weapon ships operational.

The destroyers to which the First Lord referred were the Fleet escorts—a type of super-Daring class two of which were "arranged to be ordered" last year. The statement shows 21 destroyers in the operational Fleet, but no destroyers or super-Darings in course of construction.

A similar disturbing situation exists with the Royal Navy's "multi-purpose" carrier-borne aircraft carrier. The Sea Venom is virtually obsolete. The DH110 is to replace this aircraft, but not all reports about it are favourable. The only aircraft that looks likely is the N113, which is still in the prototype stage and has not done any deck landing trials.

No, when it comes to reduction of naval forces, Britain and the Commonwealth just can't afford to drop a single warship or a single rating. We have much too big a job ahead trying to catch up to within cover of the leaders.

JUNE, 1956.

THE NAVY


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THE NAVY OF THE ATOMIC AGE

By DONALD BARRY — in London

For many reasons the years since World War II have, for the naval onlooker, been exceedingly confusing and exasperating.

At one time it seemed the value of sea power had been reduced by the advent of the atomic bomb, and there remained no yardstick by which to measure the present or future needs of the Navy. A new Navy was needed for a new age. That was evident. But what form would it take in the thermo-nuclear era?

For obvious security reasons, the Navy cannot reveal its blueprint for the future, but in the past twelve months sufficient information has been made public to enable the onlooker to reach three important conclusions, and on the basis of these conclusions, it is possible, to consider with greater equanimity the future of the Navy. They are:

1. The role of the Navy is unchanged and is just as vital in the age of thermo-nuclear weapons as it was in the days of sail. It is to deny the seas to the enemy (and this includes control of the air over the sea as well as control on the surface and beneath the surface) and ensure the use of the seas by ourselves and our allies.

Obviously the existence of nuclear weapons must affect the design of ships, the composition of fleets and the tactics of naval warfare, but the reason for a Navy is unaltered.

2. A revolution of ideas has been taking place in the Navy: a revolution more important than that actuated by the invention of the steam engine. Many known post-war achievements make this indisputable: the adaptation of jet aircraft for naval use, the incorporation in aircraft carriers of many devices to make possible the operation of faster and heavier aircraft, the introduction of new methods of propulsion. Then, in addition, important preparations have been made for guided weapons to be added to the armament of the fleet, and the practical planning work associated with the design and development of a marine nuclear power plant begun. And to fit the Navy for the way ahead, radical changes have been made in service and living conditions and much "dead wood" has been removed from administrative departments.

3. The Navy knows what it wants and is procedurally putting plans into operation. The newly elected Parliamentary Secretary (the Hon. G. R. Ward) made this point recently in the House of Commons when he said: "We know what ships and aircraft we want and we see clearly the course we must follow to get them."

The dreams of scientists and experimental officers are becoming reality. Since the war, millions of pounds have been allocated for experimental and developmental work. The announcement by the U.S. Navy that 14 others are to be built is proof of this.

In the field of nuclear propulsion the Admiralty has concluded that "nuclear energy may well become, in the future, the main source of propulsion for both naval and merchant ships" and that in the first instance nuclear power will be applied to submarines.

This announcement has momentous implications, but it has been robbed of some of its significance by the fact that the United States Navy already has a nuclear-powered submarine in the Nautilus. Trials have shown this submarine to be a very effective vessel. The announcement by the U.S. Navy that 14 others are to be built is proof of this.

The fact that America leads in this important field is, however, partly due to the fact that the Royal Navy has deliberately pursued projects of more immediate practicability: the development of the new techniques for landing aircraft at sea which have made possible the renaissance of the aircraft carrier, the gas turbine and high test peroxide methods of propulsion, early warning radar and anti-submarine weapons.

Possibly the U.S. Navy would not have advanced so far in the field of nuclear propulsion if they had not benefited by some of these British developments.
Many people in America recognize this important factor and, as a return, would have welcomed, as the New York Times has stated in a leading article, "a greater appreciation between the two English-speaking nations in nuclear development" than the Congressional interpretation of the U.S. atomic energy law has permitted.

The United States has a high regard for Britain's technological skill, as indicated in the same article in the New York Times, which added that now the British are starting to develop their own type of submarine reactor, the United States might be wise, from experience, "that it will contain some ideas worth trying."

The Admiralty has a team at Harwell concerned with the prospect of atomic ship propulsion. It has also been announced that three well-known commercial concerns—Vickers Ltd., Rolls-Royce Ltd., and Foster Wheeler, Ltd.—have formed an industrial group whose first task will be the application of nuclear energy to submarine propulsion.

In the development of guided weapons, Britain would also appear to be lagging behind the United States in their application to naval use. Pictures have been released showing U.S. Navy-guided weapons ships operating in the Caribbean, but such weapons have not yet been tested at sea by the Royal Navy.

A considerable allocation has, however, been made in the Navy Vote this year for the development and adaptation of guided weapons for naval use, and there are two other pointers to progress in this field.

The first is associated with the annexation of the island of Rockall last September. Then the Admiralty stated: "The annexation of this island was necessary since it is within the sector of the sea which is likely to come within the orbit of the projected guided weapons range in the Hebrides."

The second is the expectation that the maintenance ship Grapple, now being converted at Devonport, will operate as a guided weapons trials ship later this year.

Thus, ships propelled by atomic power and armed with guided weapons are no longer a dream of the future, as they were only a few years ago, but the logical and necessary development of naval power. The application of these revolutionary developments, however, is as tardy as it is necessary.

There are those who would kindly pin their faith to the new age and abandon the old. For a nation with such far-reaching overseas responsibilities as Britain, to do this would be folly even in the noisiest days of peace.

New weapons and methods of propulsion can only be made effective by a long process of trial and error. The days of the steam turbine and gun may be numbered, but if they are, their replacement must not come about for many years.

For this reason the Navy must plan for the distant future, be prepared with conventional ships and weapons for all possible immediate eventualities.

The modern conception of a fleet is one of aircraft carriers operating the latest aircraft, powerful ships armed with guided weapons, escorting capital ships, capable of operation with carrier and shore-based air forces, of providing protection for our shipping, submarines and amphibious forces and minesweepers to keep the sea lanes clear for the passage of vital supplies. In this light, the material strength and projects of the Navy must be considered to-day.

The most powerful striking unit of the Navy is the aircraft carrier with her various types of aircraft.

The value of the battleship continues to decline as guided weapons are developed, and now the Vanguard has joined the four 'King George V' battleships in the Reserve Fleet, the eventual passing of this type of ship can no longer be doubted. The battleship would, however, still have an important part to play in any war of the not too distant future. It still remains the most difficult ship to sink and the one against which lesser surface ships would hesitate to pit themselves.

The role of the aircraft carrier, on the other hand, increases in importance. Viscount Montgomery, who at one time doubted the value of the carrier in an atom-age, appears now to have been convinced that it has an important part to play, though he believes that something smaller and cheaper could be designed.

The U.S. Navy, however, is building bigger carriers. The mammoth 70,000-ton Forrestal is to be joined by sister ships and designs for an atomic powered carrier are reported to be on the drawing board. This type of ship may be even bigger than the Forrestal, including two angled decks, instead of one, and six catapults.

The bombing of the vulnerability of the carrier appears to have been laid by the argument that an immobile aerodrome would be in greater danger from atomic attack than a floating carrier base, because the latter's mobility would make it difficult to find, and, when properly supported, very costly to attack.

The Royal Navy, nevertheless, is inclined to the view that the Americans are allowing the carrier to become too big. The emphasis on this side of the Atlantic will be to improve the ability of carriers to operate modern aircraft without increasing their size, and, when vertical or near-vertical take-off becomes a practical possibility at sea, to reduce their size. Needless to say, it will be many years before new methods of take-off become operationally possible.

Britain's present carrier strength is fourteen ships, seven of which are in commission.

On May 16 Britain exploded an atomic weapon in the South Atlantic. The bomb was on the top of a steel tower which disintegrated. Reporters in the minesweeper H.M.A.S. Freemantle, 12 miles from the explosion, felt only a slight shock that failed to ripple the surface of the water.
H.M.S. Triumph, one of those now in reserve, is to be converted for fleet support as a heavy repair ship. Work is proceeding on the construction of one new carrier, H.M.S. Hermes, sister ship of the Centaur, Albion and Bulwark, and on the modernisation of H.M.S. Victorious.

Both these ships, when completed, will be capable of operating the next generation of naval aircraft and some of the aircraft to be borne in the ships will be capable of launching atomic weapons.

The Centaur is this year to be fitted with steam catapults, and improved radar and communications, and H.M.S. Warrior is about to complete a modernisation, including the fitting of an angled deck. Other carriers will be brought up to date in turn. Soon the new fighter-attack group, Hawk, will be based on the N.113, eventual successor of the Sca Sea Hawk, will carry out deck landing trials, while the D.H.110 all-weather fighter is being developed satisfactorily.

In recent years great concern has been expressed about the Navy's cruiser strength. By pre-war numerical comparison it has diminished alarmingly. To-day the White Paper shows only 10 cruisers in commission and 12 in reserve, and these are approaching the end of their useful life. Before naval aircraft assumed many duties formerly done by cruisers, 70 was regarded as the Navy's absolute minimum.

Obviously the Navy has been holding its hand until the basic conception of the guided weapons proie of the future was evolved. Anxiety is to some extent relieved by indications that the Admiralty has now made up its mind on this subject.

This to be found in two recent statements: the first, that the design of the new type cruiser with anti-aircraft guided weapons is going forward; the second, that it has now been found possible to design two fleet escorts (which it was arranged to order last year) with guided weapons instead of anti-aircraft guns, and to order two more of this type.

The first statement, of course, refers to a ship, probably of heavy cruiser category—the direct successor of the conventional cruiser. The second category of ship will be based on the design of the present "Daring" class ships, but will be bigger than any "Daring" and now float and virtually of light cruiser category, though it may not be known as such.

These projected ships will undoubtedly form part of the future battle groups. But when will they join the fleet? The answer to that question is unknown. Until it is known there will continue to be considerable doubt about the cruiser programme in view of Russia's growing naval strength. As a stopgap the three "Tiger" class cruisers, Blake, Tiger and Defence, are being completed with the new fully automatic six inch gun turrets, but even these ships may not be expected to join the fleet for a long time.

Until the cruiser programme assumes a more rosy complexion, to talk of a carrier force supported by guided weapon ships is merely to theorise.

The situation with ships below cruiser size is more satisfactory. These categories are headed by the eight "Daring" class ships, whose performance and seaworthiness are proving to be of high order.

The destroyer force of 68 ships (24 operational) is much smaller than the pre-World War II force, and has been relieved of many defensive duties by the creation of a large frigate force, and it is likely they will be used more as offensive ships and less as "maids-of-all-work."

A very sizeable force of 161 frigates, including 51 of them in commission. The programme of conversion of wartime destroyers into fast anti-submarine frigates is virtually concluded.

Thirty-one ships have been converted and they are expected to be excellent ships for many years. Meanwhile, the momentum of the frigate building programme has increased. By April next some 12 frigates will have joined the fleet. At present 24 are under construction.

In addition, 10 more ships are to be ordered: five anti-submarine vessels of the design proving most satisfactory, one anti-aircraft frigate, one aircraft direction frigate, and three of general purpose design.

The general purpose frigates are designed for any specialised role, but though they are the least costly of the new construction frigates, they each cost about £1,500,000. First rate frigates cost £2,750,000. It is interesting to compare these figures with the cost of a World War I destroyer -£250,000.

As it stands completion, the extent and success of the mine sweeper programme becomes clear. To-day the Navy has 254 ships of this category. Sixty of these are the ocean-going type of World War II vintage, but all the vessels, coastal and inshore types have been built since the war. A further 70 (45 coastal and 25 inshore) are under construction. In the past the cost of this programme has proved to amount to about £75,000,000.

Mine-sweeping is an unspectacular task, but it is vital that we should have an adequate force to keep our sea lanes of communication clear in war. If the Navy failed in this respect all other effort would be of no avail.

The Navy continues its policy of not announcing submarine construction until vessels of this type have been launched. Only two are shown to be under construction. These are the experimental craft Explorer and Excelsior, which employ high test peroxide in a closed cycle heat unit. The potentialities of these craft are unknown, but their speed and endurance under water are expected to set a new standard for the Submarine Service and be of the greatest value to effective anti-submarine training. An intermediate class is known to be under construction, though no details are available. And now nuclear propulsion is also to be applied to submarines, the Service will find itself with further new worlds to conquer.

The Navy of the future is thus taking shape within the Navy of the present. It will be a smaller Navy than the British public has known in this century. Parliament has decreed that it must be based on the deployment of a smaller fleet than at present and limits its size in ships and man-power by the amount of the Navy Vote.

Many will say the Navy is becoming too small. Too small by previously accepted standards, no doubt. But there are, as yet, no standards by which to judge naval power in the nuclear age. Whereas naval power was formerly judged by national merit it is now, in the Western world, calculated by combined strength.

As the First Lord of the Admiralty said in the debate on defence in the House of Lords, "defence in isolation" is no longer practicable. Our security can only be preserved if we stand together, with our allies and pool our efforts in the common cause.

This year, the estimated cost of the Naval programme is £601,670,000. The Navy is the only Service which has been voted more money than last year.

(From the London "cury."
BRITISH COMMENT ON SOVIET WARSHIPS

Everyone was interested to see or hear about the Russian warships which brought Mr. Bulgarin and Mr. Kruschchev to the United Kingdom on their recent visit. The B.B.C.'s Defence Correspondent, Rear-Admiral A. D. Nicholl, C.B., C.B.E., D.S.O., had this comment to make about the ships.

"These Soviet warships are fine-looking vessels very clean, with trimmed scrubbed canvas screens on bridges, ladders and gangways. There were large groups of Russian officers and men on deck welcoming the public with broad smiles. The sun shone brightly, and lively Russian music from the ships loudspeakers sounded through the dockyard. Occasionally the music was interrupted and a police voice in excellent English requested visitors to keep moving.

"The Ordzhonikidze is of the same class as the Streltsov which visited Britain for the Royal Coronation Review, and again last October when the British and Russian naval squadrons exchanged visits. She is a cruiser of entirely new design.

"British war-time experience led us to concentrate on a large anti-submarine armament. For example, our cruisers don't carry mines. And a thing I noticed is that the Ordzhonikidze has optical range finders—two in each director and one in each of the four turrets, a total of eight. She has radar as well. We rely entirely on radar for our ranging and have discarded optical range-finders as obsolete, as they are too slow, and we have radar power and a lot of top weight.

"The Soviet destroyers are smaller than our Darings and comparable to our Battle class destroyers. Like the cruisers, and in fact nearly all Soviet warships, they carry mines. I noticed that they have an ice-breaker bow and that they carry rather more radar equipment than our destroyers. This means extra top weight and they compensate for it by having lighter construction above the upper deck.

"Again, it's a question of what is the best compromise. British experience in two world wars with intense operations in the Atlantic, has shown the need for very robust construction. The Russian destroyers have more radar sets, but they wouldn't be able to take rough weather as well as ours.

"I did not see a weapon for throwing depth charges ahead of the ship, of the type fitted in our anti-submarine vessels; but there was a blank space where one could be fitted. I daresay, if the Soviet navy has developed such a weapon.

"To summarise my impressions, I must say that where British ships concentrate on robust construction and the accuracy and speed of hitting with their gun armament, the Soviet navy, perhaps, has more speed, for a larger number of guns, and the ability to lay mines. The Russian cruisers are bigger than ours, but they certainly do not outclass them."

ATOMIC FUEL FOR R.N. SHIPS

*"Nuclear energy may well become the main source of propulsion for both naval and merchant ships . . . The Admiralty's intention will be to employ nuclear power in the first instance in submarines."*—The First Sea Lord's recent announcement.

By "PERISCOPED"

The test of a super-hydrogen bomb in Russia so soon after the failure of the Geneva Conference was well timed. The Soviet rulers well know that a war against the West would bring no worthwhile victory for either side but they want to make quite certain that this is fully realised by the Western nations.

Under the shield of the hydrogen bomb they can pursue with safety their aim of spreading Communism throughout the world. Why destroy themselves needlessly by committing a deliberate act of aggression in the Continent of Europe? Their military strength can be put to better purpose in support of the cold war, wherever they can find a soft spot.

The Kremlins must indeed be noting with satisfaction Britain's efforts to add a substantial number of V-bombers to the already adequate deterrent provided by the massive United States Strategic Air Force. With our limited resources we cannot give priority to all our defence requirements. But in the event of a major war Russia's first object would be the elimination of this country. It is thus essential that we should have the best possible anti-aircraft defences and that our Navy should be strong enough for offensive operations to reduce the scale of attack.

The Navy, too, will have a vital part to play in safeguarding the essential imports of food and oil and manufactured goods to enable us to survive.

With V-bombers costing about £600,000 each and the need to equip our armed Forces with modern weapons and gear them to a nuclear capability there are likely to be heavy cuts in what are called conventional forces. The Board of Admiralty may well have to fight hard even to obtain an adequate number of the "guided missile" ships which have been promised as replacements for our aged and war-weary cruisers.

No doubt the First Sea Lord has all these considerations very much in mind. For he is doing a great deal at the present time to maintain public interest in the Navy, notably in emphasising our intention to have submarines with an atomic power plant. Whether this announcement will not prove embarrassing to Government spokesmen remains to be seen, for

UMBRILLA SHIELDS

Something new in building operations is helping work to be done unhindered on the erection of the 6,183 million atomic power station at Dounreay, Caithness.

A huge "umbrella" of 1,100 yards of black-tipped material now covers the half-completed sphere at the site, shielding the construction workers from rain and cold winds so that they can maintain a fast schedule in all weathers. Inside the half-finished hall engineers are building the centre of an atomic furnace.

It was by no means a straightforward job to produce this "umbrella." The making of the covering
his important qualification "but the Royal Navy will not have them for some years"

A few weeks ago the U.S.S. Nautilus—the first submarine in the world to be built with an atomic power plant—completed 25,000 miles without refuelling on her trials. It was also announced at the same time that the land-based reactor which was the prototype plant for the Nautilus was then being refuelled for the prototype time after two and a half years of continuous operation. Why do we delay in building submarines with this remarkable performance?

In view of what is already known to atomic scientists and marine engineers, there is a great deal of unnecessary secrecy, both in this country and in the United States, regarding new forms of propulsion for ships. The building of the Nautilus and Sea Wolf was the direct outcome of the conviction (then) Captain Rickover, U.S.N., that the United States Navy must have a submarine "which could proceed submerged indefinitely at high speed."

Because of the large reactor core and consequent heavy shielding required at that time, they are very large vessels—well over 3,000 tons—even presenting a good target for asdic and being less handy and manoeuvrable submerged than the normal submarine.

Moreover, the noise of the heat exchanger pumps is audible in the hydrophones for several miles, though this difficulty is likely to be overcome in the Sea Wolf and later submarines which use liquid metals instead of water as a heat exchanger.

All these disadvantages seem to have been accepted by the U.S. Navy and had we had available the necessary fuel we might well have followed the Americans and built two similar vessels as an alternative to those 20,000-ton "Hermes" class aircraft carriers, at a total cost of £36,000,000. Instead, the Royal Navy investigated over a number of years the performance of one of the 100 German submarines of 850 tons building, but not completed at the end of the war, which were to have had engines using hydrogen peroxide and light diesel oil.

It is known from authoritative German sources that a maximum endurance and speed submerged of 158 miles at 25 knots was claimed for these vessels, which, in the opinion of many submarine experts, meets at least the essential requirements of the true submarine.

Very high speed, it should be noted, cannot be used while attacking owing to the strong hydrophone effect in a surface ship’s asdic installation given by the wake of a fast-moving vessel.

It is primarily for use in burns—when the submarine believes the hunting vessel has temporarily lost asdic contact—and subsequently when she feels she can safely continue at high speed, to take her right out of the area. High speed submerged may also be required for an hour or two to intercept a target, with aircraft escort, reported 50 or 100 miles away.

In any event, the Admiralty must consider that a performance of this nature is sufficient as a pilot case for a submarine with engines using hydrogen peroxide has now been built and another is completing, for the Royal Navy.

None the less, there are obvious advantages in having submarines which can proceed for prolonged periods at a speed of 25-30 knots, whether submerged or on the surface.

Designers can thus now think in terms of fast neutron reactors with cores no larger than a 400,000 gallon petrol drum (with a consequent substantial saving in the weight of shielding required) which makes it practicable to install an atomic power plant in a relatively small submarine.

Hence the building of these vessels is becoming purely a question of expense (for reactors are still very costly) in relation to our other defence commitments.

TT was on a clear, crisp morning in February 1941 that a little fishing smack, which had been left behind, Norway chugged its way into Lerwick harbour in the Shetlands, off the Scottish mainland. Its crew were a strange collection, with callings ranging from an air mechanic to a bus driver, but all shared the approaching friendly coastline with justifiable pride.

The rough crossing of the North Sea would have taxed far more experienced seamen, but, more important still, they had successfully escaped from their homeland which now lay in the grip of the Germans.

At the helm of the four-wheelhouse boat Leif Andreas Larsen, then 35 years old, as the master of a small passenger ship operating from his birthplace of Bergen in Norway, the crew was certainly no stranger to him, but he had never before attempted such a long journey in so frail a craft as the one he and his comrades had clubbed together to buy for their escape.

His lean, weather-tanned face, turned to the guardship now leading them to England, told of the stories befalling them and their companions, and for that matter still is, an exceptionally quiet and modest man, and had he known what honours lay ahead for him no one could have guessed the emotional torment he would probably have felt.

There were times when he wondered if he would ever get to sea again, but he stuck with it and his vessel was the most peaceful and lucid of the group he was in, and from that moment he remained a skipper for the rest of his career.

It seems strange to us, but on every trip the Gang were visiting their own country they sometimes took the opportunity to call on their families, dodging the German troops with the help of their civilian friends.

Now the point about the Shetlands Gang was explained their success but at the same time accounted for the great danger of their job, was that they used ordinary little Norwegian fishing smacks which usually went unnoticed in their home waters. In these the Gang took over or brought back secret agents and delivered guns and high explosives.

As camouflage the little craft were ideal but the trouble was that in the storms so often met on the long journeys which were anything up to a thousand miles, they were tossed about like nutshells and called for the greatest skill in handling. In addition, if intercepted by petrol boats, as they sometimes were, they had little hope of being picked up.

The lanes they used to and from Norway were far too near the enemy for any shipping to follow, so that even if they managed to escape an attack, crippled, they had little hope of being picked up. They were very brave men.

Larsen had not made trips 3,000 tons in the craft in which he was serving, and the Gang being in hiding in Norway. They were split up, Larsen assumed command of the group he was in, and from that moment onwards he remained a skipper for the rest of his career.

If you were asked who holds the highest number of British naval decorations, both as a rating and as an officer, you would hardly imagine the answer to be a foreigner who was never even in the Royal Navy.

FISHING SMACK v TIRPITZ

By RONALD PAYNE
SYDNEY'S WELCOME TO NEW CARRIER

SYDNEY gave the R.A.N.'s new aircraft carrier H.M.A.S. Melbourne one of the greatest welcomes ever given to an Australian warship when it arrived on May 9.

Navy vessels which escorted the Melbourne up the Harbour included the carrier H.M.A.S. Sydney, the frigates Queenborough and Quondam, the destroyer Arunta, and the British submarine Thorough.

Twenty-two naval aircraft flew overhead as the Melbourne entered the Heads.

Three thousand people stood on Garden Island and cheered noisily as the carrier berthed. They included wives and children of many of the men aboard.

On her way along the Australian coast the Melbourne and the Sydney made a ceremonial rendezvous. This was off Kangaroo Island (S.A.) on April 20.

The Sydney approached the Melbourne from ahead, executed a turn of 180 degrees, and took station of her port beam. The Sydney was wearing the flag of Rear-Admiral H. M. Burrell, Flag Officer commanding the Australian Fleet.

The Melbourne saluted the Rear-Admiral's flag with 13 guns and the flagship replied with seven guns.

Both ships paraded guards and bands were fallen in.

In Melbourne the Lord Mayor, Sir Frank Scllich, at a civic reception to the Captain of H.M.A.S. Melbourne, Captain G. G. O. Gatacre, and members of the ship's company, presented a silver plaque to the ship.

It is inscribed: "This plaque was presented to H.M.A.S. Melbourne by the Lord Mayor, Councillors, and citizens of Melbourne to commemorate the commissioning of the ship."

In Sydney, Captain Gatacre told a Press conference that the Melbourne would be the most lethal unit of the Australian Fleet.

It had the new angled deck, steam catapults, mirror landing aids, and a force of hard-hitting anti-submarine aircraft.

The addition of the Melbourne to the Australian Fleet would bring it into line with the fleets of other countries, he said.

Most of the 1,000 men on board the carrier went on leave soon after it berthed in Sydney.

Sydney newspapers featured the fact that 60 members of the ship's company married in England while waiting to bring the ship to Australia. Some newspapers called the Melbourne the "cupid carrier."

The Melbourne became the flagship of the Australian Fleet on May 14, when Rear-Admiral Burrell transferred his flag to her from the Sydney.
On May 7 in Melbourne the master of the Italian liner Toscanana was fined the maximum of £1000 in the District Court for having failed to keep life-saving equipment in his ship ready for use. The master Giuseppe Bonvento, who is on his last voyage before retiring, pleaded guilty. Thomas Alan Coles, an officer of the Commonwealth Investigation Service, told the Court that two of the ship's 16 lifeboats were rotten, and galvanised water containers were holed and corroded. Coles said that Bonvento had received an international safety certificate at Trieste on March 15.

In Port Melbourne Court on April 19, the master of the Italian liner Surriento was fined £100 for having failed to keep life-saving equipment in his ship ready for use. Inspections at Fremantle this year have revealed defective life-saving equipment on seven migrant liners.

Complimented on fast ship repair job

The P. & O. Company was so pleased with the speed with which Australian workmen carried out repairs to its 29,000-ton liner Iberia that it entertained them and their wives to afternoon tea aboard the ship.

Ninety men employed by the Coctatoos Docks and Engineering Co. Pty. Ltd. in Sydney repaired the badly damaged side of the Iberia in 17 days—one day ahead of schedule.

The commander of the Iberia, Captain G. A. Wild, said: "In no other port in the world could work be carried out as well or so quickly." The damage was caused when the Iberia, on its way to Australia, collided with an oil tanker near Colombo late in March.

In Sydney two shifts of 45 men worked 24 hours a day seven days a week to complete the repairs. Sea-water distillation plant contract

One of the largest sea-water evaporating and distilling plants in the world, capable of providing 8,000 tons of fresh water daily, has been ordered from a Glasgow firm for installation at Aruba Island, Netherlands Antilles.

The contract, worth about £1,600,000, was obtained against intense international competition.

Aruba Island, in the Caribbean, is an area where there is practically no rainfall, and the inhabitants are entirely dependent on fresh water distilled from the sea for all their needs. During the past 30 years, the Glasgow firm concerned has installed a number of smaller plants in the island, each with an output of 300 tons a day, but increasing local demands now call for a much greater supply.

The new plant, which will be completed in 1938, will comprise four evaporating units, each with a daily output of 2,000 tons of fresh water. A fifth similar unit may be ordered within the next six months.

Among recent large orders received by the same contractors for sea-water distilling plant are two for the Lobitos oil fields in Peru to supply 270 and 500 tons of fresh water daily. The first of these occupying a complete special train, was recently despatched to Liverpool for shipment. Another installation has just been completed at Kuwait in the Persian Gulf, and is producing about 4,000 tons a day for domestic supplies in the town.

New 40,000-tonner for B.P. fleet

Confident that air traffic is more likely to produce new passenger traffic than to lessen the present sea traffic, is stated to be at the base of the proposal of the Orient Steam Navigation Co. Ltd., to build a 40,000-ton liner for the United Kingdom-Pacific sea routes.

Mr. A. I. Anderson, chairman, told the recent annual meeting of the company that the new ship would have a service speed of 27 knots, which is 4 ½ knots faster than the ships of the Orcaes class.

He said that this was the minimum advance in speed that would give five voyages a year to Australia with itineraries that could be suitably phased in with those of their other vessels.

To obtain 27 knots without an unduly large increase in oil consumption, the minimum length of the ship would have to be about 800 feet.

"If, as we at present intend, the new ship spends much of her time running between the United Kingdom and North America via Australia and New Zealand, she will do this much longer round voyage in much the same time as our pre-war ships now do the round voyage between here and Sydney," said Mr. Anderson.

Extending shipping facilities in Sydney

The New South Wales Maritime Services Board has completed the first stage of a major plan to extend deep-sea shipping facilities in Sydney Harbour.

The plan provides for the demolition of Glebe Island Bridge, deepening of Blackwattle and Rozelle Bays, and removal of large timber yards from these bays to Homebush Bay.

Oil storages on the harbour foreshores will also be removed to Homebush Bay.

The Board has reclaimed 94 acres of land in Homebush Bay as new sites for the timber yards and other harbour industries.

It will ultimately reclaim about 400 acres of what is now swamp land.
still, they were, in fact, civilians themselves.

Their unit, for want of a better name, was called Military Establish- ment No. 7 but they received a few pounds as civilians for each trip they made. They were commanded by a British Army Officer, who was controlled by the Admiralty, who in turn received instructions and intelligence from Lord Chil- tern Court above Baker Street Station in London.

They must have been one of the most unorthodox fighting forma- tions ever to receive official recog- nition. But the Germans were un- impressed by such niceties. The Gang were a painful thorn in their side and too many were shot or disappeared after they were captured.

Larsen had been having a secret family reunion, after the war and a long cross-country tramp, when some men the Admiralty had posted in the village noticed his secret hold. The men hoarded themselves into the house and told them the many brilliant minds, that included the many brilliant minds, that included the German couriers and the Arthur for the job. The idea had certainly oc- curred to him before, but only a wild dream. He had never even considered that the Admiralty would take seriously the notion of putting a fishing smack against 400,000 tons of concentrated Armour.

But he forgot to take into ac- count the many brilliant minds, that included the German couriers and the Arthur for the job. The idea had certainly oc- curred to him before, but only a wild dream. He had never even considered that the Admiralty would take seriously the notion of putting a fishing smack against 400,000 tons of concentrated Armour.

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and Whitney turbo-jet engines, the skywarrior is capable of speeds in the 600-700 m.p.h. range, and has a service ceiling of over 40,000 feet on combat missions. According to Vice-Admiral T. S. Combs, Deputy Chief of Naval Operations for Air, the A3D is a significant advance on the Navy's programme of jet modernisation of the fleet.

"It will extend the striking range of our carriers beyond any point hitherto attained," the Ad-

miral says.

The F8U Crusader is one of the world's first aircraft to operate in an entirely new speed range well beyond the supersonic. The Navy has placed orders totalling 145,000,000 dollars for the plane.

The carrier tests of the three planes included a total of 29 catapult launchings and 29 arrested landings.

A U.S. Navy spokesman described the tests as "generally satisfactory."

R.N.Z.N. cruiser is commissioned

The Royal New Zealand Navy's newly acquired cruiser Royalist was commissioned at Devonport during April. She will be doing a series of trials in the North Sea, before sailing for New Zealand later in the year to be flagship of the Royal New Zealand Navy.

Acquired by the New Zealand Government from the Admiralty, the Royalist is of the improved Dido class, 5,900 tons, 512 ft. in length and with a 52 ft. beam. Her main armament consists of eight 5.25 in high angle/low angle guns. She has the latest gun direction equipment and air and surface radar.

Soldiers commemorate loss of H.M.A.S. Centaur

The 3/12 Australian Field Ambulance unit held a service at the Cenotaph, Sydney, on May 14, to commemorate sinking of the Australian hospital ship, H.M.A.S. Centaur.

The unit was serving on the Centaur when she was sunk. A Japanese submarine torpedoed the ship 40 miles off Brisbane on May 14, 1953.

Of 1,362 aboard, 299 lost their lives, including doctors, crew, and 11 of 12 nursing sisters.

The ship was not carrying patients.

British submarine in collision

The 1,090-ton British submarine Talent was damaged in a collision off the Isle of Wight, the Admiralty announced on May 9.

Travelling at periscope depth it collided with a tanker.

The Talent returned safely to base under its own power with a bent periscope and superstructure damage.

"From the Crack of the Pistol," by F. S. Horan, published by Longmans (Dorchester) Ltd. (London).

Occasionally I go to the library to get a book without having any idea of what I want. I go through the shelves picking books at random, opening them, reading a few words here and there (never the last page), studying the title, the author's name, illustrations if any, and finally picking the book I want.

I have no clear idea of what makes me pick any particular book, but I do know what things about a book make me discard it.

From the Crack of the Pistol is a book that I might have discarded very quickly. It has an uninteresting jacket: it was written by a retired pirate in his eighties (he is now 86). The photographic illustrations are not in any way inspiring. It is subtitled "A Personal Saga" and it starts off with an "Author's Apology." It is full of quotations, and quote marks. Exclamation marks and footnotes abound, and it has a quite unnecessary (for the general reader) index. But having had to read it to do this review I have this to say: it is one of the most charming (I think charming is the right word) books that I have come across in a long time. It is the simple straightforward biography of a man who was born in 1870 and is still going strong. It is a cross between a personal diary, a parish magazine, a family bible, and a ship's log.

It is not a book that will set the heather on fire, but it will give a lot of pleasure to anyone who has a more dependable method of picking good books off the library shelf than I have. I hope that when I am in my eighties that I will be able to look back on a life that has been one tenth as full and as interesting as F. S. Horan's and that I will be able to write one tenth as attractively as he can.

For the record and in no way critical, as my own spelling and geography are not beyond reproach, but just that I happen to live in Scotland, Grandtown-on-Spey is not in Perthshire and Moffat does not have two t's.

"Air Power." By Asher Lee published by Duckworth (London).

Since the days of General William Mitchell, plans to combine the three fighting services have repeatedly appeared. Whenever they do so, they provoke violent controversy and some of this controversy arises from the powerful (and praiseworthy) loyalties of individuals to their own service. Nevertheless, the subject is one which requires examination and it is a possibility that the day will come when some form of combination will be tried.

Mr. Asher Lee speaks with considerable authority on such matters because he spent a great deal of time on the Air Intelligence Staff of the Royal Air Force and because he has made careful, and indeed, classic studies of the German Air Force and of the Soviet Air Force. He tends to the view that a combination of the services might be an advantage, at any rate at certain levels, and he directs
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I. C. UTTIE  CO. m.  LIB., KIT! • «.  *

ever, that Mr. Asher Lee has 2 6 case for or against combining  the stage. This led to keen rivalry between services. The work covers a wider field and takes in its scope such matters as the value of strategic bombing, the use of transport aircraft and of parachute troops and the employment of new ballistic missiles and vertical take-off aircraft. On naval air power the author is clear and concise and he believes that in the future more than in the past air power will be needed to stave off the menace of enemy submarines.

It is not an easy book to read. It must have been a very difficult book to write. It is not for picking up and laying down or for reading in bed. It is a round by round painstaking record of the Dieppe Raid. It is not entertainment. It is heavy going, but I am prepared to accept it as a valid historical document.

If you took part in the Raid or if you are interested in this sort of thing, it will well repay the time taken in studying it — reading is not enough.

There are several quotes in it that appealed to me, e.g., this entry in the Germany War Diary at the Headquarters of the Commander-in-Chief in the West, continued on page 26.

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New Appointments For R.A.N. Officers Announced

New appointments for two senior officers of the Royal Australian Navy were announced by the Minister for the Navy, Senator Neil O'Sullivan, last month.

Captain R. Rhodes, D.S.C., W.A.D.C., R.A.N., at present Captain (D) of the 19th Destroyer Squadron and commanding officer of the Battle class destroyer Tobruk, serving with her sister ship Avoca in Malayan waters, has been appointed Captain of H.M.A.S. Watson, the Navigation Director School at South Head, Sydney.

Commander R. T. Power, R.A.N., Naval Assistant (Executive) to the Second Naval Member of the Naval Board, has been appointed Captain of the Port, Sydney, in the acting rank of Captain.

Both officers are graduates of the Royal Australian Naval College and served with distinction in World War II.

Captain Rhodes, among other things, commanded the destroyer Vendetta on the T-brok ferry run and also took part in the evacuation of Greece and Crete.

After the war he held the post of senior officer of the 1st Frigate Squadron in the rank of commander and then became executive officer of the R.A.N.'s newly established air station at Nowra (N.S.W.). He later left Australia for the United Kingdom on exchange duty with the Royal Navy to take up the appointment of Commander (D) of the Home Fleet Destroyer Squadron. He was promoted to the rank of Captain during this exchange.

On his return to Australia he was appointed Captain of the Air Station at Nowra.

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Captain Whinfield

Captain N. A. Whinfield, Commander of the Orient Line fleet, retired at the end of last month.

He was captain of the company's newest liner, Orsuna, since it was built in 1934. He was appointed Commodore of the fleet on September 1, 1934, Captain Whinfield served in both world wars, and won an award for gallantry in 1916.

Since joining the Orient Line in 1923 he has served on the Orontes, Ormonde, Orient, Orcades, and Orsuna.

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Captain Marks

Captain W. B. M. Marks, D.S.C., R.A.N., has been awarded the Legion of Merit, Degree of Legionnaire, by the Government of the United States, for services against the enemy forces in Korea from early July, 1950, when he was the commanding officer of H.M.A.S. Bataan.

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Announcing this, the Minister for the Navy, Senator Neil O'Sullivan, said that the award had been made to Captain Marks for carrying out the successful bombardment of shore batteries and for outstanding professional skill, resourcefulness and unswerving devotion to duty through blockade operations.

Senator O'Sullivan said that Captain Marks, who is now present was the Director of Naval Ordnance and Underwater Weapons, at Navy Office, Melbourne, had upheld the highest traditions of the Naval Service.

New liner for Australian run

The Port Line has announced that a new freighter, the Port Liner, will be launched at Belfast in September.

The new 8,911-ton liner will trade between England and Australia.

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BOOK REVIEW
Continued from page 24

Field-Marshal von Rundstedt, "1740 hours, 19th August, 1942. No armed Englishman remains on the Continent," and "As a Naval Operation it (the Raid) was a success. The Air Battle was a victory. The Military Operation was a disaster."

Not a book that I would recommend to my maiden aunt, but I am sure many of my war-time friends will read it with much thought.

H.L.
—in the London "Navy."


All those who have enjoyed Mr. Pell's previous work will welcome the appearance of his new novel. This is the life story of a woman, who, against great odds, rises to the heights as an actress to become a legend in her own lifetime. The ups and downs of Avicia Gallant's inner and emotional life are interwoven with the steady ascent of her professional one, and the result is a fast-moving and absorbing story. The detailed background is drawn with the vivid imagery and imagination of a poet, the descriptions and creation of atmosphere are excellent, and the author shows a wide knowledge of character, particularly in the case of the minor parts. Through the story runs the background of the Cornish sea-cost, where the heroine was born, where she returns at a time of crisis when her emotional life has failed, and where she finally finds peace in retirement.

J.C.
—in the London "Navy."

THE NAVY

About 1000 men in the new aircraft-carrier H.M.A.S. "Melbourne" sleep in bunks instead of hammocks. Picture shows E.M.I. Pat Lysaght, of Townsville, reclining on his bunk writing a letter home, while R.E.M. Robin Peterson, of Sydney, looks on.

THE MAGNA CARTA

By JOHN K. LAVETT

President, the Sydney Branch of The Royal Society of St. George.

On June 15, 741 years ago, King John placed his seal on a lump of wax to show that he consented to keep the promises set out in Magna Carta — a document symbolising the foundation stone on which our present liberty is built.

Representing a summary of the native rights of Englishmen, Magna Carta (a Latin expression meaning Great Charter) has many times since been renewed and reaffirmed. Its provisions have been extended to cover more than those who originally drafted it intended, and probably, if they could come to life, they would be amazed at what Magna Carta means to us today.

Magna Carta was at once a grant of liberties made by the King and a treaty between King and Subjects. It declared the fundamental principles of government in accordance with established law and custom, bound all parties to observe those laws and sanctioned armed resistance to any attempt to over-ride or change them without consent.

It was not, in itself, a piece of revolutionary legislation but embodied the basic principles of English political progress that neither King, Bishops, Churchmen, nor commons may over-ride or ignore the law of the land. It is still, happily, part of the law of the land, just as much as any new law passed by Parliament today.

Magna Carta established that no one could be punished without fair trial, that punishment must be proportionate to the offence, and that justice must not be denied, delayed or sold.

Although originally dictated (to a considerable extent) by baronial interests, the Great Charter, nevertheless, corrected evils and wrongs from certain customs and abolished tyrannical practices.

JOIN THE NAVY LEAGUE

The object of the Navy League in Australia, like its older counterpart, the Navy League in Britain, is to insist by all means at its disposal upon the vital importance of Sea Power to the British Commonwealth of Nations. The League 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:

NAVY LEAGUE,
Secretary: 312 Flinders Street, Melbourne, C.1., Victoria.
Secretary: 83 Pitt Street, Sydney, N.S.W.
Hon. Secretary: 12 'Prie 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 Pragg Street, Turner, Canberra, A.C.T.

Published bi-monthly by the Navy League, Box 44, M.I., Melbourne, C.1. June, 1954.
It reaffirmed ancient public rights that had previously been violated and time and again. The sealing of Magna Carta by King John at Runnymede (near Surch), on June 15, 1215, marked a very important epoch in English history, and the event stands out as a striking landmark in the liberties of the British race. Magna Carta is a large sheet of parchment on which were 63 clauses, or chapters, in a neat court hand, a number of clauses in Latin. Originally there were 49 clauses or chapters, but this number was increased to 63. Each clause dealt with a different matter and the interests of nearly all classes of the King's subjects were safeguarded.

Clause 39 of the Charter, for instance, reads: "No Freeman shall be taken or imprisoned or dispossessed or exiled, or in any way destroyed, nor will we go upon him nor send upon him except by the lawful judgement of his Peers or by the law of the land."

Converted into modern-day English and usage, this means that no man shall be punished in any way except by law, and that whenever he be charged with a crime he shall have the right to be tried before a jury composed of his own countrymen.

Another very important clause (No. 40) reads: "No one will go upon us or our realm without our free and safe Demand."

Then there is clause 20 which says, in effect: "No Freeman, merchant or householdman shall be excessively fined for a small offence; the fees shall not be deprived of his means of livelihood."

This clause is as important today as it was in the 13th century, and the carrying out of its provisions is sometimes the greatest of our & faults. To take the case of the seamstress who earned her living by the use of a sewing machine. Bailiffs, acting on the instructions of a creditor, seized the machine, whereupon the woman appealed to a magistrate who declared the law had been broken, and ordered the creditor to return the machine and pay compensation. In this instance, the bailiffs, acting for the creditor, had infringed clause 20 of the Great Charter. The power of seizing his tools by which they earn their living, the woman was restored to her rights. It is the article of Magna Carta which enforces this.

There were many other useful provisions in the Great Charter. It was stipulated, for example, that no widow should be compelled to marry so long as she preferred to live alone without a husband. Illegal fines were stopped and also the practice of seizing goods and vehicles for Royal use without payment.

John has been described as the worst King who ever ruled in England. He had brilliant qualities which he occasionally brought into play in brief spasms of energy, but he was the slave of his own passions and inordinate vices. He was a tyrant and a murderer, often false, deceitful, and cruel, but, oddly enough, England was the gainer, for he made himself as generally detested an instrument of his own country's success as a tyrant and a murderer. The spirit that animated men of noble ideals to cleanse our Empire of tyranny and darkness in the past must animate us in the present-day world. We must resist the temptation to be selfish and desire, but work to make life on earth better, fairer and richer for all.

Let us seek to exercise ourselves that we become living instruments of Him who created us, and that we render to Him our own Divine image and file us with a part of His Divinity. Let us always be conscious that we are His instruments, and know that with faithfulness, service and fidelity to that trust which is laid upon us, we can go forward toward nothing, knowing that our difficulties will melt away as shadows before the glory of the sun.

Let us rejoice that opportunities have been given us to serve, and let us pray that we may be given still more in the days that lie before us and thus help to perpetuate the good that has come from Magna Carta.

Let us commemorate the day by pondering over the subject and reminding ourselves of what it means to us in these times when so many of our rights are being lost all over the world in other countries and when subversive organizations within our own portals are attempting, similarly, to undermine the freedom our forebears so ardently won.

We are spiritual beings with a spiritual destiny to achieve. We must strive to build the new era into which we have recently entered on the foundations of service and spiritual values.

With tolerance, with good-will, with love, with the desire to serve, with the aim of cooperation and advancement of moral standards, we can have enduring peace and a world fashioned in the image of the Father. A high wind sprang up, reducing the number of knots they could make. The whole timetable was in peril. But the marvellous little Trepitchens were not penetrated right into the solid and they refused to be discouraged. The excitement did not end there. Engine trouble developed, necessitating help from a village man-of-war. But he was not of the French Navy. A high wind sprang up, reducing the number of knots they could make. The whole timetable was in peril. But the marvellous little Trepitchens were not penetrated right into the solid and they refused to be discouraged. The excitement did not end there. Engine trouble developed, necessitating help from a village man-of-war. But he was not of the French Navy. The excitement did not end there. Engine trouble developed, necessitating help from a village man-of-war. But he was not of the French Navy.

The Arthur could not return, as her papers were absolutely one way only, and so in the darkness Larsen scuttled her and the men went into hiding. As a foreigner he was not eligible for the Victoria Cross, but the British Government did the next best thing. When at last he was able to give the final order to "Make fast, fore and aft!" and take up again his steady life in Bergen, he held, in addition to his Norwegian decorations, the Conspicuous Gallery Medal (the highest award we can make to a foreigner), the D.S.O., D.S.C., D.S.M. and Bar.

Lief Larsen is certainly a remarkable man. He lives for small boats and since the war he has crossed the North Sea in an aluminium can built to his own design. When he is on water, he is happy. (From the London "Navy")
A THOUGH much of the romance of the sea has ceased with the disappearance of the sailing ship, there are still many occasions when colourful ceremonial returns to brighten up the dull routine of nautical life. In the Royal Navy, for instance, traditions of the sea are jealously preserved.

No officer nor rating, for example, would dare to step on the quarter-deck of a man-of-war without saluting. The exact origin of this is obscure. Some explanations state that the salute was originally to a ship, which in medieval days was placed on the quarter-deck. Others state that it is due to the fact that the seat of command, representative of the royal prerogative, lay there. Probably the true explanation is that it was introduced as a measure of discipline.

Indeed, discipline is the basis of most ceremonial in the Fleet, but there are time-honoured customs that have never been officially recognised in Queen's Regulations or Admiralty Instructions. An example of this is the pay-off of a ship. When she returns home to pay off, the crew are allowed to celebrate their return, and each individual is entitled to a certain sum of money, usually £1,300 each. The total amount paid out to the crew of the ship could be as much as £1,300 each. This sum is known as the "sea-going money" and is paid to the crew as a farewell gift.

Another ancient ceremony, observed in both the Royal Navy and Merchant Service, is the "Crossing the Line" in which those who have crossed the Equator for the first time are shaved with a huge bill of lizards, and then go through a series of amusing ceremonies. These include the "Dunking of the Cockett," a sailor's hat, and the "Piping of the Dart," a steel javelin.

The Royal Navy also has a custom called "The Salute of the Royal Standard," which is fired in honour of a foreign flag during visits by British warships. This is twenty-one guns to a British flag in our waters.

An ancient custom observed in the Royal Navy is that of "Piping the Skip," when the quarter-master pipes the captain on board. Royal Navy, foreign naval officers and commanding officers of the British Navy are honoured in the same manner.

The boatswain's call, used in these cases, is of very ancient origin, being introduced to the English Navy in the sixteenth century, when it was the badge of office of the Lord High Admiral. Another ancient ceremony, observed in both the Royal Navy and Merchant Service, is the "Crossing the Line" in which those who have crossed the Equator for the first time are shaved with a huge bill of lizards, and then go through a series of amusing ceremonies. These include the "Dunking of the Cockett," a sailor's hat, and the "Piping of the Dart," a steel javelin.

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reactor is operated underwater in the other half.

Initially, the Naval Research Laboratory reactor will be operated at 100 watts. It will provide large quantities, or fluxes, of uncharged nuclear particles — neutrons — and other radiation for research.

The reactor will also serve as a major new scientific instrument for the Laboratory's investigations in physics, chemistry, metallurgy, and other scientific fields.

**Victorian Cadets**

The past few weeks have been amongst the busiest on record for the Victorian Sea Cadet Division.

Cadets from T.S. Melbourne and T.S. Anzac took part in ceremonies at the Melbourne Shrine of Remembrance on Anzac Day. At Portland and Bendigo cadets mounted the guard on the Cenotaphs.

Cadets from T.S. Mildura marched in the Anzac Day Parade in that area and were drenched by a sudden downpour of rain during the march.

Empire Youth Sunday again put a heavy demand on the various units. At Geelong, Melbourne, and Bendigo, Sea Cadets paraded the Australian National Flag and led the very large youth parades.

Victorian units extend a hearty welcome to officers and cadets from other divisions who visit areas in which a unit operates.

We shall be pleased to meet and entertain you, just look us up when you are in the State.

D.J.N.

Survivors taken from blazing tanker

Thirty-seven survivors of the burning Norwegian tanker Erling Borthen landed at Dower on May 6.

They abandoned the tanker after it collided in a Channel fog with the freighter Santa Rosa.

Meanwhile the Erling Borthen, carrying 17,000 tons of oil, was burning and the French tug Jean Bart had towed it to just off Boulogne.

The British coastal ship Harbour landed the survivors at Dower.

The survivors included four wives of members of the crew.
More than ninety Sycamores are now in service and the hundredth is being delivered shortly. More than 19,000 hours have been flown by these uniquely versatile aircraft, convertible in a matter of minutes to any of the five major roles—air-sea rescue, ambulance, aerial crane, freighter or five-seater passenger transport.