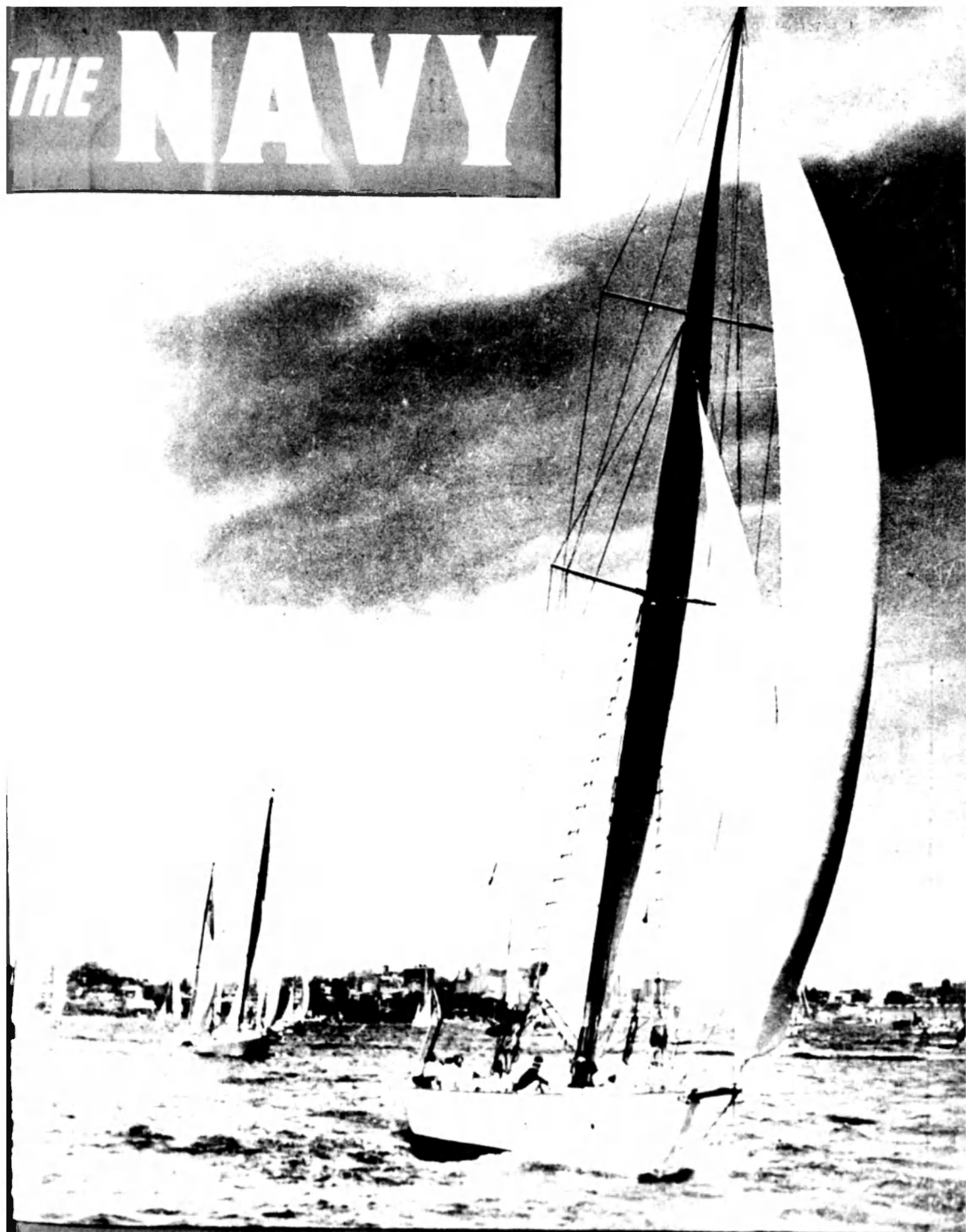


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CONTENTS

Vol. 18.

DECEMBER, 1954.

No. 12.

EDITORIAL:

A Lesson from Menus	4
The Case for the Carriers	5

ARTICLES:

New Methods Are Making Subs. Safer	7
What's Behind the Red Navy Build-up?	8
The Comet ... a Great Salvage Achievement	10
A £50,000,000 Commemo	12
R.N. Ship Visits Sydney	13
The Navy Wants Airmen	14
New Carrier Joins the Fleet	15
Shortage of Men Worries R.A.N.	16
This Little Ship Has a Big Job in the Icy South	23

FEATURES:

Maritime News of the World	18
News of the World's Navies	21
Personalities	26
Reviews	29
For Sea Cadets	30

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Australia's Maritime

Vol. 18.

DECEMBER, 1954.

No. 12.

A LESSON FROM MANUS

The highlight of the Press coverage of the recent Navy-Air exercises around Manus was a reported slanging match—of the unofficial kind—between the R.A.N. and the R.A.A.F. on the relative merits of land-based and carrier-borne aircraft for anti-submarine work.

Press correspondents differed to some extent in their approach to this revelation. For example one correspondent who handed the laurels for sub-hunting to the R.A.A.F.'s Neptunes wrote from an obviously anti-Navy viewpoint. The significance lay in the fact that his dispatches carried a strong flavour of having been inspired by Air Force officers. Another correspondent avoided partisanship but made it clear that a feud did exist between the two services on the anti-submarine issue. He deplored this rift, which he said had gone beyond good, healthy inter-service rivalry.

It is highly doubtful whether the picture is nearly as serious as it has been made out to be. But the correspondents' views at least carry a note of warning which officers in both services should heed.

Submarine-killing is perhaps the most important job which the defence forces will have to face in the event of war. It will demand the best we can possibly muster in tactics, men, weapons, and equipment. If the answer is found to be Army sappers armed with harpoons and mounted on surf-boards then that is the method we must adopt—without considering anyone's pride.

Hard-won experience, however, has shown that the answer is the combined skill and effort of the Navy and the Air Force. Jealousy or any stiff-neck nonsense must not be allowed to blunt its effectiveness.

Of course, no-one would want to suppress the spirit of competition which normally exists between units of a service and between services. It helps keep men on their toes and livens up routine training for war. But there is a vast difference between that and wasteful "feuding," which is a situation no responsible officer would encourage.

In modern warfare there is no such thing as the independence of any of the three services. Whether they like it or not, and there is no reason on earth why they should not, the services are becoming progressively more dependent on each other. Arising out of the interdependence of the Navy and the Air Force in sea warfare has

come the new military expression "maritime power."

This concept of warfare began in the dark days of 1941, when our shipping losses were heavy and escorts were fighting a seemingly impossible battle against the might of Germany's submarine offensive. Gradually joint tactics were evolved for escort ships and long-range, shore-based aircraft. The first joint anti-submarine school was set up at Londonderry, Northern Ireland, to teach the lessons which had been learned in the application of maritime power against submarines.

Those basic principles still apply. In Australia the Australian Joint Anti-submarine School—known familiarly as "Ajass"—has been responsible for welding together elements of the R.A.N. and the R.A.A.F. into a highly efficient sub-killing team which has made practicable a new strategy for guarding our sea communications.

Commander W. Elliot, the first Naval Director of Ajass, recently summed up the importance of Australia's Navy-Air anti-submarine project this way: "People sometimes refer to Australia as being remote. From a military viewpoint is she remote? Certainly not from submarines. They came in the last war, even into Sydney Harbour, and the submarines of the last war were primitive compared with those of the present and of the future. In two great wars the submarine has nearly succeeded in cutting our sea communications. Should a third war come it is quite certain the enemy will make every effort to succeed where before he has twice failed. Our shipping must be protected and the front will be thousands of miles of vulnerable sea communications. The victory over the submarines in the last war has many facets, but neither the naval nor air forces won that victory by themselves. Both shared the responsibility equally, as they will in the future."

THE CASE FOR THE CARRIERS

One of the most important and most effective of the many new roles devised in the development of modern naval warfare is the one allotted to the aircraft carrier.

This was proved beyond doubt in World War II by the part played by carriers in the successful Allied operations in the Atlantic, the Mediterranean, and the Pacific. Since then it has been proved again in the United Nations operations against the Communists in Korea.

The aircraft carrier is not only exceedingly mobile; it is highly deadly, irrespective of whether it is used in offensive or defensive operations. And, because special techniques have been introduced to ensure its protection, its vulnerability is

low. This, also, was demonstrated in World War II by the fact that only three Royal Navy carriers were sunk in convoy by enemy submarines, and no British carriers were sunk after November, 1942—by which time the evolution of protective techniques had become well advanced.

One of the carriers sunk before that date was lost in "Bomb Alley," between Sicily and North Africa, during special operations, when the scale of attack was exceptionally high and concentrated. The other two were auxiliary carriers travelling with convoys which were only lightly screened.

It can be claimed that the losses of ships in the Battle of the Atlantic would have been much heavier than they were if carriers had not been present in convoys to provide air protection during their passage through "the gap"—that area in the centre of the Atlantic which could not be covered by shore-based aircraft.

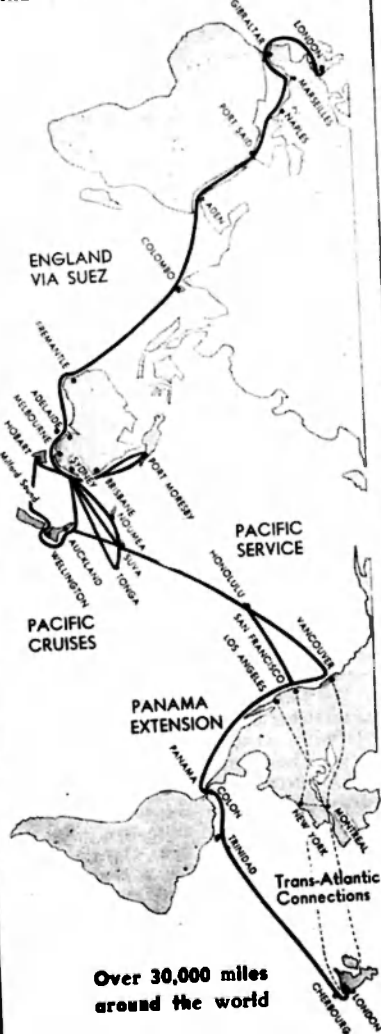
Before carriers began to accompany convoys, the gap had become the graveyard of scores of valuable and urgently-needed merchant ships. These ships had been covered by land-based aircraft for comparatively short distances on one or other side of the Atlantic, but when they reached the limits of the aircraft's range they had been left almost entirely unprotected and had fallen victims to the Nazis' submarine packs. It was not until aircraft carriers were available to patrol the gap that the terrific toll taken of Allied vessels began to decrease to any appreciable extent.

It is possible, too, that the German battleship *Bismark*, as well as enemy submarines, would have remained at liberty to roam the Atlantic if carrier-borne aircraft from the *Victorious* had not made and maintained contact with her after she had left her base, and if torpedo-carrying aircraft from the carrier *Ark Royal* had not crippled her so that she became an easy prey for gun and torpedo fire from other surface ships.

Carrier-borne aircraft also took a leading part in the series of attacks that were made against the German battleship *Tirpitz* and eventually resulted in her being sunk in a Norwegian fjord. Other similar aircraft attacked other German ships, as well as land targets in German-occupied Norway. Besides that, they protected Allied shipping off the Norwegian coast from Nazi bombers and submarines.

In the Mediterranean the losses among Allied convoys, especially in "Bomb Alley," between Sicily and North Africa, through which they all had to pass, would have been much more serious than they were if aircraft from Royal Navy carriers had not been able to shoot large numbers of German and Italian bombers and torpedo planes out of the sky. And 750 Royal Air Force aircraft, nearly all fighters, which helped to defend

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Malta, could not have reached there, owing to the long distance, if they had not been ferried in the *Eagle*, *Argus* and *Furious* and other carriers which were protected by carriers of the West Mediterranean Fleet.

Because carriers are floating aerodromes, R.A.F. fighters from Gibraltar were crowded into those that were used as ferries and were escorted eastward as close to Malta as would allow them to be flown off with a reasonable probability of their reaching their destination. In that way the ferrying carriers were not endangered more than was essential in the bombing zone. The carrier ferrying of aircraft to Malta was continued for many months. It provided the only means by which the air defence of the island was maintained.

But the versatility of aircraft carriers was demonstrated in the Mediterranean in other ways. In the Battle of Matapan carrier-borne aircraft reduced the speed of Italian ships so much that the British naval forces were able to catch up with them and cause havoc among them. In the landing operations in Greece and Crete they provided valuable cover, as they did in the landings in North Africa, the South of France, Sicily, Salerno, and other places.

Naval aircraft operating from ashore played their part alongside those of the air force during the Normandy landing.

The Japanese were the first in the Pacific to show how effective carrier-borne aircraft could be. They could never have made their treacherous, swift, and temporarily disabling attack upon the United States Navy in Pearl Harbour if they had not possessed a carrier fleet. Conversely the Royal Navy, in all likelihood, would not have lost the *Prince of Wales* and *Repulse* off the coast of Malaya if an Allied aircraft carrier had been supporting them.

The initial success achieved by Allied carriers in the Pacific occurred in the Battle of the Coral Sea, in which the large Japanese military force that was on its way to Australia was intercepted by an American-Australian naval force, including United States carriers. The enemy covering force was turned back and overwhelmed. It was only because none of the United States Pacific Fleet carriers were lying in Pearl Harbour when the Japanese struck their unexpected blow that they were available in the Coral Sea and at the many Allied landings made in different parts of the Pacific.

It is generally agreed that those landings could not have been accomplished in the face of strong Japanese opposition if carrier-borne aircraft had not supported them. No Allied land-based aircraft could have got anywhere near striking distance of

Continued on page 20.

NEW METHODS ARE MAKING SUBS SAFER

- When a submarine lies helpless on the ocean bed the crew's chances of survival are slender. But the Navy is evolving new escape methods which will make the submariner's life less hazardous.

By Lieutenant-Commander
NOWELL HALL
in London.

CONSIDERABLE changes are taking place in the British Navy's submarine escape policy. New methods and a great deal of new equipment are coming into use.

The submarine is perhaps the only warship expressly designed for an offensive role in war. Although only about one-fiftieth of the British Navy's total manpower served in submarines in the last war, British submarines sank 290 enemy warships of various types and nearly 2,000,000 tons of merchant shipping. In addition, they damaged scores of ships, including ten major warships.

Because the submarine is primarily a vessel for war, it is not practicable to ensure the same degree of safety for the crew as can be done with other types of warships.

Nevertheless the Admiralty has always devoted close attention to evolving methods of escape from sunken boats. Within the limits imposed by the problem they have achieved much.

Some of the new methods and equipment were explained during a visit I made to Fort Blockhouse, Gosport, Hants, the headquarters of Rear-Admiral B. G. H. Fawkes, Flag Officer Submarines.

In the 29 years of peace since 1920 Britain has had an average of 50 submarines in commission. During that time there have been only ten disasters. Of these, four were due to failure of either drill or material, or a combination of both. The other six resulted from

a collision between a submarine and a vessel on the surface.

Mostly, the disasters were attended by heavy losses among the submarine crews. Experience has shown that survival chances of men in a sunken submarine are limited.

These hazards are accepted by every member of every submarine service. All the painstaking research carried out by the British Navy, or any other navy, can do no more than reduce the possibility of submarine accidents. But the research that is going on does considerably improve crews' chances of survival.

Meticulous Care Needed.

The final answer to saving lives is not the provision of more and better escape gear, but exercising meticulous care concerning everything to do with the operation of a submarine and methodically checking and maintaining all equipment.

At Fort Blockhouse I was told of many new escape and safety devices which are to be installed in future British submarines. These devices—some of which will probably be adopted in due course by other N.A.T.O. navies—will be duplicated at either end of the boats. They include:

A one-man—instead of the existing larger two-men—escape chamber. This can be more quickly flooded, allowing men to leave the stricken submarine in rapid succession when it lies in water as deep as 300 feet.

A "built in" breathing system. This is a permanent interior fitting permitting each member of the crew to inhale through a separate tube and mouthpiece a

mixture of oxygen and nitrogen stored under pressure in a series of bottles. The men will breathe this mixture while the submarine is being "flooded up"—a process to equalise the pressure within and without the hull and to allow the escape hatches to be opened. This will eliminate the need for men to wear the existing oxygen breathing apparatus during this critical period, and also the risk of them succumbing to oxygen poisoning while they are still in the submarine.

Automatic Distress Signals.

Radio indicator buoys, housed on the casing and releasable from inside the boat, will be used to show the submarine's exact position to rescue forces on the surface. A buoy is being designed which will automatically transmit distress signals at regular intervals.

Underwater telephones and underwater signal ejectors for firing smoke candles are other new devices.

An American submarine diving bell, which in suitable conditions can be lowered over a sunken submarine and clamped to the escape hatches, is about to undergo trials in the British Navy's salvage vessel *Kingfisher*. This bell can be used effectively 600 feet down.

Inflatable immersion suits are being issued to British submarine crews. These can be blown up by their wearers to protect them from exposure after the ascent.

"Free escape" drill, by which a man can ascend through 300 feet of water without using any breathing aid, is now part of the training given to all submariners at Fort Blockhouse. A concrete tower 100 feet high, filled with a column of water 18 feet across, is used for the purpose. A man ascends from an "escape cham-

Continued on page 9.

WHAT'S BEHIND THE

Russia is hard at work building a massive navy, with significant emphasis on submarines. The British Admiralty estimates that within two to three years Russia will have 500 submarines—167 more than the present combined submarine strength of all NATO countries.

In every shipyard throughout the Soviet Union men and machines are busy on the task of making Russia a first-class naval power.

A great ship-building programme is under way. Even in the interior submarines are being built and then carried to the sea. Russian technicians for some time past have mastered the difficulties of their transportation.

British Naval Intelligence reckons the value of Russia's naval preparations at one-fifth of her total defence budget. And Russia primarily is a land power. It believes that since 1945 Russia has spent the equivalent of £Stg12,000 millions on her navy.

Practically all Russia's warships were built since the war. All except those refitting are kept fully manned and operational. For her navy aircraft she is concentrating on jets, and it is expected that within two years she will have virtually an all-jet navy air force.

In a recent appraisal of Soviet naval strength, the British Admiralty stated: "The (Russian) navy is clearly developing to a considerable extent both the quality and quantity of its men, ships, and air force."

"The frequent and extensive naval exercises conducted by the Soviet Fleets, at times suggestive of 'open seas' tactics, cannot fail to improve the preparedness for war of the ships and the skill of their crews."

The Admiralty estimated that the Russian shipbuilding programme will give Russia by 1956-57 a naval strength comprising—

30 cruisers
150 destroyers
500 submarines
500 M.T.B.'s
1,000 minesweepers
300 escort vessels
4,000 naval aircraft

In addition, the Admiralty included in its estimate "numerous" patrol and landing craft.

It said that as well as having all the orthodox guns, torpedoes, bombs, and mines the Russian navy of 1956-57 will probably

have long-range torpedoes of a greatly improved type, mines with complex anti-sweeping devices, tactical atomic weapons, and guided missiles, both offensive and defensive.

Referring to present Russian naval strength, the Admiralty stated that the Russian navy is manned by 750,000 officers and men, of whom about 270,000 are in ships and 85,000 in the navy air force.

It added: "The desire of the Kremlin to display the navy of which it is so justifiably proud is plain. Since the cruiser Sverdlov attended the Coronation review last year other new ships of her class, attended by modern large fleet destroyers, have shown the flag in Sweden, Finland, and Albania, where the ships were open to public inspection and the ships and crews made a notable impression."

"The Russian public is being



The British Navy's main striking power in war will be her Fleet Air Arm, manned by men like these three young Australians.

RED NAVY BUILD UP?

convinced that their country is a sea power again, able to command her 28,000 miles of sea frontiers and to deal with any naval opposition that may be offered.

"Behind the re-born Soviet navy is Admiral Kuznetsov, who has almost interruptedly been its head since 1937 and who is a personal friend of Molotov, another believer in the need for a strong navy."

"This year, on Soviet Air Force Day, Kuznetsov was asked to take the salute beside the Minister for Defence, an indication of the esteem in which the navy is held by the Soviet leaders."

The Admiralty estimates that the Russians can build a cruiser of the Sverdlov class in about two and a half years, and more importantly still an ocean-going submarine with a radius of action of 20,000 miles in six months. This would mean that Russia would be capable of building at least six cruisers and 60 ocean-going submarines a year, in addition to large numbers of destroyers, escorts, and small craft.

In comparison with its estimate of Russian naval strength, the Admiralty recently published the following assessment of the naval strength of N.A.T.O. countries, and of British Commonwealth countries outside N.A.T.O.:

N.A.T.O. countries:—

	Battle-ships	Carriers	Cruisers	Destroyers and frigates	Submarines	Mine-sweepers
U.K.	—	5	19	28	294	59
Norway	—	—	—	—	12	9
Denmark	—	—	—	—	14	6
Holland	—	—	1	4	33	11
Belgium	—	—	—	—	1	—
France	—	2	3	7	88	20
Portugal	—	—	—	—	13	3
Greece	—	—	—	—	1	29
Italy	—	2	—	—	3	63
Turkey	—	—	—	—	1	10
Canada	—	—	2	2	55	—
USA	—	16	103	77	798	209
Luxemburg	—	—	—	—	—	—
Iceland	—	—	—	—	—	—
TOTALS	—	25	128	123	1,410	333

Commonwealth countries outside N.A.T.O.:—

Australia	—	—	2	1	33	—
New Zealand	—	—	—	2	6	—
South Africa	—	—	—	—	5	—
Pakistan	—	—	—	—	7	—
India	—	—	—	1	11	—
Ceylon	—	—	2	6	62	—
TOTALS	—	—	2	6	62	63

In varying degrees all the navies also have coastal forces vessels, fleet train ships, depot, repair, maintenance, and supply ships, and other vessels.

Continued from page 7.

her" at the bottom after taking a deep breath. As he floats to the surface, the air is forced from his lungs, bubbles being expelled from his mouth as the internal and external pressure on his lungs lessens.

After the last war, an Admiralty committee interviewed men who had escaped from sunken submarines of several nationalities. It was then found that about half of the survivors had used this method of "free escape."

U.K. RESEARCH FOR BETTER PACKAGING

A new research and development centre at Sittingbourne, in south-east England, is working to raise the standard of the U.K.'s export packaging.

In the centre's test-room engineers can simulate every kind of rough handling and climatic condition which a package shipped from England is likely to encounter.

A "bump" machine throws a package up and down four times a second for an hour. Another

drops it from a height equivalent to a dockworker's shoulder. A vibration machine simulates the effects of transport in badly sprung wagons. Shockwaves are recorded electronically.

A humidity chamber produces conditions worse than a jungle, with temperatures up to boiling point and relative humidity 100 per cent.

A rain machine pelts water on the test package with the force of a tropical downpour.

THE COMET . . . a great salvage achievement

The Comet court of inquiry in London recently heard expert opinion which reconstructed the last seconds of Britain's ill-fated jet passenger aircraft before it crashed into the Mediterranean early this year. Scientists and technicians worked out the probable cause of the disaster ("a molecular metallurgy fault," according to the Air Registration Board's chairman, Lord Brabazon) after long and minute examination of bits and pieces of the aircraft salvaged from the sea-bed. This article, published in the London "Navy," tells how that unique salvage job was done.

BY REAR-ADMIRAL
H. E. HORAN

TO pick up the bits and pieces of wrecked aircraft from a depth of over 600 ft. is a feat of salvage which stirs the imagination of anyone who has been at sea. But when the position of these bits and pieces is to all intents and purposes only approximately known the whole operation becomes quite unique in the annals of salvage.

On January 10th at 1110 a Comet aircraft on its way from Rome to London suddenly broke off transmitting a message to another aircraft and crashed from about 35,000 feet into the sea off the south point of the Island of Elba. Fishermen in the vicinity picked up 15 bodies and some bits of floating wreckage. Everything else disappeared. A Skyways aircraft circled the scene of the disaster and one of the crew took a photograph of the work of rescue which showed the hills of Elba in the background.

Six days after the crash the Minister of Transport, Mr. Lennox Boyd, telephoned to the Commander-in-Chief, Mediterranean (Admiral the Earl Mountbatten of Burma, K.G., etc.), and asked him if he would undertake the search for the wreckage of

the Comet with the Mediterranean Fleet resources. In spite of the lack of reliable information, the depth of water and the winter weather, the Commander-in-Chief expressed his willingness to do the job and so at 2230 on Saturday, 16th January, he received a signal from the Admiralty which read as follows:—

"Endeavour to locate and save the Comet." At once the neces-

The Admiralty announced recently that "Operation Elba Isle" — the salvage of the wreckage of the Comet aircraft — ended early in October. More than 70 per cent. of the aircraft was recovered in what must rank as one of the most remarkable operations in the history of salvage, the announcement added.

sary preparations were put in hand and early on Monday, 18th January, H.M. Ships *Wrangler* (Captain C. M. Parry, C.V.O., O.B.E., R.N.), a fast anti-submarine frigate, and *Sursay* (Lieutenant-Comander H. Stern, R.N.), a danlayer, sailed from Malta. They were followed later in the week by H.M.S. *Barhill*

(Lieutenant S. C. Smith, R.N.), a boom defence vessel, and the R.F.A. *Sea Salvor* (Captain J. R. Hayward). The former carried heavy moorings while the latter had embarked Commander G. C. Forsberg, R.N., who is in charge of salvage in the Mediterranean Fleet, and Captain Poland, a civilian salvage expert from the firm of Messrs. Risdon Beazley.

By 23rd January all the ships had arrived on the scene of operations and they were complete with the special stores required. Among the latter were television equipment, a special deep-sea observation chamber and a special grab, all of which had to be flown out from England.

The first thing to be done was to locate the wreckage. Using her anti-submarine equipment the *Wrangler* searched an area some 12 miles south of Elba but with negative results.

But additional information, notably the interpretation of the photograph taken by the Skyways aircraft referred to previously, made it appear that the probable position of the bits and pieces was rather further to the north. This was confirmed when one of the local trawlers chartered for the work brought up a piece of the Comet.

These local trawlers were invaluable and under the command of Lieutenant-Comander M. G. Fowke, R.N., developed a special sweeping technique which consisted of dragging a wire along the bottom with the ships working in pairs. This wire snagged any sizeable object, but unfortunately at first these objects proved to have something to do with a war-time minefield which was laid in the locality.

Now it was that H.M.S. *Wakeful* (Commander J. G. B. Morrow, D.S.C., R.N.) relieved H.M.S. *Wrangler*. The former had been fitted with a television underwater camera by Messrs. Pye and this played a great part in the identification of the objects on the bottom. Two of the contacts reported by the *Wrangler* were identified as old wrecks. One of these was thrilling. To those watching the television screen in the operations room there suddenly appeared, instead of the muddy bottom with its occasional fish, a mass of old Roman jars (amphorae) and it can only be assumed that the old ship had been carrying a cargo of wine of very old vintage. As the last jar crossed the screen an enormous eel was seen coming out of it.

Underwater TV

On 10th February the Italian trawlers snagged an object 5½ miles south of Cape Calamita and the *Wakeful* attempted to identify it by television. She had no luck the first day nor the second, when it was blowing a gale, but on the third day, 12th February, there suddenly floated across the television screen an unmistakable piece of aircraft wreckage: it was the Comet — or bits of it. Moorings for the *Sea Salvor* were at once laid down over the spot, but it was not until 19th February, again owing to bad weather, that the ship was moored over the wreckage. Down went the observation chamber with the diver inside it and some of the difficulties of operating a diver at this great depth (600 ft.) came to light. In spite of the powerful lamps rigged over the chamber he could only see a matter of about 10 ft. However, by working the ship so that in the end the diver was able to see the wreckage, the large grab was eventually lowered and got directly over the target. Then up it came with its first load. It took some 70 movements of the ship, by working her wires on the

moorings, before the grab was accurately in position.

Bit by bit and with infinite care the wreckage of the Comet was got to the surface and transferred to the attendant vessels for transportation to England. All four of the aircraft engines and about 80 per cent. of the whole of the aircraft have been recovered and are now being examined by the experts of the de Havilland Company and the aircraft experimental establishment at Farnborough.

This unprecedented feat of salvage was carried out mainly by the officers and men of the Royal Navy. The operation covered over 100 square miles of sea and involved the expenditure of over 2,000 tons of oil fuel, the steaming of some 10,000 miles by the ships engaged and the laying or re-laying of 276 buoys. It is the first time in history that a salvage operation has been attempted in winter to recover pieces of an aircraft from depths of between 400 and 600 feet. The work has been

arduous and British equipment of all types has proved to be first class.

Three under-water television cameras have been in operation. One of these is of Admiralty design and the other two have been supplied by Messrs. Pye and Marconi-Siebe-Gorman.

Finally the kind co-operation of all the Italian authorities must not be forgotten. From the first Commander Lombardi—the local harbour master—rendered noble service not only in recovering the bodies of the victims, but in assisting in the "fixing" of the wreckage and providing the trawlers which have done such good work.

The whole operation once again shows the adaptability and resource which the officers and men of the Royal Navy always bring to a job of any kind—and the two divers lent by Messrs. Risdon Beazley—Mr. Bray and Mr. Gilpin—are both ex-naval men.

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A £50 MILLION COMMAND

Next February Rear-Admiral H. A. Showers retires from the R.A.N. after 42 years' service.

As Flag Officer-in-Charge, East Australian Area, Rear-Admiral Showers for the past four years has administered one of the navy's most important commands. The value of the ships and establishments he administers represents about £50 million of taxpayers' money. The vessels and aircraft headmasters range from jets to sailing craft; the personnel from captains in the Navy to apprentices at Garden Island Dockyard.

Here are just a few of his responsibilities:

- **Garden Island Naval Establishments and Captain Cook Dock and Workshops** (the largest dock in the southern hemisphere).
- **Naval Stores**, which with subsidiaries at Randwick can provide any item, from a needle to an anchor, which may be required by H.M.A. ships.
- **Naval Victualling Stores** (Royal Edward Victualling Yard), which feed and clothe the Navy.
- **H.M.A.S. Albatross** (including the Australian Joint Anti-Submarine School) the Royal Australian Navy's first Naval Air Station.
- **H.M.A.S. Nirimba**, the subsidiary air station and maintenance training centre.
- **H.M.A.S. Penguin** (Balmoral Naval Depot) which includes the Naval hospital.
- **H.M.A.S. Watson**, the radar training centre.

Rear-Admiral Showers is also responsible for the operations of ships under his command, including 3 boom working ships and 2 ocean mine-sweepers.

Rear-Admiral Showers dismisses his responsibilities with a smile and a non-committal remark that he has very good staff officers and that there are few problems which come to him.

Four years ago he decided to arrange a yearly display to commemorate Trafalgar Day which show the public how the Navy lives and works. He felt that a display of this nature would not only be of general interest but would stimulate recruiting.

More than 200,000 people have attended the display in those four years.

Rear-Admiral Showers was born on 24th May, 1899, at Melbourne, Victoria. He was one of the original entry of cadets in 1913. He gained his colours for rugby, cricket and rowing, and at passing out was awarded the prize for workshop engineering and the Albert prizes for theoretical and practical engineering.

He became a midshipman on 1st January, 1917, sub-lieutenant in 1918, lieutenant in 1920, lieutenant-commander in 1928, commander in 1933 and captain in 1939.

His first ship was H.M.S. *Glorious* in 1917-18. After serving in submarines as a sub-lieutenant and junior lieutenant he specialised in navigation, taking his courses in 1923.

In 1933 he was appointed commander of the Naval College, being the first graduate of the college to hold that position. He was Squadron (N) Officer and S.O. (O), Third Cruiser Squadron, during the Italian-Abyssinian crisis.

On the outbreak of war in 1939 he was appointed to command H.M.A.S. *Adelaide* with the rank of acting-captain, being promoted to captain at the end of the year. In the *Adelaide* he

was at Noumea at the time of the establishment there of a Fighting French Administration in September, 1940.

In June, 1942, he was appointed to command H.M.A.S. *Hobart* and at the end of 1943 went as Chief Staff Officer to the Naval Officer in Charge, Sydney. In May, 1944, he took command of H.M.A.S. *Shropshire*, his next appointment in October of the same year being that of Second Naval Member with the rank of commodore.

He was thus the first graduate of the R.A.N.C. to become a member of this board, which administers the Royal Australian Navy and controls the destinies of all its personnel. In June, 1945, he received the award of the C.B.E. He was appointed Commodore Superintendent of Training in succession to Commodore Farncomb in November, 1946, and thus became Captain of his old college. He remained there until March, 1948, when he was appointed Second Naval Member of the Naval Board for the second time.

At the end of this appointment he was promoted to Acting Rear-Admiral in May, 1950, and took up the appointment of Flag Officer-in-Charge, N.S.W. (changed later to East Australian Area.)

HOMES FOR RATINGS

Twenty-five homes have been built at East Hills, 20 miles west of Sydney, for ratings of the Royal Australian Navy and their families. They are the remainder of 50 that have recently been erected in the area.

Each contains either two or three bedrooms and has sewerage and hot-water services.

The Minister for the Navy, Mr. J. Francis, said that 29 additional houses for ratings will be built at East Hills soon. Sixteen more houses will be built at the R.A.N. Station at Nowra, N.S.W.

R.N. SHIP VISITS SYDNEY

ONE of Britain's most modern warships, H.M.S. *Defender*, visited Australian ports last month after having taken part in the Satex exercise around Manus Island.

Defender is one of the all-welded Daring class. Of 3,500 tons, *Defender* represents the latest in British naval construction and incorporates many of the engineering achievements learned during World War II.

Her armament includes six 4.5-inch guns mounted in three turrets and six 40-millimetre anti-aircraft Bofors dispersed over the ship. Amidships she mounts ten 21-inch torpedoes in two pentad mountings. The latest gunnery, torpedo, and anti-submarine directing and control systems are housed in a large operations room and gunnery transmitting room. She is equipped with numerous radar sets for all purposes and the most up-to-date wireless communications.

Internally the ship is a maze of electrical appliances. On the accommodation side, the ship has all-electric cooking in the galleys, a modern laundry and bathrooms, and many labour saving devices. Living spaces are painted in pastel colours.

Defender was launched in July, 1950, and was commissioned for service in December, 1952. After completing a series of trials she attended the Coronation Naval Review of the Fleet at Spithead on June 15, 1953, and the following day sailed for the Far East station.

Since then she has been employed actively in the Korean area and in March this year became the first of her class to fire her guns in anger when she penetrated the poorly charted Johore River and bombarded Malayan terrorists in Johore State.

The present *Defender* is the sixth ship of that name in the Royal Navy. The first, a 168-ton gunboat, was launched in 1797.

Defender is commanded by Captain J. C. C. Henley. She has a complement of 20 officers and 284 ratings.

Three Daring class ships are now being built in Australia for the Royal Australian Navy. They are the *Voyager* and *Vampire*, being built at Cockatoo Dock, and the *Vendetta*, being built at Williamstown.



Obviously determined that his men would make a good showing, Chief Petty Officer W. A. Keeler takes a clothes brush on his inspection of the Admiral's guard on the Daring class ship H.M.S. "Defender" when it arrived in Sydney recently.

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THE NAVY WANTS AIRMEN

Outstanding opportunities exist in the Royal Australian Navy's Fleet Air Arm for suitable young men to become officers and specialise as pilots or observers.

By A Special Correspondent

EVER since the Fleet Air Arm came into being a certain proportion of pilots and observers have been drawn from among younger permanent officers of the executive branch. But in addition to numbers provided from that source, the Australian Commonwealth Naval Board has a system under which young men in civilian life are invited to join the R.A.N., and, if suitable for pilot and observer duties, are given short-service commissions.

The invitation is extended to male British subjects of substantially European descent between 17 and 24.

The commissions have many attractive features for those sufficiently fortunate to be granted them.

If a man is selected from among those who respond to the

Naval Board's invitation, and can fulfil the requirements of commissioned rank, he will be appointed for a minimum period of seven years, and may, at the end of that term, apply for an extension of four years. At any time after he has been a sub-lieutenant for about two years he may be granted a permanent commission in the executive branch of the service and thus find the way opened to promotion to the highest ranks.

Naval officers employed in aviation draw excellent pay. A single sub-lieutenant in the Fleet Air Arm receives £864 a year and a married lieutenant of two years' seniority £1,271 a year.

If an officer resigns at the end of his seven-year appointment he is paid a gratuity of £350, but if he remains in the service for 11

years the gratuity is increased to £350. To become eligible for the gratuity mentioned he must, in either instance, transfer to the reserve list, although a slightly smaller gratuity is paid if he does not wish to do this.

High Physical Standard

Candidates for entry as pilots or observers under the short-service system must, of course, be of high physical standard and must have reached what might be generally called the intermediate standard in education, with passes in at least four subjects, including English and mathematics.

They must have gained certificates in one of these public examinations: Queensland, Junior; New South Wales, Intermediate; Victoria, Intermediate or Intermediate technical; South Australia, Intermediate trades school or area school; Tasmania, School Board, junior technical or higher area school; Western Australia, Junior.

If a candidate with the necessary educational qualifications passes the medical board he then undergoes tests to prove personal qualities and flying aptitude. If he succeeds in the tests he is entered as a recruit naval airman (pilot or observer). Although candidates' wishes are carefully considered, the Naval Board decides whether they shall be allocated to pilot or observer duties.

Recruit naval airmen are first given three months' general naval training at Flinders Naval Depot, Crib Point, Victoria. On completion of the course they are rated probationary naval airmen. Those selected as pilots do 14 months' flying training with the

Continued on page 24.



A Sea Fury fighter takes off with the aid of a catapult from the aircraft-carrier H.M.A.S. "Vengeance" during anti-submarine exercises off the N.S.W. coast.

NEW CARRIER JOINS FLEET

The Royal Navy intends Britain's latest light Fleet carrier, H.M.S. "Bulwark," to take over from H.M.S. "Illustrious" as trials and training carrier. She will do this when she has completed her trials and working up. The Admiralty announced in November that the carrier had been provisionally accepted into Her Majesty's Service.

Built by Messrs. Harland & Wolff Ltd., of Belfast, who are also responsible for her main machinery, the *Bulwark* will be the third aircraft-carrier of the *Hermes* class to join the Fleet, the *Centaur* and the *Albion* having come into service this year.

H.M.S. *Bulwark* has an angled deck and will incorporate the latest developments in carrier operating technique, including the mirror deck landing aid. She is of 737ft. in length (650ft. between perpendiculars) and has a breadth on the water line of 90ft. She is armed with eleven multiple- and single-barrelled Bofors gun mountings controlled by modern close range director systems. Her peacetime complement, excluding the complements of aircraft, will be 76 officers and 960 ratings.

As in the *Centaur* and *Albion*, the *Bulwark* will be fitted with canvas bunks for all ratings. These bunks can be stowed away during the day so that the bunk spaces, which are provided with nesting tables and chairs, may be used for recreational purposes. The intention is to ensure each man has a sleeping billet adjacent to his kit.

Since she was laid down, many changes have been made to her design with a view to improving the comfort of the company. The living quarters have been arranged with large dining-halls close to the galleys, and with mess decks equipped with tubular steel furniture. Many of the living compartments are fitted with air-conditioned ventilation so that the temperature can be maintained at a congenial level in any climate. The catering arrangements are highly mecha-

nised. Cooking is mainly by electricity, and there is a good allocation of "cold" and "cool" rooms. A fully mechanised laundry is installed.

The design of the *Hermes* class was the subject of a long series of model experiments to design the best shape of the hull for speed, endurance and seaworthiness. The hull strength and rigidity have also been the subject of special investigations. Electrical welding has been extensively used in the hull construction, and the standard X-ray tests have been made to ensure that the welding is good.

The geared turbine machinery has been made by Messrs. Harland and Wolff at their Queen's Island works and embodies the latest practice.

The radar and wireless telegraphy sets of an aircraft-carrier are more numerous and varied than in any other type of warship, and in the *Bulwark* it has been a matter of great ingenuity to find positions for all the aerials without loss of efficiency and without infringing upon the area which must be kept clear for aircraft.

About 250 miles of cables are installed in the *Bulwark*. The shipbuilders had to make about a quarter of a million electrical connections to complete the installation.

Peak demands for electricity are met by the generating plant, which has a total output of 3200 kilowatts. The plant consists of eight electrical generators, each of 400 kilowatt capacity. Four of these generators are steam driven and four diesel driven.

Distribution of electricity is con-

trolled from a central large switch-board and four smaller switch-boards are provided for use in emergency from each of which the supplies to a quarter of the ship can be controlled. All switch-boards are provided with an elaborate system of indication lights.

There are more than 700 electrical motors in the ship. These range in size from large 100 h.p. motors for aircraft lifts down to fractional h.p. motors for a variety of service such as potato peelers, drinking water coolers, photo printing, paint mixing, collar ironing, and ice cream making.

The ship is equipped with a 300-line automatic telephone exchange. For vital action communications, sound powered telephone groups, independent of electrical supplies, serve the various ship departments.

About 8000 lighting points are installed, 2500 of which are fitted with twin lamp fluorescent fittings. The standard of illumination is extremely high. A complete absence of glare is a notable feature of the fluorescent lighting installation.

"Red" lighting is fitted to allow for rapid adaptation of vision at night.

The ship is equipped with a comprehensive system of flight deck lighting to provide for night landing by aircraft.

For escape purposes, in the event of severe damage to the ship, with the normal lighting out of action, a complete system of battery operated emergency lanterns is fitted. These relay-operated miners' type lanterns switch on automatically immediately the normal lighting fails.

"Gild is tried by fire, brave men by adversity."—Seneca.

"Men may be convinced, but they cannot be pleased, against their will."—Samuel Johnson.

SHORTAGE OF MEN WORRIES R.A.N.

• THE NAVY NEEDS MORE MEN, AND IT NEEDS THEM URGENTLY

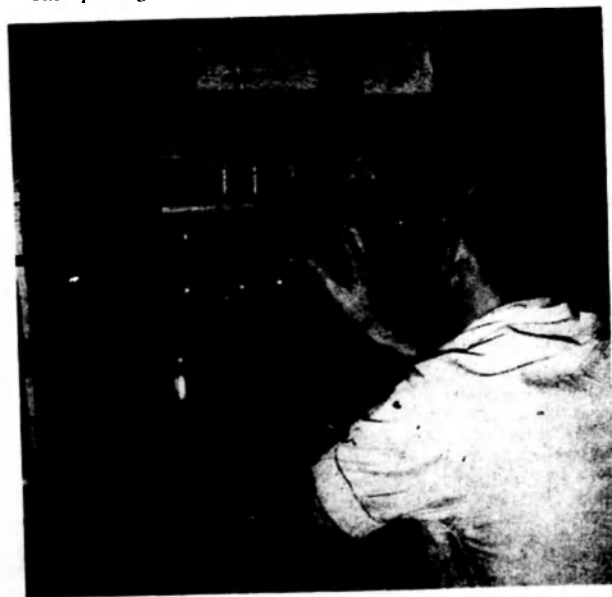
RADIO operators, known in the Navy as telegraphists, are one of the R.A.N.'s particular needs. But it also needs seamen who will be specially trained in radar-air and radar-surface track plotting gunnery control, the use of underwater weapons and equipment, ratings who will be taught to operate and maintain electrical equipment, and skilled tradesmen of many kinds.

It has vacancies, as well, for naval airmen, writers, cooks and stewards and sick berth attendants.

The pressing need of tele-

graphists has, to some extent, been brought about by the rapid expansion of the R.A.N. since the end of World War II, and the establishment of its Fleet Air Arm: for the Navy now has to maintain a much more widely spread system of communications than it did formerly.

Unless speedy and ever-open communication channels were available to all ships and all establishments at all times, the Navy would be seriously hampered in fulfilling the comprehensive functions and commitments that its increased size has enabled it to undertake.



NAVY TELEGRAPHIST.

BY A
SPECIAL
CORRESPONDENT

To become a telegraphist in the R.A.N. a man must be healthy, intelligent and alert, and display a special aptitude for the work he wants to engage in. But, if he possesses those qualities, and is aged between 17 and 26, the Navy would very much like to enlist him. It is difficult to imagine a more interesting and, some might perhaps say, a more romantic job in which he could make a career.

If a young man decides to join the R.A.N. with the object of becoming a telegraphist he will do six months initial training at the Flinders Naval Depot at Crib Point (Victoria), and will afterwards enter the modern Communications School there.

At the end of his training he will go to sea in one of the ships of the Fleet and will immediately begin putting into practice under real service and operational conditions the things which, for him, until then have been only matters of theory.

He will find himself talking by means of his telegraph-key to other ships and shore establishments that might be hundreds and possibly thousands of miles away, and will realise, more vividly than he has ever done before, that in this modern age, space and distance have virtually been abolished.



SUB-HUNTING.

He might also find himself repeating his admiral's or captain's orders by voice through a microphone to ships in company, or orders of such significance that an error in repetition might seriously prejudice the safety of the ships. The telegraphist will realise, therefore, that he is performing very responsible duties within the Fleet and is also playing an important part in helping it to keep up its high standards of efficiency.

There will be many opportunities for him to rise to higher rate or rank, and he will be given every encouragement by means of schooling and advanced courses to do so.

In whatever rate or rank he serves, however, he will draw good pay and receive free quarters and food. If he is married he will receive a marriage allowance as well.

His first issue of uniform will be supplied to him free of cost, and he will be paid a daily sum to enable him to keep it in good order or to renew it. When he is not quartered in a ship or shore establishment he will receive an allowance for living out.

During his period of service, he will be given generous annual leave and will be entitled to free medical and dental attention. On

his retirement, provided he has served for the necessary length of time, he will receive a pension, and for shorter periods a gratuity.

The advantages and benefits just referred to are enjoyed by all ratings in all branches.

Specialist Schools

Irrespective of the branch that he may wish to join, every man who enters the Royal Australian Navy begins his service at Flinders Naval Depot, Westernport (Victoria). With two exceptions the ages at which men may enlist range from 17 to 26. For naval airmen they range from 17 to 24 and for tradesmen from 18 to 28.

Having entered the depot, a recruit undergoes disciplinary training for six months and is then drafted to the branch in which he intends to serve for specialised instruction. He may go direct to sea or may first attend one of the various specialist schools in the Melbourne and Sydney areas.

Telegraphists and gunnery specialists, for instance, do courses at schools at Flinders Naval Depot. So do electrical branch and engine-room branch ratings.

But radar plotters and others

using radar equipment undergo the principal part of their specialist training at the navigation-direction school, H.M.A.S. Watson, which is perched high on the top of South Head, Sydney.

Torpedo and anti-submarine ratings do their training at H.M.A.S. Rushcutter, Rushcutter Bay, Sydney, and naval airmen at H.M.A.S. Albatross, the Royal Australian Naval air station at Nowra, New South Wales.

Skilled tradesmen join the Royal Australian Navy in somewhat different circumstances from other ratings. They are normally accepted for entry only if they have completed five years of apprenticeship in their particular callings, and they enter the service in the relative rating of petty officer. Some are allowed to enter after they have completed 3½ years of apprenticeship.

Tradesmen required by the R.A.N. at present are qualified fitters and turners, fitters and machinists, electrical fitters, electrical mechanics, instrument makers, shipwrights and boat builders.

The Navy has room for all kinds of men with all kinds of aptitudes. There is probably no other organisation in which so many varied abilities and ambitions can find satisfactory and useful expression.

WORLD

From our Correspondents in
LONDON and NEW YORK

By
AIR MAIL

Ships Wrecked In Gale.

Fierce gales around the British coast late last month wrecked the lightship *South Goodwin* with the loss of seven men, snapped in halves the 20,000-ton Liberian tanker *World Concord*, and caused the crew of the Danish ship *Vega* to abandon their ship in the English Channel.

The P. & O. cargo ship *Tresilian*, 7373 tons, foundered in a gale off Ireland on November 30. Twenty-four of her crew of 40 are believed to have been drowned.

The lightship overturned on the Goodwin Sands. The seven men lost were trapped in a cabin when the ship capsized. Navy frogmen with acetylene cutters tried unsuccessfully to rescue them.

Lifeboats landed crew members from the *World Concord* and the *Vega*.

Sixteen other ships were reported in difficulties during the gales which reached a force of 100 miles an hour.

New Rubber Life Raft.

A new type of inflatable rubber life-saving raft with complete cover from the weather was demonstrated in London's King George V dock recently. Tests showed that this invention may eventually replace some of the conventional wooden lifeboats now in service, while its value as ancillary equipment was undoubted. The rafts

are circular and are made in three sizes for holding six, ten or twenty persons. When packed complete with emergency pack they weigh, according to size, 120 lb., 150 lbs., and 240 lbs.

Features of the rafts are their ease of launching and the fact that they can be positioned at convenient points all round the vessel. One man can launch the six and ten-seaters, while the biggest model needs two men. The pack is thrown into the sea. A pull on the operating cord opens the gas cylinder aboard. The raft bursts from its valise and inflates ready for boarding in about thirty seconds.

The canopies are flame-orange in colour, now proved the most efficient colour for search and rescue. An automatic water-operated recognition light is in the roof.

The canopy itself has an inner and outer skin enclosing a layer of still air, thus providing an internal thermal layer against either icy winds or the rays of the sun. The floor is also double and inflatable, thus increasing buoyance and providing the occupants with insulation from the chilling effects of the sea.

All rafts are supplied with emergency gear including water, first-aid outfits, signalling equipment, and many other accessories.

Crew Crisis Averted.

A crew crisis in the big Cunard liner *Queen Mary* was averted last month after the ship's master, Captain Donald Sorrell, appealed to the men to take the ship to sea.

According to Press agency reports the crew threatened to strike when they heard the owners had decided that the Cunard Line commodore, Captain Ivan Thompson, would replace Captain Sorrell for the ship's voyage to bring home the *Queen Mother* from America.

Captain Thompson normally commands the liner *Queen Elizabeth*.

Crew spokesmen said they considered the change of command was a slight to Captain Sorrell, whom they described as "the world's finest sea captain."

Cunard officials said the line's senior captain always took command of any of their ships in which Royalty was travelling.

Frogman Starts New Industry

Scotland's exports—from ships to whisky—are world famous. Now a former Royal Navy frogman has added a new one to the list—mushrooms.

In the small village of Thorn tonhall, a few miles from Glasgow, A. G. Pinkerton has turned five disused limestone mines into one

of the most thriving industries in the British Isles. With his Navy experience of underwater work it was no trouble for Pinkerton to explore the flooded quarries, 60 to 100 feet underground.

The mines were then pumped dry and the result has been seven acres of fertile underground land, which is just what mushrooms like.

It produces 10,000 to 12,000 pounds of mushrooms a day. Girls wearing miner-type hats with lamps attached water, pick, and pack the mushrooms which go to all parts of the world, either fresh or tinned and as cultured spawn—that is the mushroom seed.

"Bomb" X-rays Ship Welds.

Every 16 weeks a heavy wooden crate arrives at the Caledon Shipyard, Dundee. It is treated with particular respect since nestling in its centre is a lead ball several inches thick, within which is a pellet of radio-active iridium 192, straight from the heart of the atomic pile at Harwell. For some years shipyards in Britain have been X-raying welds to detect flaws and eliminate bad workmanship. This equipment is unwieldy, however, for "site" work—the lofty perches and odd corners of a ship. Now a new and much more compact source of power has come along—the unseen, the silent, but the deadly gamma ray.

When the wooden case arrives from Harwell it goes straight within the foot-thick concrete walls and roof of the radiography department of the shipyard. Then the tricky transfer of the used capsule of iridium 192 from the gamma ray bomb—the name given to the portable machine which is used—is completed, and the "hot" one is installed.

When the picture of the inside of the weld is required, the operator sets out with the ray bomb, a piece of double-coated film 15 x 4 inches, and a geiger counter. The film between two strips of lead foil is placed behind

the weld. The bomb is aimed through the steel to the film, the end is uncovered by a spring, and the rays go to work. The exposure takes usually 15-30 minutes but can be several hours for the maximum thickness of two inches of steel. When the negative is developed it is examined under a light by the radiographer, the foreman welder, and the welder who did the job. Faults disclosed include porosity, cracks and incomplete penetration. Much of the

skill of the radiographer lies in interpreting the marks on the film.

Sydney Trawler Lost.

Off the N.S.W. coast early last month three crew members were drowned when the trawler *Olive Cam* was wrecked in a storm.

"He does not believe that does not live according to his belief." —Thomas Fuller.

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Without carriers, Admiral Nimitz would not have been able to make his dramatic hammerdrives from the Hawaiian Islands to the Gilberts and then to the Marshall and Mariana Islands, destroying all enemy opposition on the way and establishing strong naval and air bases from which to make his next advance. Air power was vitally necessary to him, as it was to other American commanders, if he was to make progress. The only way in which it could be provided for him was by means of aircraft launched from carriers.

A highly significant fact emerged when the first convoy of American troops and supplies to reach Australia was crossing the Pacific. For some reason, which still puzzles naval and military tacticians, the Japanese never attacked the convoy with surface ships and submarines. It was not until it came within aircraft range of Rabaul that the enemy attacked—and then with bombers. But 16 of the 18 attacking bombers were shot down by fighters from American carriers that were escorting the convoy.

It became clear from this that not only could carriers deal with the threat from submarines; they could also repel attacks by aircraft based on land adjacent to waters through which they and the convoys they guarded were passing.

In Korea until the armistice, the role played

by aircraft from aircraft carriers demonstrated once more their extraordinary versatility. These aircraft were not used as escorts for convoys or as submarine hunters or killers. They were used principally for bombing inland targets, such as troop concentrations, gun emplacements, marshalling yards, railway lines, bridges, tunnels, trains, and road transport.

They performed those tasks with great success because, being so mobile, the carriers from which they took off could range up and down both sides of the Korean peninsula and they could deliver sharp and speedy blows wherever they were most needed.

Although naval aircraft are designed and built for use at sea they can, of course, be based ashore for training purposes and can also be used, if necessary, in shore-based air operations. This does not imply that carrier-borne aircraft can carry out all the duties of shore-based maritime aircraft. But neither is the reverse true. The two types of aircraft are complementary, each contributing its share to the defence of sea communications.

Shipping to and from Australia carrying fighting personnel or essential materials must be protected in time of war. Outside a relatively short distance from the Australian coast that protection can be given only by carrier-borne aircraft and surface escorts.—S.C.

NEWS OF THE WORLD'S NAVIES

Atom-bomb defence

The Admiralty has revealed that the trials cruise H.M.S. *Cumberland* recently concluded in the Mediterranean trials of a new method of protection against atomic contamination.

The method, known as "pre-wetting," involves washing all the weather surfaces of a ship during and after exposure to contamination.

Its purpose is to protect warships against the effect of radioactive particles in the outer fringe of an area in which an underwater explosion of an atomic bomb has taken place.

During the pre-wetting process all means of access to the interior of the ship are closed. Washing down continues until ratings with geiger counters ascertain that upper deck conditions permit normal work to be resumed there.

The experiments in the *Cumberland* were confined to the fore part of the ship. Contaminated samples were placed in exposed positions and some 300 tons of sea-water an hour was sprayed from 50 nozzles.

"Our aim was to produce a local rainstorm exceeding the heaviest tropical downpour," one of *Cumberland's* officers said. *Cumberland* return to Devonport from her trials on September 29.

A mate for a bull

One of the Royal Navy's recent novel assignments, in the Persian Gulf, was revealed in London recently.

Early this year the frigate *Wild Goose* presented a miniature Socotran bull to the Bahrain Government for its experimental farm. Some months later the Bahrain Government made a request to the Admiralty, through

the Senior Naval Officer, Persian Gulf. His signal read: "It would be much appreciated, particularly by the bull, if *Dalrymple* while on passage from Zanzibar to the Persian Gulf, could call at Socotra to obtain a mate of the same species."

The Admiralty replied with the following signal: "In the interest of the bull—approved."

Award For Salvage.

Distribution of salvage of the Dutch motor vessel *Unitas* in January, 1953, by H.M.S. *Creole*, then commanded by Lieutenant-Commander T. Russell-Walling, R.N., will be made to members of the ship's company at rates ranging from £4/11/4 to £61.

Veteran Carrier's Record.

Three months before going into reserve, the 14-year-old aircraft-carrier *Illustrious*, veteran of the famous Fleet Air Arm raid on the Italian Fleet at Taranto, broke previous flying records on board by completing 950 day and night deck landings and 210 helicopter landings in 12 days of flying during three weeks in October.

The *Illustrious*, commanded by Captain K. A. Short, D.S.O., R.N., was carrying out the duties of trials and training carrier in the Channel. One-third of the

Sabotage suspected

Sabotage is suspected to have been the cause of delays to the sailing of the Daring class ship H.M.S. *Delight*, according to London reports.

The ship was due to have sailed early last month from Chatham, Kent, for antisubmarine exercises off the west coast of Scotland. Sand was found in an oil filter in the steering mechanism.

About two weeks later, just be-

fore she was due to sail again, valves in the auxiliary machinery were found to be set in the wrong position.

Admiralty detectives are investigating an attempt to damage the submarine *Artemis* on November 24 while she was on her way from Rothesay, Scotland, to exercises in the Clyde area. It is understood that a signal grenade was found in the submarine, designed to explode when the engines were running. The submarine immediately turned back under her own power when only a short way out of Rothesay.

Torpedo dump found

The R.A.N. has flown two officers to Rabaul to delouse a large dump of Japanese naval torpedoes which workmen discovered recently when digging the foundations of a new building.

The officers are Lieutenant-Commander M. S. Batterham, of Melbourne, the R.A.N.'s expert on disposing of dangerous weapons, and Commissioned Gunner R. Hillen, of Sydney.

In 1947 Lieutenant-Commander Batterham spent nine months in Rabaul disposing of and rendering safe thousands of tons of explosives which the Japanese had stored there during the war.

New electronic "brain"

Britain's scientists are being aided in their work on guided missiles, radar, and supersonic aircraft by an electronic "brain" as big as six ordinary three-bedroomed houses.

The "brain"—the biggest in Britain and one of the largest in the world—is officially called *Tridac*, short for its full title of "three-dimensional analogue computer." Covering about 6,000 square feet of floor space, it uses

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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.

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8,000 valves, has about 2,000 knobs to adjust and consumes enough electricity to light a small town. It solves its knotty problems in 3-D, and provides the scientists with a model replica of conditions which they want to study and analyse. If, for example, it is asked to work out a calculation based on a fighter chasing a jet bomber through the stratosphere, there are sets of meters, pens moving automatically over charts, and animated diagrams on 3-D screens, which give the experts an exact, detailed illustration in miniature of what would actually happen.

Mr. M. B. Morgan, deputy director of the Royal Aircraft Establishment said at a recent demonstration: "It is very cheap and you can save an immense amount of time and money running through a series of problems instead of having to build a corresponding number of missiles or aircraft. Of course, the ultimate check in flight is absolutely essential and you cannot do away with that, but the machine enables you to cut down tremendously on experimental and development work."

Complicated calculations which take the brain 20 seconds to work

out would keep a hundred girls busy for eight hours.

When the machine is operating normally—allowing for the complicated procedure of setting it up—it can cope with problems as quickly as ten thousand girls operating calculating machines.

Royal Yacht

Her Majesty's yacht *Victoria* and *Albert* is being handed over to the British Iron and Steel Corporation for breaking up.

The yacht's most valuable pieces of furniture have been transferred to Her Majesty's yacht *Britannia* and to Buckingham Palace. The remaining furniture will be sent to the Admiralty pool at Deptford.

Hospitals' new role

Navy hospitals at H.M.A.S. *Penguin*, *Balmoral*, *Sydney*, and H.M.A.S. *Cerberus*, generally known as Flinders Naval Depot, *Victoria*, have been recognised by the Medical Boards of New South Wales and *Victoria* as training schools for resident medical officers.

This brings them into line with other hospitals at which doctors may obtain in-patient hospital

training which is required by the laws of the United Kingdom and certain Commonwealth countries before they may enter private practice.

Chinese destroyer sunk

Chinese Communist torpedo boats on November 14 sank the Chinese Nationalist escort destroyer *Taiping* near the Tachen Islands, 215 miles north of Formosa.

The Communists claimed that the destroyer was harassing the coast.

It was the first escort destroyer sunk by the Communist navy, according to the Nationalist acting Foreign Minister, Mr. Shen Chang-huan.

The Nationalist Defence Ministry stated that the *Taiping* was attacked by four fast torpedo boats while on a routine patrol.

The *Taiping*, of 1,150 tons, was formerly the U.S. ship *Decker*. The ship carried three 3-inch guns and had a speed of 21.5 knots. It was delivered to Nationalist China in 1946.

"In great straits, when hope is small, the boldest counsels are the safest."—Livy.

This Little Ship Has a Big Job IN THE ICY SOUTH

Recently, a small but important vessel sailed from Britain on the first leg of a voyage during which she will cover some 30,000 miles. She is the Royal Research Ship "John Biscoe," now on her way to the south Polar regions carrying stores and reliefs for the bases of the Falkland Islands Dependencies' Survey in Antarctica.

By A. CECIL HAMPSHIRE,
who writes on maritime affairs
for a number of United Kingdom journals.

Wooden-hulled, but sheathed in greenheart wood to enable her to withstand the buffeting of ice-packed seas, the *John Biscoe* is a one-time warship. Built in the United States under the Lease-Lend Agreement, she served in Britain's Royal Navy as the netlayer *Pretext* on boom defence work. Transferred back to America at the end of the war under the terms of Lease-Lend, the 870-ton former netlayer was purchased in 1947 by Britain's Colonial Office for duty as a relief ship with the Falkland Islands Dependencies' Survey, and renamed.

Since then this stubby little ship with her crew of hardy Falkland Islanders (the officers come from the United Kingdom) has ranged over more than 200,000 miles of some of the stormiest seas in the world on her annual journeys to the Antarctic. Soon she will be making her last voyage, for a new vessel is to be built to carry on her work.

Supplies, Dogs and Mails.

Passengers on board for the current southward journey are 18 scientists and technicians on their way to relieve colleagues who have spent two years in the chill loneliness of Britain's Antarctic regions. In her holds the *John Biscoe* carries several tons of stores and supplies, including food and

clothing, solid and liquid fuels, and a variety of scientific instruments and equipment. Also on board are 20 husky dogs, for travel in the Falkland Islands Dependencies is by dog sled. Eleven of the animals came from Greenland, three from Canada, and there are several pups which have been bred in Britain. Not the least important part of her cargo are mails for the men who have already spent 12 months in their desolate outposts. For the little relief ship is their only postal link with home.

Calling en route at the Cape Verde Islands and Montevideo, the *John Biscoe* was due to reach her base, Port Stanley, in the Falkland Islands, towards the end of November. From there she will

set off to begin her relief work at South Georgia Island, an 800-mile run southward through the gale-lashed Drake Passage. From thence she will visit in turn the other six permanent bases maintained by Britain in the Antarctic.

These bases cover the territories known as the Falkland Islands Dependencies. With South Georgia Island (taken possession of for Britain by Captain Cook in 1775), they comprise the South Orkneys (occupied in 1821), South Sandwich Islands (occupied in 1775), the South Shetlands (taken possession of for Britain in 1819), and Graham Land (occupied in 1829), an 800-mile long spur projecting from the Antarctic continent.

The bases are manned by personnel belonging to the Falkland Islands Dependencies' Survey, an organisation whose task is to survey and map hitherto unexplored territory in these regions, to maintain weather stations—their forecasts are of special value to all in the southern hemisphere—and to carry out biological, geological, ornithological and other scientific studies. Now also is being started a geophysical programme, which will include geomagnetism, solar radiation, ozone measure-

Continued on page 27.



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Continued from page 14.

Royal Australian Air Force at Uranquinty (N.S.W.) and Point Cook (Vic.).

At the end of that training they are awarded their wings, promoted to the rank of acting sub-lieutenant and given short-service commissions of seven years. After a further course in which they learn to fly modern naval aircraft, pilots are appoint-

ed to front-line air squadrons—the squadrons which operate from aircraft carriers.

Probationary naval airmen selected for observer training undergo a pre-flight training course, as do the pilots. Then they begin their specialised training. At the end of this training they are awarded their wings and promoted acting sub-lieutenants with seven-year short-service commis-

sions. The observer officer is then appointed to one of the front-line squadrons, a squadron which perhaps one day he will command.

Both pilots and observers are confirmed in the rank of sub-lieutenant after they have served in that acting rank for 12 months. Depending on the results obtained in examinations, they become lieutenants within further periods ranging from 10 months to a year. Any time after that they may be offered permanent commissions.

As may be seen, the way is open to suitable young men to live a life full of interest and travel while they are doing a worthwhile job. It is a life which combines the best of both the sea and the air.

NEW CRAFT ON SHOW.

Sailing and outboard dinghies gleaming in varnished mahogany; motor cruisers of all types built of mahogany and (a new development) glass fibre; sailing yachts with auxiliary engines which could be sailed round the world in safety—these were among the exhibits in the marine section of the recent Motor Show at Olympia, London.

Engines for every possible use and pocket were displayed. Among the outboards were tiny motors of only $\frac{1}{2}$ h.p. which can be carried in one hand, larger motors for dinghies and launches, and really powerful outboards which will drive either a small cruiser or high-speed racing runabout.

The range of engines intended for permanent installation was equally varied. Petrol and diesel engines ranged from $1\frac{1}{2}$ h.p. upwards.

One firm showed a $3\frac{1}{2}$ h.p. air-cooled diesel with a dry weight of only 250 lbs. It is priced at £70 in the U.K. Installed in a lifeboat of 21½ feet and 7ft. beam with standard 11-inch reversing propeller, it was loaded with 25 adults and three children and yet gave a mean speed of 5.15 knots.

NO MONEY TROUBLES IN FALKLANDS.

In the remote Falkland Islands, off the tip of South America, there is no public debt, no unemployment and the colony's revenue exceeds its expenditure.

Although the population is only 2230, deposits in the Government Savings Bank total £805,060, 1888 depositors' accounts.

The United Kingdom Information Office, which released these figures recently, quotes the colony's latest report. It states that the principal industry is sheep farming. Last year wool worth £346,170 was exported. Up to March, 1953, the Falklands received £162,596 in grants provided by the United Kingdom under the Colonial Development and Welfare Acts. Last year this included £10,000 for a new broadcasting transmitter. The Falklands established in 1929 the first colonial broadcasting service.

In the Falkland Islands Dependencies, whaling and sealing are the only industries. Last year South Georgia (first occupied by Britain in 1775) had a seasonal population of 1449, including six women and two children. During the whaling season (October to April) 2270 whales were caught and exports were worth £2,814,000.

Britain maintains six scientific bases in the British Antarctic Dependencies, which conduct valuable meteorological, geological and survey work, as well as medical research and studies in ornithology and biology. To assist whalers, weather bulletins covering two million square miles of the South Atlantic and Antarctic Oceans are issued.

"Though pride is not a virtue, it is the parent of many virtues."
—Churton Collins.

"There is not a greater hell than the failure in a great object."
—Keats.

R.A.N.'S BIG SURVEY JOB

The Royal Australian Navy has about 25 years' work ahead of it to complete its survey of the coastal waters of Australia.

The Minister for the Navy, Mr. J. Francis, revealed this when he announced details recently of the latest phase of the survey. The Navy had been working on the programme since the end of World War I, the Minister said.

H.M.A.S. Barcoo and H.M.A.S. Warrego sailed last month to continue their charting of waters off the N.S.W. and South Australian coasts. The Barcoo went to Backstairs Passage, between Kangaroo Island and the South Australian mainland. The Warrego went to an area between Montague Island, off the southern N.S.W. coast, and Cape Howe, on the N.S.W. Victorian border.

Both ships will return to Sydney in time to give Christmas leave, after which the Barcoo will return to Backstairs Passage and the Warrego will begin surveying an area near Cape Otway, on the South-west Victorian coast. They

will work in these areas until the middle of March.

In the past few years the Navy has surveyed Yampi Sound, King Sound, and Exmouth Gulf in the north-west of Australia; the approaches to Fremantle (W.A.); parts of Spencer Gulf (S.A.); the approaches to Port Adelaide (S.A.); practically the whole of Bass Strait; Westernport (Victoria); various parts of the Great Barrier Reef waters; and Torres Strait.

During World War II, the R.A.N. hydrographic service as a prelude to Allied landings carried out surveys in the waters of the Solomons, the Philippines, and Borneo, often under heavy coastal and air attacks.

"Confidence placed in another often compels confidence in return."

—Livy.

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NEW FIRST SEA LORD

Admiral the Earl Mountbatten of Burma will take up his new appointments as Commissioner of the Admiralty, First Sea Lord, and Chief of the Naval Staff, in March.

He succeeds Admiral of the Fleet Sir Rhoderick R. McGrigor.

Earl Mountbatten is the younger son of the late Admiral of the Fleet the Marquis of Milford Haven, who as Prince Louis of Battenburg was First Sea Lord at the outbreak of war in 1914.

Earl Mountbatten was born in June, 1900, and entered the Navy as a cadet just before his thirteenth birthday. In World War I he served in Lord Beatty's flagship and in submarines.

In 1939 he took command of the destroyer Kelly as Captain of the 5th Destroyer Flotilla. In May, 1940, he brought the Kelly back to port with her bows almost blown off by a torpedo.

Seven months later Kelly was at sea again. Once more she was hit and crippled and once more he got her back to port.

While the Kelly was being repaired he transferred to the destroyer Javelin, and the same thing happened—a torpedo, a crippled ship, and a fight to get her home.

He then went back to the Kelly and took part in the evacuation of Crete, where a bomb hit the ship and sank her.

Earl Mountbatten was then appointed in command of the aircraft carrier *Illustrious*. He had scarcely taken over when he was recalled to become Chief of Combined Operations. In 1942 he was given the rank of Vice-Admiral.

He finished the war as Supreme Allied Commander, South-east Asia, in the acting rank of full Admiral. When he was appointed in 1943 he was the youngest supreme commander of the war.

He was awarded the D.S.O. for services in battle in 1941 and twice was mentioned in dispatches.

Already then a K.C.V.O., he later received many high honours both British and foreign.

After the war Earl Mountbatten became Viceroy of India in March, 1947, and in August of that year was made Governor-General of India when that country was granted Dominion status. He held this appointment until June, 1948.

In October, 1948, he took command of the 1st Cruiser Squadron, in the rank of Rear-Admiral, and was promoted Vice-Admiral in June, 1949. In May, 1950, he became Fourth Sea Lord and Chief of Supplies and Transport. Two years later he was appointed Commander-in-Chief, Mediterranean, in the acting rank of Admiral, and was promoted Admiral in January, 1953.

This month he relinquishes the command of the Mediterranean Fleet and the N.A.T.O. appointment of Commander-in-Chief, Allied Forces Mediterranean, on relief by Admiral Sir Guy Grantham.

Captain Burrell.

Captain H. M. Burrell, R.A.N., Deputy Chief of the Naval Staff at Navy Office, Melbourne, will succeed Rear-Admiral R. R. Dowling, C.B.E., D.S.O., as Flag Officer Commanding the Australian Fleet on February 23.

Captain Burrell will be made an acting Rear-Admiral when he assumes his new appointment.

The Minister for Defence, Sir Philip McBride, announced the appointment in Canberra last month.

Commodore Buchanan.

Commodore H. J. Buchanan, C.B.E., D.S.O., R.A.N., Second Naval Member of the Australian Naval Board, will succeed Acting Rear-Admiral H. A. Showers, C.B.E., as the Flag Officer-in-

Charge East Australian Area on February 3, with the rank of Acting Rear-Admiral. Rear-Admiral Showers will retire from the R.A.N.

Commodore J. C. Morrow.

Commodore J. C. Morrow, D.S.O., D.S.C., R.A.N., Commodore Superintendent of Training at Flinders Naval Depot (Victoria), will succeed Commodore Buchanan as Second Naval Member of the Naval Board on January 26.

Surgeon Captain Rowlands.

Surgeon Commander E. A. Rowlands, F.R.C.S., F.R.A.C.S., O.B.E., V.R.D., R.A.N.R., of Melbourne, has been promoted to Surgeon Captain.

Announcing this last month, the Minister for the Navy, Mr. Jos. Francis, said that Surgeon Captain Rowlands was the first medical officer to attain this rank in the naval reserve.

Surgeon Captain Rowlands is honorary consultant surgeon to the R.A.N. He served with the R.A.N. ashore and afloat from 1939 to 1946. He joined the reserve in 1923 and transferred to its medical branch in 1930.

He is also honorary consultant surgeon to the Repatriation Department and the Alfred Hospital in Melbourne.

Captain Whinfield.

Captain Norman A. Whinfield, the Orient Line's new commodore, began his career in the middle of World War I. He served as second mate in H.M. transport *Ramsay* from 1916 until the war ended. He was commended for gallantry and good seamanship for his part in an action with a submarine which *Ramsay* engaged and sank off Dakar in April, 1918.

He joined the Orient Line in 1923 as fifth officer in the old *Orsova*. His commands included *Orontes*, *Ormonde*, *Orion*, and *Orcades*. In 1953 he was appoint-

Orsova and later commanded her until his present appointment.

Captain Whinfield's appointment dates from September 1. He succeeds Captain I. E. G. Goldsworthy.

Captain Mackinnon.

Captain N. A. Mackinnon, who has been attending the Imperial Defence College in England, will become the Commodore Superintendent of Training at Flinders Naval Depot (Victoria) on February 17.

He will succeed Commodore J. C. Morrow.

IN THE ICY SOUTH.

Continued from page 23.
ment, and ionospheric studies with radio-sonde apparatus.

Each of the "travelling bases," from which expeditions are mounted, is staffed by 10 or 11 scientists and technicians, who include physicists, meteorologists, surveyors, radio operators, and diesel and radio mechanics. The smaller "static bases" have only some four or five to each.

The men live in tents or wooden huts amid territory which is barren and mountainous, much of it glacial and snow-covered throughout the year. Frequent storms with gusts of searingly cold winds of more than a hundred miles an hour rage sometimes for a week on end. During the short summer months the temperature rises to little more than 32 degrees Fahrenheit, dropping to minus 51 degrees Fahrenheit in the winter.

Linked By Radio.

Much of the work of the Survey is done in darkness, for during nine months of the year it is almost perpetual night. Apart from radio, the only link with the outer world can be established between December and April, when ice conditions allow the *John Biscoe* to call and land reliefs and supplies for another year.

Chosen as much for their temperament as their technical qualities, the men share the daily chores of their camps, and take it in turns

to act as cook. Food is largely tinned, supplemented by seal meat, penguin eggs, and fish. They bake their own bread and cakes.

In their off-duty hours they amuse themselves with all manner of card games and other indoor pastimes. They make rugs and model toys, repair boots and shoes, and fashion ice axe handles and other tools.

Each base is equipped with radio-telephone, by means of which contact is maintained with

other bases and with radio amateurs all over the world. Radio communication with the Survey's main base at Port Stanley is continuous.

Despite the arduous conditions under which they live and work, there is no lack of volunteers in Britain to join the ranks of the Falkland Islands Dependencies' Survey. In probing the secrets of the unknown continent of Antarctica they are making an important contribution to world knowledge.

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NAVY GIRLS' NEW JOB

Women can now volunteer for duty afloat in the Royal Naval Minewatching Service, which in time of war will be responsible for spotting and reporting the position of aerial mines laid around the coasts of the United Kingdom.

Until now they have been allowed only to man the minesweeping posts ashore. The Admiralty has decided that they may serve in small craft such as yachts, manned by the R.N.M.W.S., to "cover" approach channels to ports outside the visual range of shore posts.

The women will operate instruments which record the time and bearing of mines dropped by enemy aircraft, and the communication equipment by which information is transmitted to a reporting centre.

The Navy hopes that the new policy will encourage the enrolment into the R.N.M.W.S. of women who are "good sailors," also yachtsmen and their wives. During the last war many members of the W.R.N.S. rendered valuable service in ships.

The R.N.M.W.S. is a civilian organisation administered by the



At sea in an Australian warship, a cadet midshipman takes a "shot" of the sun to help him fix the ship's position.

Royal Navy, and volunteers may serve in an emergency on either a part-time or whole-time basis. Volunteers must be at least 26 years old.

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REVIEWS

"CRETE," the official history of New Zealand in World War II—Oxford University Press, Geoffrey Cumberlege.

At the time when the German attack on Crete developed, the island, in Mr. Davin's words, "found itself with a garrison which owed its composition more to accident than design, with a plan that no longer fitted the strategic circumstances, and with troops who were to fight because they were there, and not there because they must fight." If to that be added the facts that, withdrawn from Greece in urgency when that country was evacuated, many of them—through too literal observance by embarkation officers of a general injunction against delay in their embarkation—had left all their equipment, their supplies and, some of them, even their rifles behind them; that they had no more air support than could be provided by a few Beaufighters operating from Egypt; and that the German preponderance in the air was such that all naval operations by daylight in Cretan waters proved to be impossible except at the cost of crippling losses that could not be accepted; there can be no surprise that the British forces in the island could hold out no more than 12 days. The Cretan campaign—if it can properly be called a campaign—was indeed a lamentable episode in the bleakest period of the war; but it was part of the period that Sir Winston Churchill has described as "their finest hour." It is easy today, looking back on the dark days of 1941 with full knowledge of all the factors in the situation on either side, most of which were hidden from those who had to take momentous decisions at the time, to point out the glaring mistakes that were made. Mr. Davin re-

sists the temptation to facile fault-finding which springs from knowledge after the event, and gives full weight to the situation as it presented itself to the hard-pressed men on the spot, struggling manfully to enable their forces, woefully inadequate to the tasks imposed on them, to hold their own. He demonstrates that the strategic mistakes, moreover, were not all on one side. On the British side, neither was the possibility of having to hold the island against attack foreseen with any clarity, nor were the means of doing so provided—largely because they were in fact non-existent, but though the Germans succeeded in over-running Crete and in eliminating with heavy loss the British and New Zealand garrison trapped in that important island stronghold, it was only at immense cost that they did so. Such was their overwhelming preponderance in the air, and the pitch of efficiency in the dive-bombing of ships at sea to which the Luftwaffe had been trained, that they could have provided a complete "air umbrella" for their sea-borne invasion forces had they chosen to pass them across by day; yet they chose to attempt the sea passage by night, thereby affording to Admiral Cunningham's fleet the opportunity to destroy them which it seized, in Mr. Davin's words, "with all its fell efficiency." Driven back on the expedient of air-borne invasion, they chose to drop their highly trained striking force directly on top of the airfields on the defence of which the over-extended British forces were concentrating, and thus exposed their finest troops to crippling losses which could well have been avoided by choosing dropping zones differently. In General Studebaker's words, "Crete was the

grave of the German parachutist;" and Mr. Davin comments that "the victory of our defeat was that never again were parachutists launched from the air en masse to gain victory at the cost of crippling losses." Having gained the island, the German command made no use whatever—much to the relief of Germany's enemies—of the strategic possibilities of its possession to turn the British position in North Africa.

Mr. Davin tells the story of the 12-day battle against hopeless odds in great detail, in clear and simple language that needs no technical military knowledge for its comprehension. He sums up his able and impartial study of the whole complex episode in a paragraph which well illustrates the outstanding fair-mindedness of the true historian. "One thing at least can be said roundly, in a field where little is certain. Soldiers never fought better than they fought on Crete; and not the least among them the soldiers of the New Zealand Division. No blame for the loss of the island can fall on the rank and file. Nor should this be taken as implying discredit to commanders. No men ever held positions of responsibility in conditions more inimical to success than did the senior officers in Crete; and no men ever discharged their responsibilities more devotedly." H.G.T.

—From the London "Navy."

NAVY LEAGUE'S NEW AFFILIATE.

The Royal Society of St. George has affiliated with the N.S.W. Division of the Navy League of Australia.

The president of the Sydney branch of the society, Mr. John K. Lavett, announced this last month.

The society is also affiliated with the St. George Regiment, the Australian Sea Cadet Corps, and the Empire Day Movement of N.S.W.

A DAY TO REMEMBER

By D.J.M.

SEA CADETS will remember with pride Trafalgar Day, 1954, in Sydney.

For the first time they provided the Trafalgar Day guard of honour at the Cenotaph. Until this year it has always been a R.A.N. guard.

The guard comprised cadets from the training ships, Sydney, Warrego, Australia, Sirius and Perth. They made an excellent showing.

Cadets from T.S. Albatross (Wollongong) and T.S. Tobruk (Newcastle) were able to take part in the Sydney Trafalgar Day ceremony and march, having been given permission to hold a weekend training camp on board H.M.A.S. Vengeance. On Saturday afternoon they helped at the display.

T.S. Sirius (St. George) held two ceremonial church parades to commemorate the Battle of Trafalgar. The first was on October 17, at St. Thomas' War Memorial Church, Kingsgrove; the second, on October 24, was at St. George's Church of England, Hurstville. T.S. Sirius has a special interest in Trafalgar Day. H.M.S. Sirius was in the van during the actual battle.

T.S. Shropshire (Canterbury-Bankstown) is a newcomer to the Corps. The unit has adopted the name because the commanding officer, Lieutenant "Lars" Seymour, had associations with Shropshire in England and with the old ship itself. Lieutenant Seymour and his band of assistants have worked wonders in setting this unit on its course. I visited the unit recently and found the cadets keen and smart. T.S. Shropshire should go a long way. Two officers, one petty officer instructor, and 35 cadets attended the unit's first church parade at St. James'



Church of England, South Canterbury, on November 14.

Anyone going alongside T.S. Sydney (Snapper Island) these days will find a great difference. Cadets of the units built a new wharf themselves, with the exception of the pile driving. The force behind the work was Commander L. E. Forsythe—our divisional senior officer—who never asks anyone to do what he cannot himself do. I have a copy of an old "Sydney Mail" photograph taken in 1927 which shows the commander helping cadets build the Drum-moyne depot. Now, 27 years later, he still shows 'em how.

An interesting feature of the new wharf is that it is fitted with the old Stuart's gangway. If gangways could speak what tales this one could tell!

Sydney's commanding officer, Lieutenant "Alf" Adam, recently returned from Port Moresby, where he took an air-sea rescue boat. He tells of mountainous seas from the moment the boat left the calm waters of the Barrier Reef until it reached Port Moresby. He tells also how he passed the

"Shroppy"—H.M.A.S. Shropshire that was—on her way for scraping. He said she still looked formidable and proud although her teeth had been drawn.

Cadets from T.S. Australia (Waverton) helped at the H.M.A.S. Penguin fair. This was something the Australia cadets are every ready to do because Penguin has the responsibility of mothering the Boom Defence Depot, in which the unit parades. It is pleasing to see the strength of this unit, and others, increasing.

T.S. Warrego (Woolwich), looked like a sinking ship not long ago, has suddenly sprung to life. From a strength of near enough to zero it now has about 30 cadets on strength, and I believe a few more are likely to be added very soon. What is the secret of this splendid recovery? I believe it lies in individual effort. Warrego bravely put on a show a few months ago which gave the grown-ups who watched it an insight into what the Sea Cadet Corps does.

Parents must be shown that in

Continued on page 32.

THE GALLANT FIGHT OF H.M.S. "GLOWWORM"

A Story Of Heroism In Battle, by W. G. RUTLAND.

THE North Sea has rather a notorious reputation for dirty weather. On a certain April afternoon in 1940 this reputation was being fully maintained. H.M.S. Renown was at sea and steaming northward. In the appalling conditions her screening destroyers bucked and squirmed as they struggled to keep station.

One of the destroyers engaged in the task of screening Renown was H.M.S. Glowworm, and how little did those on board realise that they were shortly to start a chain of events that finally would prove as thrilling and gallant as any in naval history.

The first incident to record in this brave adventure is the cry: "Man overboard, starboard side," which echoed through Glowworm during the afternoon. Immediately this happened the ship was swung off course and rescue preparations made at top speed. In spite of the difficult conditions the ship was nosed slowly but surely toward the unfortunate rating, until at last he could be hauled safely inboard. With this accomplished, Glowworm was once more able to get under way on her original course. However, much time had been lost, and Renown, with her escorting destroyers, had long since disappeared in the mist.

With a rising wind, and in sea conditions rapidly getting worse, Glowworm battled along at top of the main force. This proved a speed in an effort to catch up with hopeless task. Rough seas made high speed almost unbearable for ship and crew, so with daylight beginning to fade, the captain decided to reduce speed and rely upon making up leeway when conditions were more favourable. Therefore, throughout the night Glowworm paddled along at a steady 10 to 15 knots.

The night was uneventful, but the ship's company were quickly brought into action at daybreak next morning. As the dawn broke, cold grey and misty, a German destroyer hove in sight off the starboard bow. Immediately Glowworm prepared for the encounter, and as she altered course, working up to full speed as she did so, orders were flashing to her guns. Even then the Nazi beat her to it, and was first to open fire. In fact before the British ship fired at all, a second German destroyer was observed in close company with the first. However, this in no way deterred Glowworm's captain. The ship was built to fight—trained to fight—and fight she would.

To train and lay guns with pinpoint accuracy on a destroyer travelling at speed in a heavy sea is, to say the very least, extremely difficult. The fo'c'sle would be almost continuously awash, so that "A" gun's crew, with only on open gun shield for protection, would be hard pressed even to keep on their feet, and even "B" gun's crew would fare little better. It is not surprising, therefore, that under these circumstances exchanges continued for some minutes before either side was able to register a hit upon their target. Then it was the crew of Glowworm who had the gratification of seeing a shell burst on the fo'c'sle of the leading German destroyer. As this shellburst developed into a glow of flame the German cried enough, altered course, and made off at top speed with the second destroyer hard behind her. Without a second's hesitation the Glowworm's skipper set off in pursuit—then came disaster.

Almost at once a look-out reported yet another enemy ship—this time a cruiser. Anxiously all

eyes on the bridge were focused upon her, and recognition was not long delayed. It was the German heavy cruiser Hipper.

Whatever alternatives lay before Glowworm's captain, he unhesitatingly accepted this new challenge. The situation was tragic in its hopelessness, but a lifetime's training and centuries of tradition cannot be denied or set aside in a flash. It would be hard to imagine a combat more unequal. The Hipper—made to be hit, and to hit back with a main armament of eight 8-inch guns. Challenging against this came a ship of thirteen hundred tons whose main function was to seek and destroy submarines. Her fire power could not seriously imperil her adversary, and her thinly plated sides offered no resistance to the weight of steel the Hipper could, and certainly would, hurl upon her. There was one forlorn hope—torpedoes.

Calmly and methodically orders were issued from the bridge of Glowworm. A call to the engine room for smoke, then, "Stand-by all tubes." At almost top speed she raced in to launch her attack, and the German guns remained silent—then at under 5,000 yards, point-blank range, the Hipper opened fire. The avalanche of H.E. shells broke with devastating effect upon the British ship, killing all but two of those on her bridge, but leaving her gallant captain unharmed. Having missed with the first discharge of torpedoes, Glowworm left the covering pall of her own smoke, into which she had retired, to launch yet another attack, but no ship of her size could hope to survive the battering that she was being subjected to—but Glowworm had not finished.

Despairingly her captain, still at his station on the bridge, gave the order "Full ahead together," followed by perhaps the most dramatic of all orders, "Stand by to ram."

Desperately the German gunners sent salvo after salvo in their efforts to keep her out, but the brave little Glowworm was not to

be denied, and with a grinding crash she dug her bows deep into the *Hipper's* side. As she slid back from the impact and drifted clear, those of her crew still alive abandoned ship, and shortly afterwards, still under intense bombardment, she settled in the water, and finally sank below the surface.

At the start of the battle, *Glowworm's* total complement was 140. When all was over, and the *Hipper's* crew were trying to save life as earnestly as they had wanted to destroy, 30 men were picked up and taken aboard the German cruiser. One hundred and ten, including the captain, had been lost.

As a result of the action *Hipper* was badly holed, but managed to limp her way back to Germany, where she remained. The *Glowworm's* valiant captain, Lt. Comdr. Roope, R.N., was posthumously awarded the Victoria Cross.

The story of the *Glowworm* is a sad but proud one. Circumstances had forced her into a lone battle against overwhelming odds. Everyone on board must have known what the ultimate result would be, but they did not waver, and by their sacrifice and devotion to duty there is little doubt that many hundreds of lives were eventually saved.

—From the London "See Cadet."

FOR SEA CADETS.

Continued from page 30.

joining the Sea Cadets their boys are not being recruited for war. I am sure many parents, if they realised the objects of the Corps, would want their boys to become sea cadets.

Keep it up *Warrego*. Remember the exploits of the ship whose name you have adopted. It is a name to be proud of.

Appointments:

L. J. Seymour, appointed to T.S. *Shropshire*, in the rank of Lieutenant.

A. L. Brooker, T.S. *Shropshire*, sub-lieutenant.

D. Kiely, T.S. *Perth*, sub-lieutenant.

H. Lawson, T.S. *Tobruk*, chief petty officer instructor.

B. Walsh, T.S. *Perth*, sub-lieutenant.

G. Dor, T.S. *Tobruk*, chief petty officer instructor.

Advancements:

Cadet leading seaman to cadet petty officer: 722 A. Gillett, T.S. *Sydney*.

Cadet leading seaman to cadet petty officer: 534 G. H. Stevens, T.S. *Australia*.

Cadet acting leading seaman to cadet leading seaman: 910 K.L. Johnson, T.S. *Sirius*; 581 J. H. Mildner, T.S. *Australia*.

Cadet able seaman to cadet acting leading seaman: 586 J. Bauman, T.S. *Albatross*; 613 G. E. Spooner, T.S. *Albatross*.

Recruit sea cadet to cadet ordinary seaman: 1101 B. S. Crossweller, 1117 H. Lovewell, 1008 W. Seitz, Wearne (all T.S. *Perth*.)

Recruits, October Entry:

T.S. *Sydney*: 1178 B. E. Palmer, 1186 M. A. Ogilvie, 1203 T. A. Thomas, 1204 V. W. Sutherland, 1205 E. A. Creed, 1206 W.C.V. Bousfield.

T.S. *Australia*: 1195 G. K. Andrews, 1197 R. J. Trimmer, 1198 A. B. Ditcham.

T.S. *Warrego*: 1176 W. Bellis, 1177 J. Hunter, 1185 R. Grubb, 1191 V. V. Morris, 1199 W. Franklyn, 1200 B. Guadby.

T.S. *Perth*: 1180 J. Norton, 1181 J. W. Leary, 1182 P. V. Hillyer.

T.S. *Sirius*: 1187 J. Kane, 1188 R. A. Marsh, 1189 A. McGregor, 1190 R. McKechnie, 1192 D. L. Bryant, 1193 F. Riley, 1194 P. Henkel, 1196 W. D. Craik, 1201 G. McCoy.

T.S. *Albatross*: 1197 W. Scott.

TASMANIAN CADETS.

G.E.W.W.B.—In Hobart, T.S. *Derwent* held an "Open Day" at the naval depot H.M.A.S. *Huon* to mark the sea cadets' final parade of the year.

About 100 parents and friends

saw the cadets under instruction in classes of gunnery, seamanship and signals, including a sea boat's crew called away without warning.

Official visitors included Mr. C. H. Hand, M.L.A., State president of the Tasmanian Branch of the Navy League; Mr. Guy Rex, vice-president; Commander G. E. W. W. Bayly, O.B.E., V.R.D., R.A.N.V.R., senior officer Tasmanian Division, and Lieutenant-Commander G. Lanning, R.A.N.V.R., divisional training officer.

Mr. Hand presented prizes to the cadets. He said he was impressed by their smart turn-out.

Cadet Able Seaman L. Abbott won the cup for the best cadet of the year.

Two cadets have reached the age limit and will do their national service training with the R.A.N. They are cadet petty officer J. Brassington and cadet able seaman G. Picken.

In Launceston on November 13 the Governor of Tasmania, Sir Ronald Cross, unveiled a memorial to Lieutenant W. Collins, who landed from the brig *Lady Nelson* in 1804 at the place now known as King's Park.

On arrival at the Park the Governor inspected a guard of honour drawn from the sea cadets of T.S. *Tamar* under the command of Lieutenant G. Cutts, A.S.C.C.

After the unveiling ceremony the landing of Lieutenant Collins was re-enacted. Cadets from T.S. *Tamar*, dressed in period uniform, manned the whaleboat which pulled Lieutenant Collins ashore.

The following have received appointments in the Tasmanian Division A.S.C.C.: Sub-Lieutenant H. I. J. Ingram, T.S. *Leven*, Ulverstone; Sub-Lieutenant D. Heath, T.S. *Derwent*, Hobart.

Sub-Lieutenant Heath, a former sea cadet, has just completed his national service training with the R.A.N.



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