THE Navy

JUNE 1962

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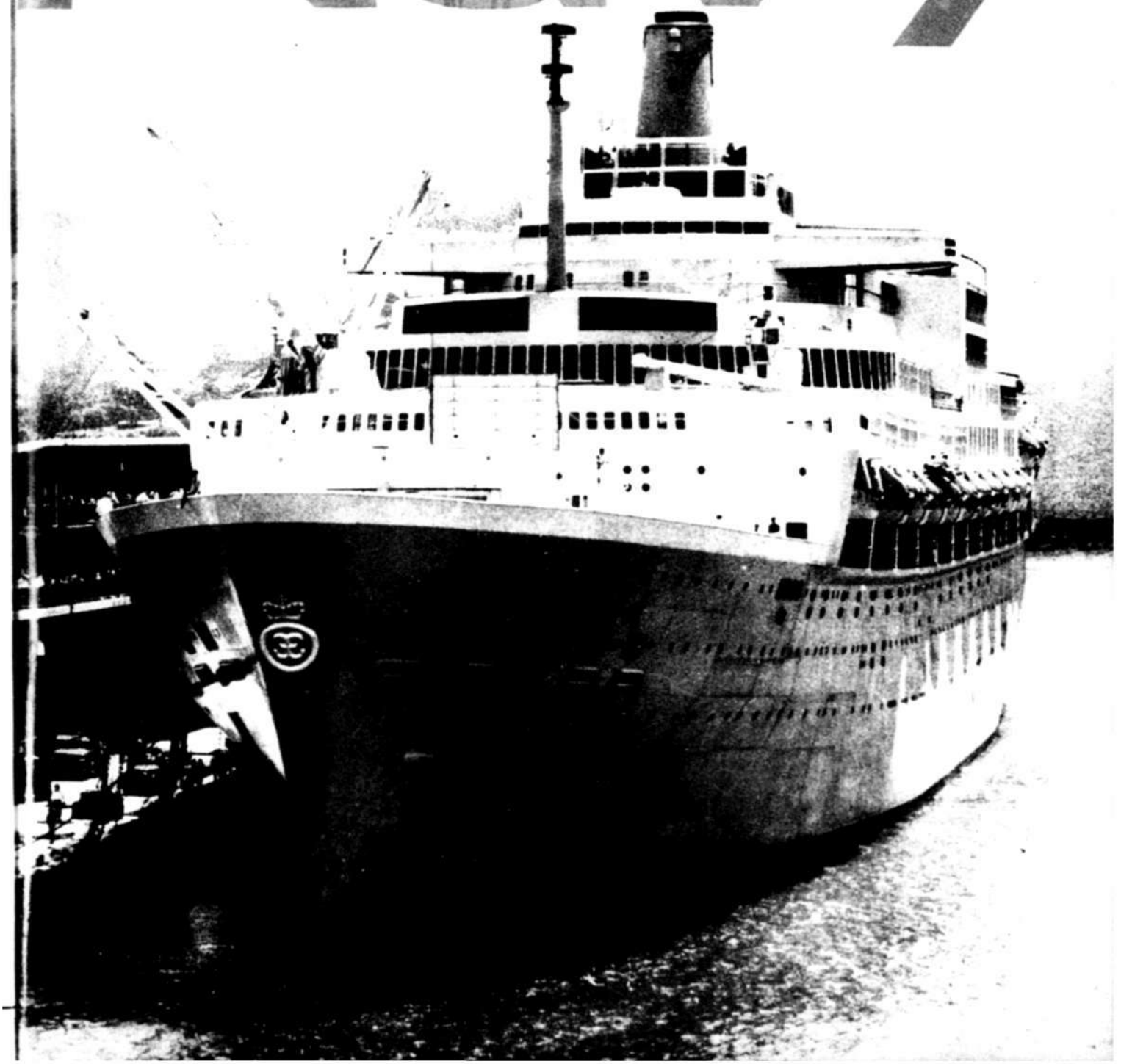

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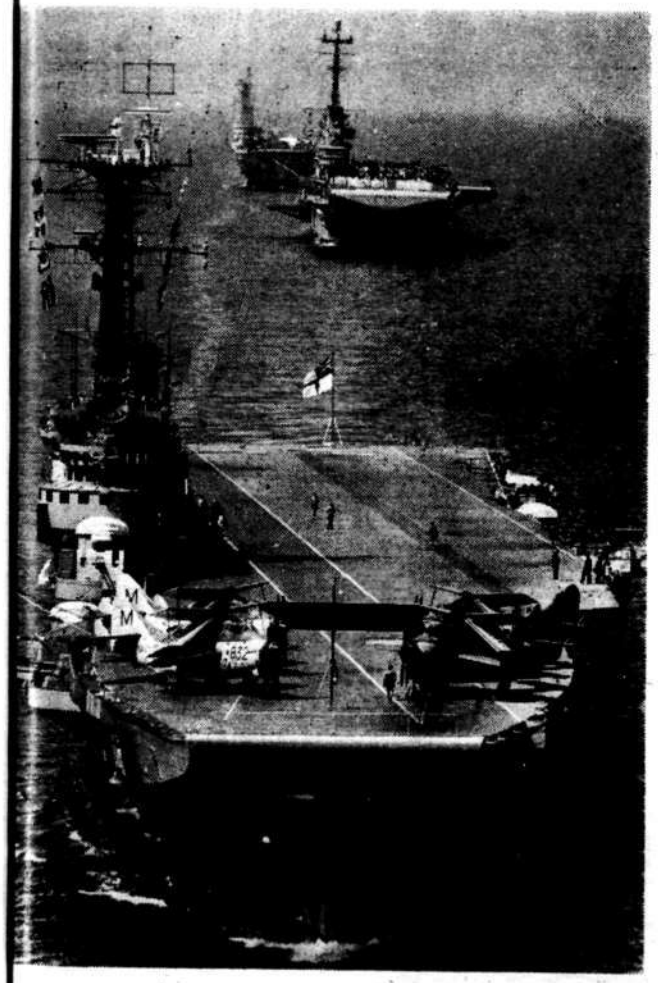
R.A.N. Heads International Force



The flagship of the Royal Australian Navy, H.M.A.S. MELBOURNE, from whom Rear Admiral A. W. R. McNicoll directed the exercise, leading the American Carrier BENNINGTON and H.M.S. ARK ROYAL.

Australia recently controlled one of the biggest Naval fleets to cross the South China Sea in peacetime.

Nearly fifty ships from six allied Navies sailed under the command of an Australian admiral. Known as "Sea Devil" the event was a South East Asian Treaty Organisation training exercise, and was directed from the Australian flagship, H.M.A.S. MELBOURNE.

Staged in the South China Sea, it was only the third occasion on which Australia had controlled a major SEATO exercise. It provided valuable experience for the Royal Australian Navy. Not only did "Sea Devil" give the R.A.N. greater understanding of the complexities of directing an international Fleet, but the tactics themselves were of special importance to Australia.

"Sea Devil" was devoted to three types of sea warfare that have particular application in the defence of Australia's extensive sea communications. The exercise was designed to test the ability of SEATO Navies to work together in anti-submarine warfare, air defence at sea, and the clearance of minefields. These would be the main tasks for the Royal Australian Navy in the event of war.

To ensure the continuity of essential supplies to Australia, and to safeguard troop convoys, the R.A.N. must have the capability of dealing with the submarine menace. But the danger to convoys using Australia's far-flung sea communi-

cations would not come only from beneath the sea. Enemy aircraft would pose a major threat to convoys, particularly when the ships were out of the protective range of shore based fighters. In SEATO exercise "Sea Devil", air defence was based on carrier-borne aircraft. Mines would be a further danger to Australia's sea lifelines, and would cause havoc if laid in the coastal shipping routes. In "Sea Devil", Ton class minesweepers of the type being obtained for Australia this year were used to clear minefields in Manila Bay.

Realistic Training

While "Sea Devil" was helping to strengthen SEATO defence by improving Naval co-operation between six Navies, ships of the Australian fleet were benefiting from realistic training.

In addition to planning and running the exercise, Australia contributed four warships, two Fleet Air Arm squadrons, and an R.A.A.F. maritime squadron. The ships were the aircraft carrier, H.M.A.S. MELBOURNE, two destroyers, VENDETTA and VOYAGER, and the anti-submarine frigate, QUEENBOROUGH.

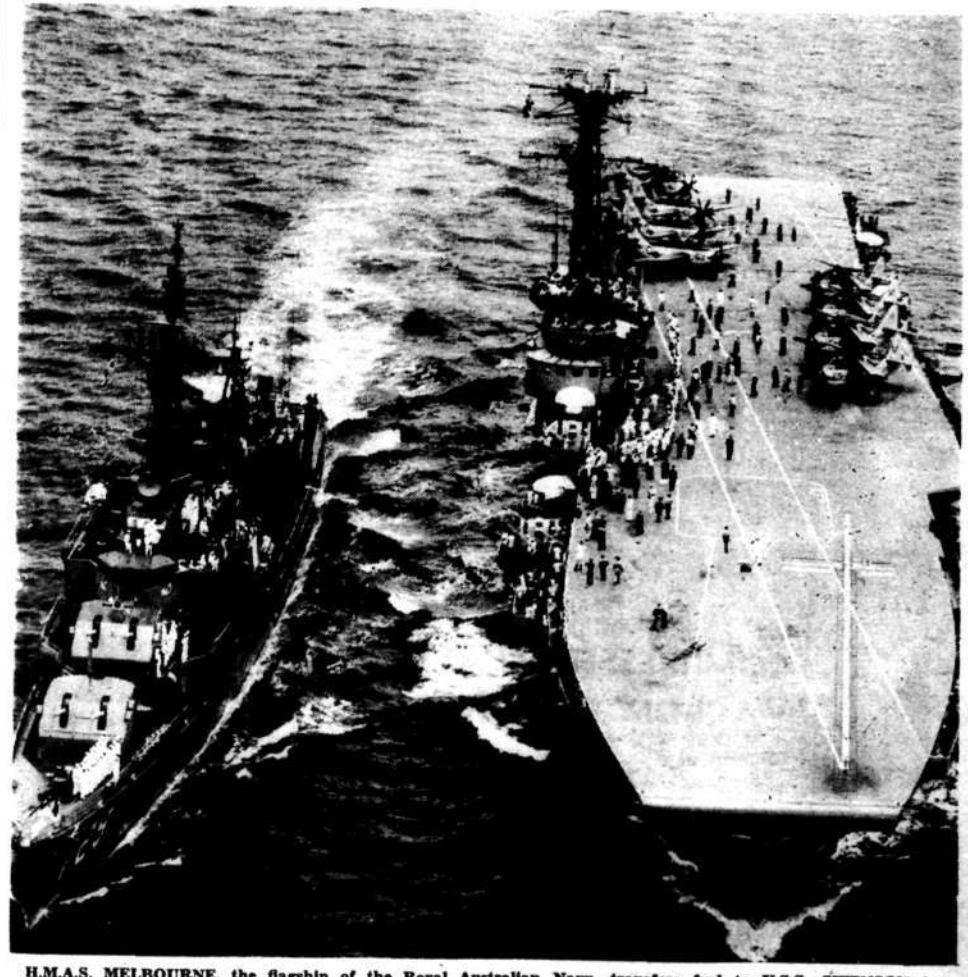
The R.A.N.'s Gannet squadron made a significant contribution to the anti-submarine defence in the exercise, and the Venom fighter squadron was based ashore to act in the enemy role. The R.A.A.F.'s long range maritime aircraft also quickly won respect by scoring an early "kill" against the submarines.

The main stage of "Sea Devil" was based on the assumption that an aggressor was invading the Philippines from the north. The combined Navies of Australia, New Zealand, Pakistan, Thailand, the United Kingdom and the United States had the task of ensuring the safe and timely arrival of a convoy in Manila.

Throughout the ten days of the "war game" phase of the exercise, the international force was subjected to attack from submarines and aircraft, while a minefield had to be cleared before the convoy could enter Manila Bay.

R.A.N. Planners

The SEATO Task Force was under the Command of the Flag Officer Commanding the Australian Fleet, Rear Admiral Alan McNicoll. From H.M.A.S.



H.M.A.S. MELBOURNE, the flagship of the Royal Australian Navy, transfers fuel to U.S.S. SWENSON in the China Sea during the exercise.

MELBOURNE he controlled an exercise involving nearly fifty ships, sixteen-thousand men and some 150 aircraft. The complexities of welding six Navies into an efficient combined force was the responsibility of Admiral McNicoll and a group of young officers on his staff.

Commander Andrew Robertson, the Fleet Operations officer, played a leading role in planning the exercise. Aged 37 he comes from Pymble, N.S.W.

Giving special attention to the anti-submarine aspects of the exercise was the Fleet's Torpedo/Anti-submarine Officer, Commander John Stephens. Commander Stephens is 34, and comes from Mosman, Sydney.

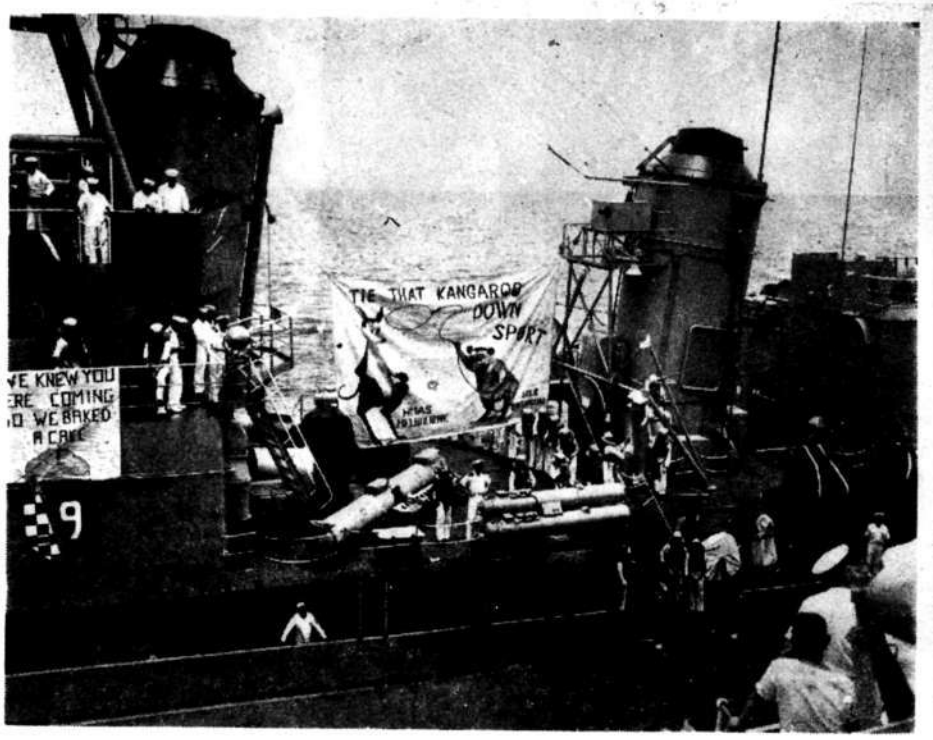
Gunnery problems, particularly in relation to air defence, were the responsibility of 35 year-old Lieutenant-Commander John Harrington, of South Hurstville, Sydney.

Co-ordinating the flying of the Fleet Air Arm aircraft was Commander Digby Johns, who is Commander Air in H.M.A.S. MELBOURNE. Commander Johns, who flew with the R.A.A.F. in the second World War, is 39 and comes from Ungarie, N.S.W.

Navigating the international force was the Australian Fleet Navigator, Commander Pat Burnett. He is 34 years old and is making his home in Canberra.

The intricacies of ensuring smooth communications between six Navies was the task of 34 years old Lieutenant-Commander Ian Nicholson, of Fairlight, Sydney.

Weather forecasting for the SEATO exercise, and the control of the Command Information Bureau, were in the hands of Instructor Commander George Histed. On the weather front, Commander Histed was faced with an early problem when Typhoon Georgia developed near the exercise area. He forecast, correctly, that the typhoon would swing north before reaching the SEATO force. Commander Histed who is 37 years old, comes from Willoughby, Sydney.



U.S.S. SWENSON had its own welcoming posters when it came alongside H.M.A.S. MELBOURNE to fuel.

Sea Power

During "Sea Devil", Australia joined the United States in presenting a spectacular demonstration of SEATO Naval strength.

The demonstration was held in the South China Sea near Manila, and was watched by many Filipino citizens and by attaches of SEATO nations.

Steaming behind a line-abreast screen of destroyers, MELBOURNE and the United States carrier, BENNINGTON, became grandstands for an unprecedented display of SEATO anti-submarine power.

Layers of aircraft filled the sky. Highest flying planes were the long-range maritime aircraft from the United States, Australia and New Zealand. Below these big aircraft flew the Australian Navy's Gannets and American Trackers, while hovering just above the water were the U.S. Navy's anti-submarine helicopters.

On the surface, the American and Australian destroyers and frigates sent columns of water high into the air as they fired a wide variety of anti-submarine weapons, ranging from the R.A.N.'s Limbo mortar to the U.S. Navy's Alpha anti-submarine missile.

The aircraft dived out of the sky to demonstrate their fire power against submarines, and the display highlighted the integration of surface and air forces in the detection and destruction of submarines.

It was no coincidence that Australia teamed with the United States in this presentation of Naval power. In its own right, the Royal Australian Navy ranks as one of the most effective Naval forces in South East Asian waters.

Thousands of sailors enjoyed the post-SEATO leave in Manila and wasted no time in shopping excursions. This picture shows Naval Airman M. Lancaster, of Brisbane, indulging in the usual "bargaining" over the purchase of a present for home.

WARSHIPS "SUPER-MARKET"

"Sea Devil" saw a remarkable scene in the South China Sea when two Task Groups rendezvoused for the final convoy to Manila.

In the early light of a Sunday morning, ships of six nations converged from all points upon a designated position in the South China Sea.

In all directions, as far as the eye could see, there were ships . . . supply ships, frigates, destroyers and, dominating the scene, the massive outlines of three aircraft carriers (H.M.A.S. MELBOURNE U.S.S. BENNINGTON and H.M.S. ARK ROYAL).

The immediate task was replenishment of fuel, stores and ammunition before the joint force ran the gauntlet to Manila. The sea became a giant super-market as the "Shopping" warships sped from one specialist supply ship to another. Keeping to a strict time table, the ships obtained fuel from Fleet tankers, stores from cargo carriers and shells from ammunition carriers.

All the while the international Fleet was underway, demonstrating the mobility of a modern Naval force backed by replenishment-at-sea facilities.

Australia will have her own replenishment-at-sea ship later this year when a "Tide" class tanker arrives from Britain.

"Sea Devil" was the twenty-first exercise held under the auspices of SEATO. All the exercises have been designed to increase SEATO's defensive strength against various types of aggression.

"Sea Devil" has ensured that six Navies could operate smoothly together in protecting sea communications against submarine and air attack. It has also given new prestige and experience to the Royal Australian Navy.

A NEW GENERATION OF AIRCRAFT CARRIERS

By George Holt

The first models of what may be a new generation of British aircraft carriers are to be built at the Admiralty Experiment Works at Portsmouth. Experts there will conduct tests on the models with the object of solving the many problems confronting the constructor, not only in regard to speed and manoeuvrability, but also to ensure that the new carrier's seakeeping ability in any kind of ocean is beyond question, and that its motion in heavy weather permits the maximum availability for flying operations.

The models, weighing more than two tons and crammed with recording instruments to register their behaviour through the severest simulated sea-going tests, will be operated under remote-control in the most modern test conditions in the world. They will be tested over a period of more than a year, for the most part in the Establishment's £1,500,000 manoeuvring tank opened by the Duke of Edinburgh last December.

The work marks the beginning of design studies for a possible future carrier, which in February the British Government announced it was to undertake. The decision whether to build such a ship has yet to be made. The Government has indicated in Parliament that the Admiralty has in mind a ship of perhaps 50,000 tons that might well cost £50 millions.

The tests at Portsmouth will be made under the direction of the Establishment's Superintendent, Mr. A. J. Vosper. For him they are one further challenge in an unending struggle to make science and the sea co-operate to provide the maximum advantage for the Royal Navy. Since the war constructors and scientists of this Establishment have searched for, and found, many secrets which have helped to give Britain's post-war submarine hunters, her submarines and her guided missile ships their speed, manoeuvrability, and seaworthiness in all kinds of seas.

These secrets — often exchanged with the United States and Commonwealth and NATO navies — extend even to the anchors.

With the ever-increasing complexity of weapons systems it has become necessary in ship designs to assess the performance of each ship as an integrated fighting unit, and to do so under realistic operational conditions. The new manoeuvring tank provides this sense of realism. It is 400ft. long and 200ft. wide and is fitted with powerful wave-making equipment which can create regular or irregular seas of any description.

The Superintendent, of course, does not reveal what secrets he seeks to discover for Britain's naval designers, but he is ready to point the direction in which he and his colleagues are searching now. He explains that the manoeuvring tank will give his staff the opportunity to study the problems of dock motion on a carrier — and to emphasise this aspect of the coming tests he adds that in a force eight gale the sea will lift and drop the flight deck of a carrier, as now designed, as much as sixty feet. He adds that the control of a guided missile fired from the sea depends on the ship being as steady a platform as possible. "Therefore," he says, "if you can build a ship to have the minimum motion you have made a good start."

The manoeuvring tank is also equipped with a great rotating arm which pivots about a central island in the tank. With models attached to this arm the experts can study the dynamic stability of both surface ships and submarines. A really stable ship is naturally more difficult to deflect from her steady path when she has to manoeuvre. Thus stability and control, or response to rudder, are to some extent conflicting requirements. It is one of the tasks of the Admiralty Experiment Works to seek the best compromise to these problems in meeting particular naval operational requirements.

The Superintendent explains how his Establishment checks the geometry of the turning circle of a ship, by model tests. In these experiments lights are mounted at the bow and stern of a self-propelled, remote controlled model. The lights are fitted to lie in a horizontal plane on the moving model, at a known distance from the camera lens. The model is run up to speed, the rudder is ordered over to the required angle by remote control, and the model is allowed to com-

plete a 360 degrees turn. The model's path is recorded photographically by multiple exposures on a single plate. The photograph shows the position of the bow and stern lights at various points during the experiment. By analysing these photographs the experts are able to assess all the relevant turning characteristics of the craft, and the scope of these experiments is now being widened to include the measurement of rudder forces and zig zag and spiral manoeuvres with remote-controlled models.

The anchor tests at the Establishment have resulted in the ships of the Royal Navy being equipped with the safest and most efficient anchors in the world. Design information resulting from these anchor tests has been made freely available to the shipping and shipbuilding world.

The Establishment has also produced a new type of anchor for permanent moorings which weighs only one-eighth of the weight of those now in use but provides the same holding pull, and which will save millions of pounds in the process of normal replacement of the anchors to the permanent moorings around the coast of Britain.

ASH DISPOSAL RESEARCH

Research into the prospects of disposal of fine fly ash at sea is being carried out by the N.S.W. Electricity Commission in conjuction with the University of New South Wales and with assistance from the C.S.I.R.O.

The Navy and the Volunteer Coastal Patrol are co-operating in field tests which began off Wybung Head, central coast, on June 13.

In these tests, trial loads of fine ash will be dumped through hoses to the sea bed, and the dispersal of the ash tracked by skin divers and by surface observers using echo sounding and charting equipment.

Fly ash consists of very fine particles collected by electrostatic precipitators from power station flue gasses before they leave the chimneys.

The research is proceeding on the theory that such fine particles will be carried out to sea below the surface and dispersed in deep water.

The theory will be scientifically tested for the first time in the tests off Wybung.

Purpose of these and associated experiments is to study the possibility of large scale disposal at sea of fly ash from power stations in the northern area.

Some of the investigation work is being carried out by the C.S.I.R.O. at its Oceanographic Laboratory, Cronulla.

For the ash disposal tests off Wybung Head the Navy will provide a team of divers, and the Volunteer Coastal Patrol will provide boats used as bases for observations.

The Police Diving Squad has previously trained a number of Commission engineers in diving.

Members of the Commission's Power Development Branch/Projects Division are taking an active part in the tests, directed by Engineer Power Development Bruce Kirkwood.

Projects Division observers will co-ordinate the results of the tests with other investigation work, but there are no firm plans for the use of the method at this stage.

RESERVE SAILORS LEAVE FOR U.K.

A party of twelve ratings of the Royal Australian Naval Reserve has left Sydney for Britain to help man new ships for delivery to Australia later this year.

The men are the first of fifty-six R.A.N.R. ratings who will go to England to serve in Australia's new minesweeping squadron. This was one of the most significant peace-time contributions made by Australia's Naval reserves.

The first twelve reserves, who come from all parts of Australia, are electrical and engineroom ratings. In private life they range from clerks to medical orderlies. They will undergo special training courses in England before joining their ships during July and August.

Three Reserve officers have already left for Britain, and three more will go later, making a total of sixty-two reserve officers and men in the minesweeping squadron. The reserves will comprise sixty per cent. of the crews in four of the six minesweepers, which are due in Sydney in December.

R.A.N. GETS WARM WELCOME IN JAPAN

Thirty-thousand people have visited five ships of the Australian Combat Fleet since they arrived in Japan.

The flagship, H.M.A.S. MELBOURNE, is heading the biggest force of Australian ships to go to Japan in peacetime.

MELBOURNE, flying the flag of Rear Admiral Alan McNicoll, the Flag Officer Commanding the Australian Fleet, fired a national salute on her arrival at Tokyo's seaport city. A shore battery returned the salute.

The Australiain force comprises MELBOURNE, the destroyers, VENDETTA and VOYAGER, and the new frigates, YARRA and PARRAMATTA. MELBOURNE is carrying twenty-one Naval aircraft, and there is a total of two-and-a-half-thousand men in the Task Group.

The Minister for the Navy, Senator Gorton, said that the Australians were given a very warm welcome, with the Japanese arranging sightseeing tours and sporting fixtures. In the visits already made to Nagasaki, Kure and Kobe, some thirty-thousand people had taken advantage of open days on the Australian ships.

Host ships for the Australian Fleet in Yokohama were the Japanese Training Squadron, commanded by Rear Admiral Noburo Nagai, which is to visit Australia in July.

NEW CAPTAIN FOR FLAGSHIP

A new captain has been appointed to command H.M.A.S. MELBOURNE, the flagship of the Australian Fleet.

The Minister for the Navy, Senator Gorton, announced recently that Captain R. I. Peek, O.B.E., D.S.C. would take command of H.M.A.S. MELBOURNE. He will also serve as Chief Staff Officer to the Flag Officer Commanding the Australian Fleet, Rear Admiral Alan McNicoll.

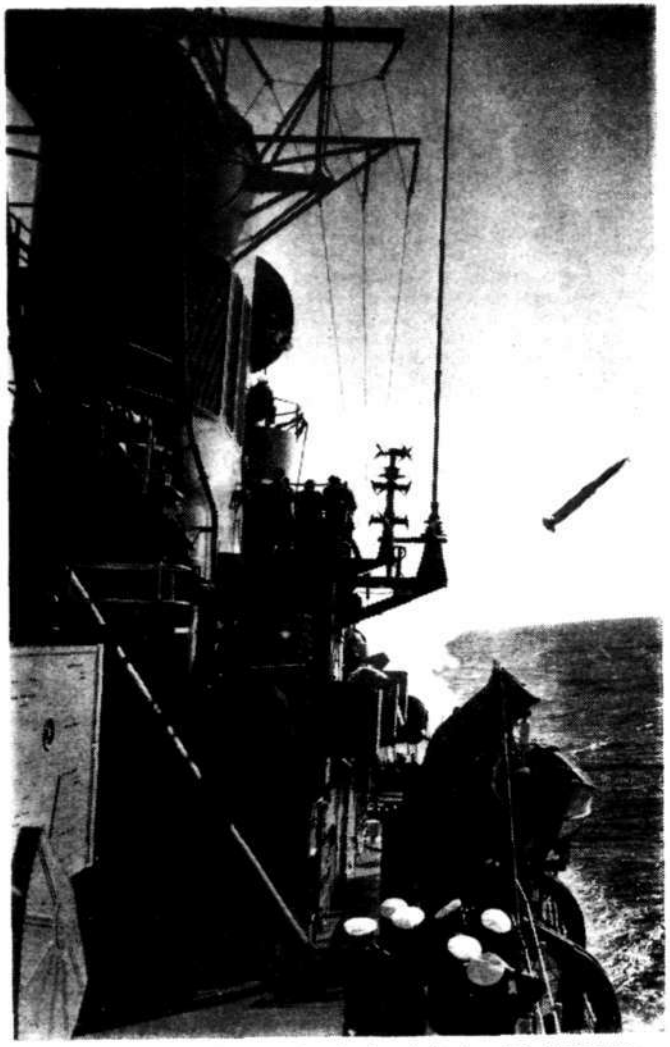
Captain Peek succeeds Captain V. A. Smith, D.S.C., who is to become Second Member of the Naval Board with the rank of Acting Rear Admiral.

Captain Peek has been in command of the fast troop carrier, H.M.A.S. SYDNEY, since his return from the United Kingdom earlier this year. In Britain he was on exchange duty with the Admiralty and also attended the Imperial Defence College.

He began his Naval career thirty years ago when he graduated from the Royal Australian Naval College (1932). During the Second World War he served as Squadron Gunnery Officer in both H.M.A.S. HOBART and H.M.A.S. AUSTRALIA. He was awarded the D.S.C. for skill and devotion to duty at Lingayen Gulf.

Since the war he has served at Navy Office as Director of Plans and as Deputy Chief of Naval Personnel, and he has also commanded SHOALHAVEN, BATAAN and TOBRUK.

Captain Peek will fly to Townsville to formally take command of MELBOURNE when the flagship arrives there on her way home from a tour of duty in South East Asia.



Shown above is a Tartar surface-to-air missile launched during the guided missile carrying destroyer's visit to Sydney. The Australian ships will have the Sea Cat missile.

Guided Missile Destroyer

Australians recently had an opportunity of seeing, in the U.S.S. TOWERS, the type of destroyers which are to be built for the R.A.N.

The Commanding Officer of TOWERS, Commander L. D. Cummins, said:—

"TOWERS is one of our country's newest guided missile destroyers. She is a versatile ship configured for both anti-air and anti-submarine operations. Incorporated in her are the latest in radar, missiles, communications gear, propulsion equipment, sonar and other devices needed to do the many jobs that come a destroyer's way in helping to keep the sea lanes free.

Four boilers produce nearly 80,000 shaft horsepower, giving the ship a speed of 35 knots.

Use of aluminium for the superstructure permits greater flexibility of design and provides the necessary balance for new and heavier weapons which use the all-welded high-strength steel hull for the unyielding platform.

The TARTAR surface-to-air missiles are capable of searching out targets at supersonic speeds.

The primary anti-submarine weapon carried is the A.S.R.O.C. launcher which fires A.S.W. rockets equipped with either homing torpedoes or depth-charge heads.

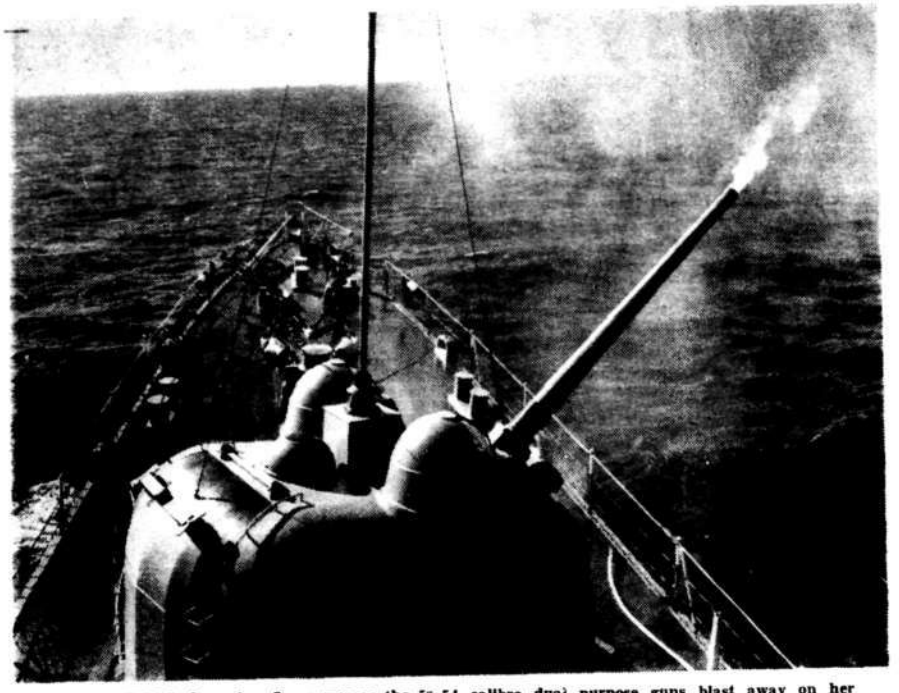
TOWERS 5" 54 calibre general purpose rapid fire guns are controlled by intricate electronic systems coupled with radar and sonar detection and tracking equipment.

The ship is designed for a wartime complement of 354 officers and men.

The ship's overall length of 437 feet with a beam of 47 feet gives a full load displacement of 4500 tons, half again as heavy as a typical World War II destroyer.

She was commissioned in June, 1961, and is named after the late Admiral J. H. Towers, the U.S. Navy's Third Naval Aviator and later Chief of the Bureau of Aeronautics and Commander U.S. Pacific Fleet. Admiral Towers died in 1955.

U.S.S. TOWERS, the 4,500 ton missile carrying destroyer, entering Sydney Harbour.



U.S.S. TOWERS shows her fire power as the 5" 54 calibre dual purpose guns blast away on her demonstration to Australian V.I.P.'s off Sydney Heads.

U.S.S. TOWERS SHOWS FIRE POWER ABILITY

A highlight of her visit was a demonstration, to high ranking Federal members of Parliament, led by the Minister for Navy, Senator Gorton, and Royal Australian Navy Officers, of her fire power which comprised the suface-to-air missile "Tartar" and her dual purpose 5-inch 54 calibre guns.

Royal Naval Survey Ships Return After Discoveries

The Survey Ships H.M.S. OWEN and H.M.S. DALRYMPLE returned to the U.K. on 31st May after a series of surveys, respectively in the Indian Ocean and Persian Gulf, as a result of which it has been discovered that the East African Continent may extend underwater almost as far as the Seychelles, nearly 1,000 miles from the existing coastline.

H.M.S. OWEN, which sailed from the U.K. in September last year for the first of five seasons in the Indian Ocean, reports that her survey work has revealed an offshore zone 200 miles wide and extending about 2,000 miles from Madagascar to Socotra. The zone is characterised by a striking absence of gravimetric and magnetic relief, suggesting that the whole zone may be underlaid by a wedge of sedimentary rocks, several miles in thickness and effectively extending the Continent of Africa.

Geologists working on land in East Africa and Madagascar have suspected that the eastward tilted Continent might continue beneath the deep water of the Indian Ocean, and the findings of H.M.S. OWEN this year appear to confirm this. If these early findings of H.M.S. OWEN are confirmed by further survey work by the ship next year, they will pose a considerable problem to geophysical theorists.

Although H.M.S. OWEN'S work has been mainly geophysical, she has completed some inshore survey work in the vicinity of Lamu, Kenya, in addition to many small tasks in the Seychelles, Cosmoledo and at Addu Atoll. She has carried civilian scientists to work with the Royal Naval Hydrographic officers, and these have included scientists from Cambridge University, the National Institute of Oceanography and the British Petroleum Company. The scientists (geophysicists) used instruments to measure the force of gravity and the strength of the earth's magnetic field whenever the ship was at sea. The minute fluctuations of these forces give clues which suggest what sort of rocks may be buried underneath the sea-bed over which the ship has passed.

This work has been part of the British contribution to the International Indian Ocean Expedition, jointly sponsored by the International Council of Scientific Unions and by UNESCO, and has two objects: the scientific exploration of the marine biology, water circulation and submarine geology of the Indian Ocean; and the encouragement of marine sciences in the countries bordering the Indian Ocean, whose rising populations may soon compel them to turn to the sea for food. The Expedition will occupy almost all of the world's larger research vessels during the coming two years, but H.M.S. OWEN, working in the Arabian Sea, was amongst the first ships in the field. Her scientific programme was planned by a Committee set up by the Royal Society at the invitation of the Hydrographer of the Royal Navy (Rear Admiral E. G. Irving, O.B.E.) and its execution was entrusted to the Cambridge University of Geophysics.

The programme has been a reconnaissance of the sea-floor geology of the Arabian Sea—a little known area as large as the U.S.A.—which will make it possible to select key problems and localities for detailed investigation by British ships next season.

Both on the way out to the Indian Ocean and on her return passage, H.M.S. OWEN has reconnoitred a system of strongly magnetised volcanic ridges and chasms running diagonally across the Gulf of Aden. Several atoll groups have been visited to estimate the depth of volcanic basement beneath the coral.

Four long traverses by the ship, extending from Africa to India, have given a clearer picture both of the physiography of the floor of the Arabian Sea and of the northward course of the Carlsberg Ridge (the great mid-ocean range of submarine volcanoes which reaches south to join the similar mid-Atlantic ridge off the Cape of Good Hope).

H.M.S. OWEN'S work has several times in the last few months taken her to the Seychelles—the only islands in the world essentially made of granite. Mineral specimens collected there by the scientists embarked, the ship's own Naval underwater demolition team, the late Governor of the Seychelles, and by Mr. B. H. Baker, of the Kenya Geological Survey, have been dated at laboratories in Cambridge and in California proving that the Seychelles granite is more than

500 million years old—an age comparable with that of the older rocks of East Africa.

The ship has also discovered that this granite mass was riven apart and its central area invaded by wedges of basalt and pierced by a volcano much more recently (about 40 million years ago), possibly at the time of the break-up of the eastern extension of the African Continent.

Finally, in addition to the collections of rocks and readings, a party from the ship collected specimens of the Coco de Mer, peculiar to the Seychelles, which will be planted in Cambridge.

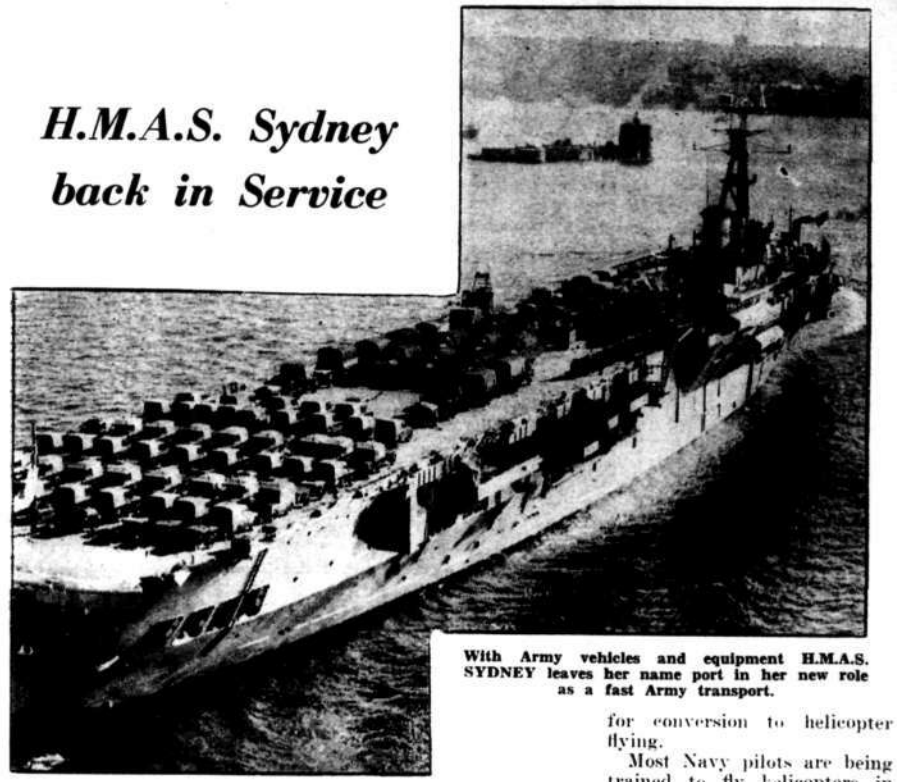
In addition to H.M.S. OWEN'S geophysical work, two semi-permanent tide gauges were set up at Port Victoria, Seychelles, and at Gan, in Addu Atoll. These, together with a carefully planned network of other gauges, will be used by the Expedition as a whole to study sea level fluctuations associated with the monsoons and this will in turn help fishery biologists to understand the life and economy of fish and plankton—a most important aim of the Expedition. Throughout her commission, H.M.S. OWEN has continuously taken water temperatures and samples for analysis. These will be used for fishery research.

H.M.S. DALRYMPLE, which like H.M.S. OWEN returned to Devonport on 31st May, has carried scientists from the Imperial College of Science and Technology, London University, and during her season in the Middle East has obtained approximately 5,500 miles of magnetic profiling using a nuclear spin magnetometer. Although recording took place whenever possible, attention was mainly concentrated on the John Murray Ridge in the North Indian Ocean and its extension in the Gulf of Aden. For this special purpose the ship steamed along six tracks specially chosen to cross the Ridge, while all other profiles were obtained during normal working of the ship.

In association with this geophysical work, London University scientists in H.M.S. DALRYMPLE also carried out a local sedimentological survey in the Abu Dhabi area, using hired dhows and a fibre glass boat, carried in the ship. This work was achieved by using standard sea-bottom sampling techniques and a form of echo-sounding which portrayed the disposition of sediments below the bottom.

On her way home, H.M.S. DALRYMPYE has continued surveys between Famagusta and the north-eastern tip of Cyprus, and all her survey and geophysical work will be continued during the 1962-63 season.

H.M.A.S. Sydney back in Service



With Army vehicles and equipment H.M.A.S. SYDNEY leaves her name port in her new role as a fast Army transport.

NAVY PILOT TRAINING RESUMES

Training of pilots for the Royal Australian Navy's Fleet Air Arm has resumed for the first time since being discontinued in 1959.

The Minister for the Navy, Senator Gorton, has announced that four officers had been selected for flying training. Three of them had been undergoing a pilot's course in 1959 when there was uncertainty about the future of the Fleet Air Arm. They were withdrawn from flying duties and have since been serving as officers in the Seaman Specialisation.

The Naval Officers will now carry out their basic training with the R.A.A.F. this year. Next year they will go to the Naval Air Station at Nowra for conversion to helicopter flying.

Most Navy pilots are being trained to fly helicopters in preparation for the introduction of anti-submarine helicopters in the R.A.N. Twenty-seven Westland Wessex helicopters are being obtained, and an anti-submarine helicopter squadron will begin operating from the carrier, H.M.A.S. MELBOURNE, next year.

Training of Fleet Air Arm observers was re-introduced earlier this year and the first course is now being held at Flinders Naval Depot in Victoria.

At a later stage there will be opportunities for young men between the ages of 17 and 24 to join the R.A.N. for pilot training.

JOIN THE NAVY LEAGUE

The object of the Navy League in Australia, like its older counterpart, the Navy League in Britain, is to insist by all means at its disposal upon the vital importance of Sea Power to the British Commonwealth of Nations. The League sponsors the Australian Sea Cadet Corps by giving technical sea training to and instilling naval training in boys who intend to serve in Naval or Merchant services and also to those sea-minded boys who do not intend to follow a sea career, but who, given this knowledge, will form a valuable Reserve for the Naval Service.

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

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

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

For particulars, contact The Secretary, 66 Clarence Street, Sydney, N.S.W.
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- **60 Limestone Ave., Ainslie, Canberra, A.C.T.**

SEA CADETS IN PICTURES

At left: Sea Cadets from Canberra in training at Balmoral Naval Depot.

Above and below: Sea Cadets from Portland, Victoria, show their ability as a guard.

U.S. Navy's Astronaut Lt. Col. Scott Carpenter after his orbits of the earth.

Amongst those who received Scouting awards was Kenneth Wray, 16, of Armidale, a Cadet Midshipman in the Royal Australian Navy.

Midshipman Wray received his Queen's Scout certificate.

He joined the Royal Australian Navy this year and is stationed at H.M.A.S. CRESWELL.

The picture shows Midshipman Wray and Chris West, of Eastwood, N.S.W., after the presentation ceremony.

THE BATTLE OF THE RIVER PLATE

From a lecture by

SIR EUGENE MILLINGTON-DRAKE, KC.M.G.

(Continued from last issue)

Explosion at 7.54 p.m. (11.54 G.M.T.) reported instantaneously to Foreign Office and B.B.C., who announce it just after midnight.

Captain Langsdorff, his officers and crew transferred to two tugs and lighter flying Argentine flag, though belonging to the Hamburg-South America Line. In these they cross overnight to Buenos Aires.

Monday, December 18: Captain Langsdorff and his crew reach Buenos Aires and are accommodated in naval barracks. German plea that they are ship-wrecked sailors, not liable to internment. The Montevideo press publishes Langsdorff's long letter of protest, which provokes storm of indignation in Uruguayan and Argentine press.

Tuesday, December 19: Argentine Government decree internment. Captain Langsdorff's last address to his men and suicide, leaving letter taking full responsibility for scuttling of GRAF SPEE.

FOREWORD BY ADMIRAL SIR EDWARD PARRY, K.C.B., TO DUDLEY POPE'S BOOK, 'THE BATTLE OF THE RIVER PLATE'.

(William Kimber, 1956.)

'The Battle of the River Plate received a great deal of publicity at the time, largely because it was fought during the first winter of the war, when little else was happening. Moreover, the picture of a comparatively large enemy vessel being pursued by two smaller British ships appealed to the imagination. To this day I do not know why the

DRAMATIS PERSONAE: THE COMMANDERS, SHIPS, ARMAMENTS, SPEEDS, ETC.

Ship and Year of Completion	Tonnage and crew	Armament	Aircraft	Speed
GRAF SPEE 1936 Captain Hans Langsdorff	13,000 and 1,100 men	six 11-inch and eight 5.9 inch guns	2 'Arado' with machine gun	28 knots
H.M.S. EXETER 1931 Captain F. S. Bell	8,400 and 600 men	six 8-inch guns	2	32 knots
H.M.S. AJAX 1935 Captain C. H. L. Woodhouse	7,000 and 520 men	eight 6-inch guns	2	33 knots
and carrying COMMODORE H. HARWOOD				
H.M.S. ACHILLES 1933 Captain W. E. Parry	7,000 and 550 men	eight 6-inch guns	None (lost crossing the Pacific)	33 knots
of the NEW ZEALAND DIVISION OF THE ROYAL NAVY				
H.M.S. CUMBERLAND 1928 Captain Fallowfield	10,000 and 710 men	eight 8-inch guns	3	31.5 knots
URUGUAY (Urug. Navy) 1910 Captain Fernando J. Fuentes	1,500 and 80 men	two 4.7-inch guns	None	20 knots
H.M.S. ARK ROYAL 1935 Captain Arthur J. Power	22,000 and 1,300 men	sixteen 4.5-inch HA/LA guns	21 Torpedo-Spotter-Rec. Aircraft (Swordfish and 9 Fighters (Skuas)	31 knots
ALTMARK 1938 Captain Heinrich Dau Tanker on the German Navy Auxiliary List, formerly of Hamburg-America Line	7,000 and 130 men	Anti-aircraft guns and 'pompoms'	None	18 knots Geared steam turbines
TACOMA 1930 Captain Hans Konow, of Hamburg-America Line	8,300 and 62 men	None	None	15 knots Four steam steam turbines

EXTREME RANGES AND WEIGHTS OF BROADSIDES OF SHIPS ENGAGED IN THE BATTLE:

GRAF SPEE	11-inch guns	30,000 yards
EXETER	8-inch guns	27,000 yards
AJAX and ACHILLES	6-inch guns	25,000 yards

TOTAL WEIGHT OF BROADSIDES:

GRAF SPEE	4,708 lbs.
THE THREE BRITISH CRUISERS COMBINED	3,136 lbs.

ADMIRAL GRAF SPEE did not dispose of us in the AJAX and the ACHILLES as soon as she had finished with the EXETER.

'This book gives a far more complete story of the battle, and of the events leading up to it, than any that have previously been written. The author has made full use of the German naval records captured by us at the end of the war. He is therefore able to trace the rebirth of the German Navy after its defeat of the First World War, and the intentions of the great strategist who planned its growth, Grand Admiral Raeder.

'Dudley Pope reminds us that a battle is the culmination of years of planning, of production, and of practice. On our side we certainly owed our success to our pre-war training. It is perhaps fortunate that, on the German side, Hitler did not always follow the far-seeing advice of his naval staff.

'This book poses some very interesting questions. Why did the captain of the ADMIRAL GRAF SPEE think that his ship was so seriously damaged that he must make for a neutral port instead of finishing off his two small opponents?

'Why was he so easily persuaded that large British warships were waiting for him outside Montevideo, when in fact there was only one new arrival, far inferior in gunpower to his own ship?

'Why, even when he received definite intelligence that the ARK ROYAL and RENOWN had arrived at Rio de Janeiro, a thousand miles away, and were therefore not in the River Plate estuary, did he persist in his plan to scuttle his ship? And why were his ship's company considerably demoralised by the comparatively light hammering they had received, whereas the officers and men of the far worse damaged EXETER behaved so magnificently?

'My last question may appear to give an answer to the others. Yet we must not think that the German Navy was inefficient or that its officers and men were lacking in courage. On the contrary, one can but admire the maintenance of their morale throughout the war, and particularly that of their submarine crews, in spite of the appalling losses which they suffered.

'If therefore the answer to my questions is that Captain Langsdorff felt that he had been defeated, and if consequently he was determined not to fight it out, his decision is a real tribute to the dominating influence of Commodore Harwood's leadership in the battle.

'How I wish that he could have written the foreword to this book!'

THE GUNNERY OFFICER OF THE GRAF SPEE DESCRIBES THE OPENING PHASE OF THE BATTLE: AND IS ASTONISHED AT THE ACCURATE AND RAPID FIRING OF THE EXETER'S' 8-INCH GUNS. A PRACTICE 6-INCH SHELL DOES MUCH DAMAGE AND PRACTICALLY REMAINS INTACT.

From 'Panzerschiff 'Admiral Graf Spee' Kampf, Sieg und Untergang'
by Commander F. W. Rasenack (Translation by the Compiler)

'When we ascertained that our enemies were three cruisers, it was too late to change our course because they too had seen us, they being faster and with the excellent visibility in these latitudes we never could have shaken off at any rate one contact ship. Such a ship could, without difficulty, send us one of her "big friends", which could annihilate us from a distance beyond the range of our own guns. It is for this reason that our Commander ordered us to open fire before the enemy could get up speed and escape beyond our range.

'When our Commander received information about the type of the units that were opposing us, he said dryly and without taking out his pipe from the corner of his mouth: "These we will smash", and, instead of going to the armoured command post, he went to the wing of the bridge. From there he is better able to see what is happening and direct the action. Even when shrapnel and splinters are flying about, and when everybody automatically takes shelter behind the armour plates, he remains standing firmly and quietly giving his orders.

'He is wounded twice: in the shoulder and in the arm. He bleeds freely. Yet, he only allows an emergency dressing to be put on. At another moment the blast of the explosion of a shell knocks him to the ground and he loses consciousness. The First Officer is called and he continues directing the action but our Commander shortly comes to and again takes over command.

'When we opened fire the EXETER was on the starboard side for'ard. The British were sailing in echelon, however, but as they gathered speed the two light cruisers went further and further away from the EXETER; now our third or fourth salvo falls on the heavy cruiser. But also her marksmanship is astonishing and the rapidity with which the salvoes follow each other surprising. An 8-inch shell goes through the armour plate of our anti-aircraft guns of 10.5 cms., which is on the starboard side. It kills half the gun crew, goes through two decks and finally explodes in the apparatus for producing fresh water.

'One practice shell which the British must have loaded by mistake falls aft, kills two sailors, passes through half a dozen cabins and comes to rest finally in the berth of a Petty Officer and in spite of this trajectory seems little the worse for wear.'

TWENTY-FIVE YEARS BEFORE

THE BRITISH MINISTER'S REMINISCENCES OF HOW HE GOT NEWS OF CORONEL IN ST. PETERSBURG AND OF THE FALKLANDS IN LONDON, NOVEMBER-DECEMBER, 1914: AND HOW HE READ THE CONFIDENTIAL REPORT ON THE FALKLANDS IN THE BRITISH LEGATION AT MONTEVIDEO IN JANUARY, 1915

Reminiscences by Sir Eugen Millington-Drake, K.C.M.G.

Ncte: As Commander Rasenack in his Diary gives us a flashback to the Battles of Coronel and the Falklands in the late autumn of 1914, evoking the personality of Admiral Graf von Spee, the following reminiscences should be of some interest to the reader, especially as in part and in a sense they foreshadow the events of 25 years later; and evoke the personality of another leading character in the drama, then namely the Uruguayan Minister for Foreign Affairs, Dr. Alberto Guani.

The news of the Coronel diaster (November 1, 1914) was heard by me in St. Petersburg where I was Attache at the Embassy and had witnessed the dramatic events and scenes of the outbreak of war. I was preparing to leave for London on being transferred to Buenos Aires — a transfer which incidentally was to affect the whole of my after life. There I was to be the only diplomatic (i.e. career) Secretary to the Minister, Sir Reginald Tower, in the small Legation which had then but two clerks. From the Embassy windows we looked across the River Neva, already nearly covered with ice. A few days later I started my long voyage to the River Plate where I would arrive at the height of a semitropical summer.

ST. PETERSBURG TO LONDON THROUGH FINLAND, SWEDEN AND NORWAY, NOV. 1914.

Owing to the War I had to travel by a roundabout route through Finland, then northward round the head of the Gulf of Bothnia to the railhead of the Finnish broad gauge railway at Tornea. There was at that time still a gap of some 30 miles across the frontier to the railhead of the Swedish railways at Haparanda. This distance I covered in a horse sleigh with all my luggage piled behind. We were a few miles from the Arctic Circle and my big Russian fur coat was much needed. I travelled on via Stockholm and Christiana (as Oslo was still called) to Bergen whence there was a regular steamer service to Newcastle where I got my first impression of Britain at war — beehive activity in the crowded streets, crowded hotels, numerous officers in uniform, especially Naval Officers for it must be remembered that pre-1914 officers, Naval or Military, were rarely seen in uniform when not actually on duty. I was therefore much impressed by these aspects of Britain at war.

NEWS OF THE FALKLANDS VICTORY IN LONDON ON DECEMBER 9.

One late afternoon in London a few days later I was in the hall of the Ritz Hotel where my family had stayed when in London since its opening in 1905: I stood by the porter's desk, now famous as the stand of "George of the Ritz" whose autobiography appeared a couple of years ago. The director of the Ritz Restaurant "Mr. Charles", already famous and with whom I had some acquaintance, caught sight of me and hastened over, exclaiming: "We've smashed them, we've smashed them" Good Dutchman that he was — his real name being Charles Gyzelin — there was no greater pro-Briton.

He then explained that news had just come in that British battle cruisers had annihilated Admiral von Spee's squadron at the Falklands. With the three hours difference of time, the final news of the battle had been far too late for the morning papers. This incident must have occurred on December 9 as a full account appeared in the Times next morning December 10. No one in Britain outside the Admiralty knew that the new First Sea Lord Fisher, had sent out the two battle cruisers INVINCIBLE and INFLEXIBLE to the South At-

lantic and, round into the Pacific to seek out Admiral von Spee's squadron and avenge Coronel (see below).

FALMOUTH TO RIO: DR. ALBERTO GUANI A FELLOW PASSENGER DECEMBER, 1914

I was to embark at Falmouth and made the long journey from London very comfortably by sleeping car, as if there were no war.

During the voyage south after Lisbon and across the Equator — my first experience of the tropics — I made the aquaintance of Dr. Alberto Guani, the young and intelligent Uruguayan Minister to Belgium who had left Brussels with the Belgian Government at the of the German invasion and, after his trying experiences, was returning to Montevideo to consult his Government and have some leave before rejoining the Belgian Government at its war headquarters at Le Havre. He was the life and soul of the party on board and had a great sense of humour.

DAWN ON RIO BAY: H.M.S. GLASGOW RECENTLY IN DRY DOCK AFTER CORONEL

To see the fabled beauty of Rio harbour I was up before daybreak and was rewarded by seeing it at its best in the cloudless tropical dawn, enlivened by the twinkling of the myriad lights along the seemingly endless waterfront below the great "sugar loaf" mountains.

There I lunched with the Charge d'Affaires, Arnold Robertson, as he was then generally called, at the leading club, where everyone was in whites, since January is the height of the tropical summer. He was jubilant over the granting of his request to the Brazilian Government in Nov. for permission for the cruiser GLASGOW to stay a week in dock after Coronel and after she had been at sea for four months and so required a complete overhaul. This request was certainly justified in order to make her fully seaworthy but nevertheless was a friendly act on the part of the Brazilian authorities and a great personal success for Robertson.

As Sir Malcolm Robertson, G.C.M.G., he was to be my chief as Ambassador at Buenos Aires when I returned to the Plate at the beginning of 1929 as first Counsellor of Embassy to the Mission, which had just been promoted to an Embassy — the first Mission to be so raised since Brussels in 1919, Tokyo in 1905 — and Washington in 1893.

ARRIVAL IN MONTEVIDEO. STURDEE'S CONFIDENTIAL REPORT ON THE FALKLANDS

When three days later on January 10 we reached Montevideo and I said goodbye to Dr. Guani, we neither of us could imagine that almost exactly 25 years later he would be there again but as Minister for Foreign Affairs and I as British Minister and that we should jointly have to deal with the aftermath of another British victory in the South Atlantic; nor that the case of the GLASGOW just recently in dry dock in Rio would be invoked by him as the precedent justifying the granting to the GRAF SPEE 72 hours for repairs in reply to my official request that she should be given only 24!

The Montevideo of those distant days of 1915 was a very different place to the much extended and relatively modernised city that I was to know when I went there as Minister in 1934. Going ashore I walked up through the old city on its peninsula and with its horse trams, and found my way to the poky little Legation house on a small square in that quarter, named the Plaza Zabala. It being Sunday (January 10) the British Minister, Mr. A. Mitchell Innes, was away but I was received by the Naval Intelligence Officer, a certain Major de Saumarez Dobree, retired from the Royal Marines, who told me that he had in the safe Admiral Sir Doveton Sturdee's confidential report on the Battle of the Falklands — would I care to see it?

ITS TRIBUTE TO GERMAN GUNNERY AND A RECOMMENDATION FOR THE V.C.

I naturally accepted with alacrity and over "Forty Years On" I could remember clearly two things, (1) Admiral Sturdee's tribute to the gallantry of the Germans and particularly to their accurate gunfire by salvos which was then relatively a novelty. And (2) his recommendation of a V.C. for a rating who down below had put out an incipient fire among the cordite supply which might at any moment have blown up the whole ship. My recollection was that it had been in one of the battle cruisers as I had reflected what a disaster it would have been, since we were not as yet inured to the loss of battle cruisers as we came to be after Jutland.

(To be continued next issue)

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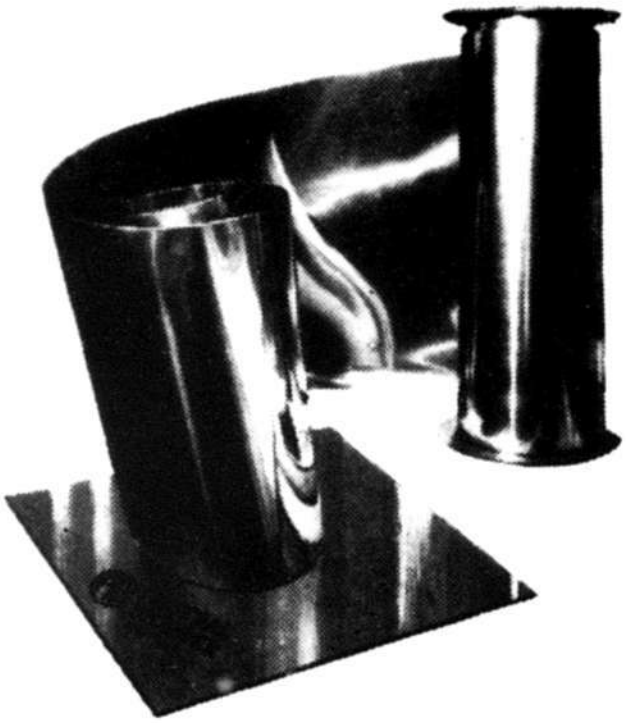

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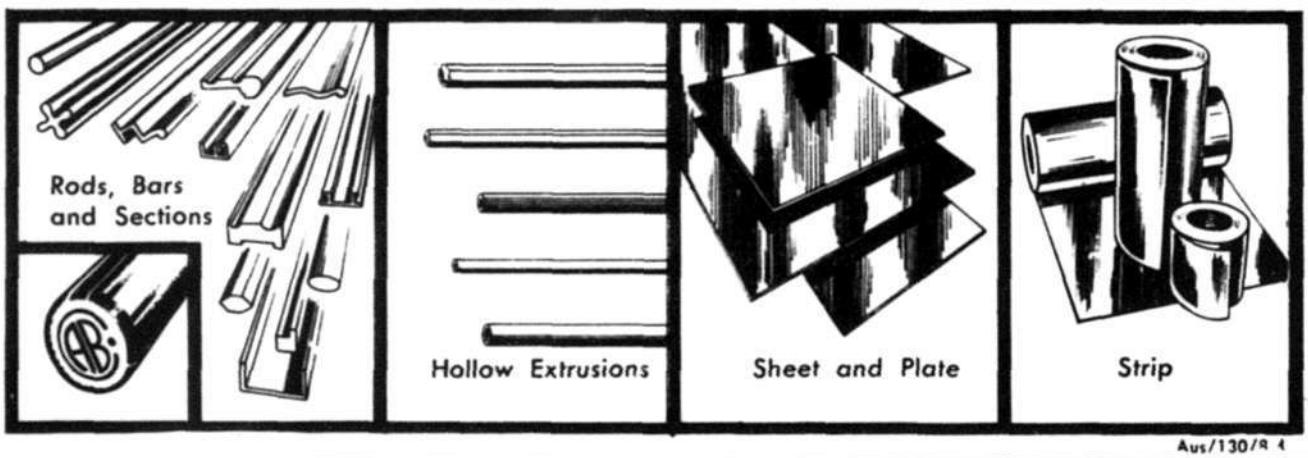

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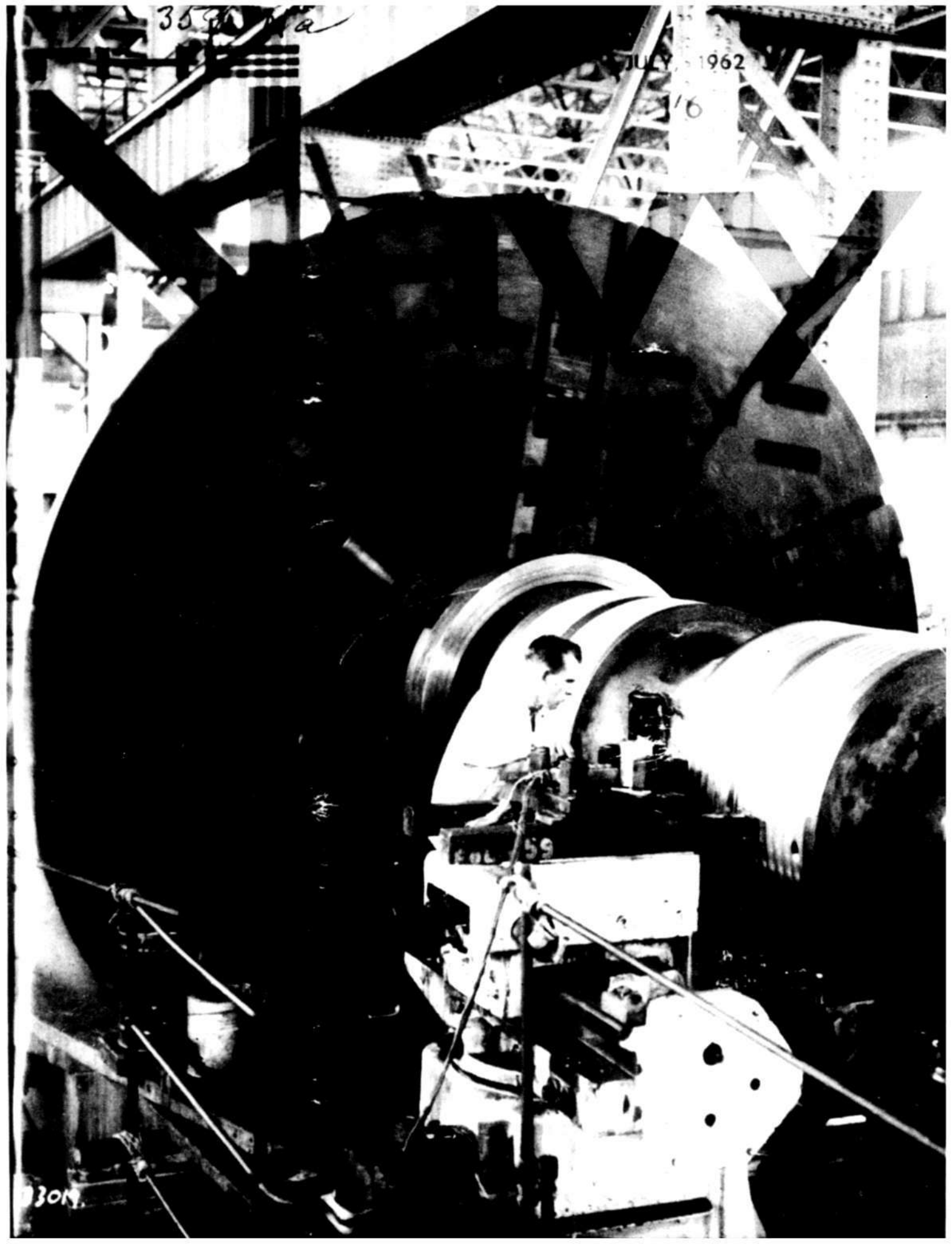
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PRIZE GIVING AND RETIREMENT AT WILLIAMSTOWN DOCKYARD

Happy moments for Mr. G. Westwood and Mr. B. Williams as they receive their prizes from Rear Admiral K. Urquhart, C.B.E.

Westwood was presented with the Naval Board Prize and Williams, the 5th Year Prize.

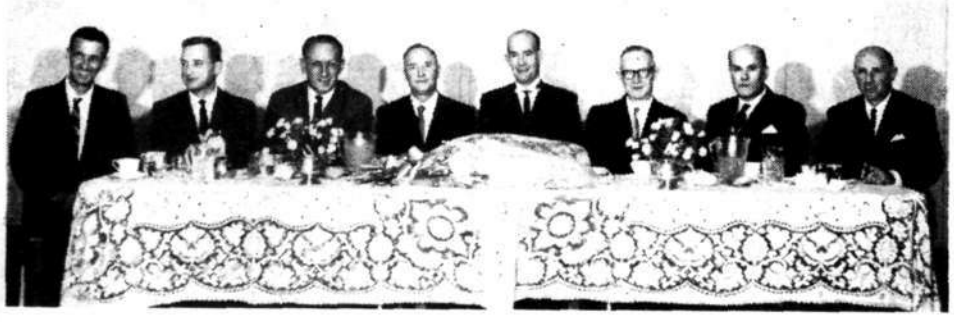
Mr. H. W. McDonald retired as Secretary/Accountant of Williamstown Dockyard on May 11, after serving for 35 years in the 'Yard.

Mr. McDonald joined the staff of the Melbourne Harbour Trust in 1914 and, in 1927, was transferred to Williamstown Dockyard, which was then owned by the Trust.

When the ownership of the Dockyard passed to the R.A.N. in 1942, Mr. McDonald changed his masters but not his job.

The series of farewell parties given in his honour were highlighted on April 6, when he was guest of honour at a dinner at which Mr. T. J. Hawkins, C.B.E., B.A., LL.B., Secretary, Department of the Navy, was present. The General Manager, Captain G. P. Hood, B.E., R.A.N., presided.

Mr. McDonald in his time has been associated with the building of many ships, both naval and merchant. He gave distinguished service to the Navy, and is held in high esteem by all who know him.



Seated at the dinner are Mr. R. Flack, Lieutenant I. Holmes, Messrs. R. Smith, H. W. McDonald, Captain G. P. Hood, Messrs. T. J. Hawkins, C.B.E., Secretary for Navy, J. A. Ferguson and J. H. Davey.

APPRENTICES "PASS OUT"

+

Ceremony at H.M.A.S. NIRIMBA

The ceremony marked the completion of training in NIRIMBA for 22 apprentices who will join the Fleet as fifth class artificers.

The parade was reveiwed by Rear Admiral G. C. Oldham, C.B.E., D.S.C., Flag Officer in Charge, East Australia Area.

Speaking at the prize-giving ceremony before a large number of guests Rear Admiral Oldham said the parade was one of the best he had witnessed.

He felt everyone would agree with him that R.A.N.A.T.E. was one of the finest establishments in the Service.

"After 42½ years in the R.A.N. I am convinced that it is one of the best clubs in the world," he said.

Congratulating the apprentices, Rear Admiral Oldham

A proud moment for Ordnance Artificer K. W. Munnings, of Hobart, Tasmania, as he holds the Governor-General's Award presented to him by Rear Admiral G. C. Oldham, C.B.E., D.S.O., at the Passing Out Parade held at the Royal Australian Naval Apprentice Training Establishment, H.M.A.S. NIRIMBA. His parents, Mr. and Mrs. E. Munnings, journeyed from Hobart to see their son presented with the award, one of the most coveted prizes to be won at NIRIMBA.

urged them to work for their ship and not for themselves.

By doing this they would build up team spirit which would not only help their ship and themselves, but also the R.A.N.

Welcoming Rear Admiral Oldham and the guests the Captain of H.M.A.S. NIRIMBA, Captain F. W. Purves said:

Admiral Oldham, Official Guests, Ladies and Gentlemen. It is an honour to welcome you Sir, and Mrs. Oldham, to this Passing Out Ceremony which is, I believe, one of your last Official functions as Flag Officer-in-Charge, East Australia Area, and also in the R.A.N. We in NIRIMBA wish you every happiness in your retirement and thank you for your unfailing interest and appreciation of the problems, in the training of Apprentices for the R.A.N.

I am also pleased to welcome our Official Guests who have all shown an interest in the running of NIRIMBA and have helped in many ways.

Finally it is again a pleasure to welcome the parents and friends of the Apprentices and also the guests of the staff.

It is two years now since the first term of Apprentices "passed out" of NIRIMBA and joined the Fleet. From reports received the ex-Apprentices have done extremely well and in many cases now hold complement billets at sea in H.M.A. Fleet. Some, I am pleased to report, have commenced Officer training.

From experience gained since this first term of Apprentices "passed out" certain changes have been made to the training policy and administration of NIRIMBA and it is now hoped that the Apprentices who are "passing out" today are even better equipped to cope with many problems which will confront them after they leave NIRIMBA.

The task of operating and maintaining the Navy's ships and aircraft and their complex electrical and electronic equipment is an engineering challenge that has no parallel in civilian life. In the mechanical field it encompasses Marine, Weapon and Aeronautical Engineering. In the Electrical field it embraces the generation of power for the operation of vital navigation and gunnery equipments and power for domestic purposes, it includes servo mechanisms, digital and analogue computers, radio, asdics and radar. To these challenges to technical "know-how" nuclear engineering is now being added.

The maintenance of the ships' hulls and domestic services has passed to the Naval Shipwrights who receive special training in Naval Architecture.

In a recent article in the well-known Ashore and Afloat publication, I noticed a paragraph which I think will interest you all — it read:

"The Bishop of Sheffield has said that 'There is a quality of a good Craftsman — a certain competence in living, a serenity and wisdom which goes with making things well, with execution, and doing it together with others.'"

To train young men to do things well and to do them with others is NIRIMBA's main function.

I have just completed an Interview Tour with the S.I.O., interviewing applicants for next term's intake of Naval Artificer Apprentices. It may be of interest to the parents of Apprentices especially, that there were nearly 700 applicants for the 58 places available.

To me this indicates that NIRIMBA and the Apprentices themselves are becoming known and well respected throughout the country and to be an Apprentice at NIRIMBA is becoming a very much sought after career.

To the Apprentices joining the Fleet I congratulate you in passing this part of your Apprenticeship at NIRIMBA, and wish you every success in completing your Apprenticeship at sea.

A new life is opening up before you with responsibilities unthought of which will require steadiness and lots of common sense. You have all heard my advice at former Passing Out parades; to this I would add Admiral Fisher's warning given many years ago — "No amount of personal valour will compensate for technical inferiority."

Your future job will be to ensure there is no technical inferiority in H.M.A. Fleet.

THE NAVY

DELTIC ENGINES FOR R.A.N.

The Delto Engines, which are to be fitted in the new Minesweepers and the Survey Ship, are briefly described.

Modern high-speed light naval craft require an engine combining high performance with low weight, simplicity of control and reliability.

To meet this need the Deltic engine has been developed to the most exacting naval specification and represents the most up-to-date power unit available for the propulsion of this type of vessel.

Low fuel consumption is as important in high-speed patrol boats as low engine weight, and the combination of these two features of the Deltic are responsible for much of its success. If a certain operational range is to be maintained, any saving which can be effected in the amount of fuel to be carried reflects directly in the vessel's performance. Unnecessary fuel also takes up valuable space which in present-day craft is at a premium. The space saved by the installation of Deltic engines enables this type of vessel to carry the greater variety of navigation and location equipment, and the much heavier armament and larger crews demanded by present-day operational requirements.

The threat of fire, inseparable from marine petrol machinery, is negligible with Deltic installations operating on diesel fuel. This is due not only to the higher flash point of the fuel, but also to the absence of high-tension electrical equipment in the engine room.

In hard-chine planing hulls it is desirable for the machinery to be installed aft of the more normal midship position and to achieve this the Deltic is equipped with a V-drive gearbox; the engine is installed in the stern and the drive carried forward to the V-drive gearbox and then aft to the propeller. In this way an efficient propeller shaft angle can be used even though the machinery is not in the usual mid-ship position.

A system of controls is fitted to each engine so that direction of rotation and speed in both ahead and astern directions are controlled from a single lever in the engine room control cabin. A duplicate lever is installed on the bridge so that engine control can be taken over at will from this position. This brings greater rapidity of response and generally improved manoeuvrability.

COCKATOO ISLAND DOCKYARD

In the building of many warships for the Royal Australian Navy, Cockatoo Docks and Engineering Co. Pty. Limited, has made a notable contribution to the Sea Service of Australia which celebrated its 50th Anniversary last year.

The Dockyard is proud of its long associations with the Navy which go back over 100 years. The first dry dock at Cockatoo was completed in 1858 and the first ship H.M.S. HERALD was docked in December that year. Until 1911 the yard was operated by the New South Wales Government when it was acquired by the Commonwealth for the R.A.N. It was operated by the Navy until shortly after the first World War when it was transferred to the Australian Commonwealth Shipping Board which operated the Commonwealth line of steamers. In 1933 it was leased to the Cockatoo Docks and Engineering Company which was taken over by the Vickers Group in 1947. Shipbuilding and the docking and repairs of ships have always been the principal activities of the Dockyard since its inception, of which naval work has been a large proportion. In all, 33 War-ships have been constructed at Cockatoo, ranging from the River Class Destroyers WARREGO, HUON and SWAN prior to the 1914-18 War down to the Daring Class ships VOYAGER and VAMPIRE in recent years. Major units constructed were the Cruisers BRISBANE and ADELAIDE at the end of World War I as well as the sea plane carrier ALBATROSS in 1930. In addition four sloops were built at Cockatoo at the beginning of World War II and four boom defence vessels, two River Class Frigates and six Corvettes were handed over prior to cessation of hostilities. The tribal Class destroyers ARUNTA, WARRAMUNGA, and BATAAN were also built during World War II and these ships had distinguished records of service in the War. The destroyer TOBRUK was completed in 1948, and the latest addition to the Fleet H. M. A. S. PARRAMATTA, Type 12 Anti-submarine Frigate, was completed and handed over to the Navy last year.

It is of interest that in the Fleet Review held on 15th June, 1961, of the 11 ships which made such an impressive entry into Sydney Harbour, Cockatoo Dockyard had built six, viz., VOYAGER, VAMPIRE, BARCOO, WARREGO, SWAN and PARRAMATTA, the latter flying the Red Ensign as it was still under control of the builders. The QUIBERON in this assembly also had been partly reconstructed at Cockatoo in 1956.

Until the opening of the Captain Cook Dock in 1945 the dockings of the Australian Fleet were always carried out at Cockatoo, as well as many major repairs and refits. These included extensive repairs after action damage to the Cruisers AUSTRALIA and HOBART. Considerable repairs were carried out also to many Allied ships, including several American Cruisers. Cockatoo over the years has built up a proud record for the expert manufacture of turbines and boilers and has supplied these items to Williamstown Naval Dockyard for destroyer ANZAC and Daring Class Ship VENDETTA, and also for the new Type 12 Anti-submarine Frigates YARRA and DERWENT building at this Dockyard. During World War II boilers were constructed for over 50 Corvettes which were constructed in several other Australian Shipbuilding Yards in addition to Cockatoo as well as for 13 River Class Frigates. At present under construction is the Type 12 Frigate STUART which was launched on 8th April, 1961, and is due for completion mid 1963.

Launching of H.M.A.S. PARRAMATTA at Cockatoo Island Dockyard.

MERCHANT SHIPBUILDING IN AUSTRALIA

By a Special Correspondent

In order to assess the growth and value of shipbuilding to Australia, it is necessary to examine its history along with the development of the nation.

Local shipbuilding falls into three distinct periods as under:

(i) Wooden shipbuilding in the early colonial days.

(ii) Steel shipbuilding immediately after the 1914-1918 war.

(iii) The present phase, which began in 1941.

Wooden Shipbuilding

The industry had its origin in the construction of the "Rosehill Packet," a vessel of "10 tons burthen," in 1789. Prior to that date shipbuilding was completely prohibited by Governor Phillip and until 1813 was restricted to the building of coastal vessels. In 1813 the East India Company's monopoly of shipbuilding ended and the local shipyards were able to construct vessels for the Indian and Pacific Oceans' trade.

The isolation of the colonists and the quantity and quality of local material available for shipbuilding were important factors in the success of the wooden shipbuilding industry. Despite the shortage of manpower, a present-day problem also, shipyards were established in various parts of the country, with a particularly strong concentration on the northern rivers of New South Wales and the Tasmanian coast, where suitable timbers grew in abundance.

The industry flourished and reached its zenith around 1880. With the advent of the iron ship the industry waned and work was practically confined to the large ports.

Iron Shipbuilding

The construction of the s.s. BALLARAT at Pyrmont in 1853 marked the beginning of the era of steam. This vessel, which was actually built in England in sections and assembled here, brought home the need for docking facilities, which were then non-existent. In 1854 the Government of New South Wales constructed the Fitzroy Dock at Cockatoo Island and two years later Thomas Sutcliffe Mort completed his dock at Balmain. The Atlas Engineering Company established at Woolwich and later absorbed by Mort's in 1889, brought out a floating dock. A second dock, the "Sutherland," was opened at Cockatoo Island and in 1884 the Alfred Dock was completed at Williamstown, Victoria. It is interesting to note that these docks still form the nucleus of docking facilities in Australia, but they have, of course, been considerably augmented by the addition of the Captain Cook Dock, Sydney, the Cairncross Dock, Brisbane, the Newcastle Floating Dock and several others.

Despite the early start, steam shipbuilding did not make rapid progress. Although such vessels as the GOVERNOR BLACKALL (1872) and the PREMIER (1882) were constructed by Mort's and Walkers Ltd., Maryborough, Queensland, respectively, the industry was kept alive by repairs and dockings.

Naval Programme

It was not until 1911 that any definite shipbuilding programme was undertaken. In that year parts of a destroyer known as the WARREGO were shipped from England and assembled at Cockatoo Island. This was the initial vessel in the naval programme which led the Commonwealth Government in 1913 to acquire the island from the State Government. Construction was maintained throughout the war years (1914-1918), when the cruisers BRISBANE and ADELAIDE, together with destroyers TORRENS, HUON and SWAN, were built and commissioned.

Merchant Shipbuilding

In the abovementioned Naval activity lay the seed of large-scale modern shipbuilding, which germinated as the merchant shipbuilding programme commenced in 1918.

The establishment of the steelworks at Newcastle in 1915, together with the scarcity of ships occasioned by wartime losses, rising overseas constructional costs and increased freight charges, influenced the Commonwealth Government to embark upon a merchant shipbuilding programme. Shipyards were opened by Walkers Ltd., Maryborough, Queensland, Walsh

Island, Newcastle, Cockatoo Docks, Sydney, Williamstown Dockyard, Victoria and Poole & Steel, Adelaide.

Between 1919 and 1924 the abovementioned yards built 21 vessels, aggregating 139,600 tons d.w. The programme comprised six "D" and 13 "E" Class freighters, each approximately 6,000 tons d.w., and the FORDSDALE and FERNDALE, each approximately 12,800 tons d.w. Excellent as this performance was, the factors necessary for the continued existence of the industry, namely self-sufficiency in materials and skilled labour, were lacking.

When the 1914-1918 shipping losses were made good and the resultant slump brought about a depression in the shipyards in England and elsewhere, competition became very keen and the structural weaknesses of the infant industry in Australia were disclosed. The local steelworks, which were still in the developmental stage, could only supply sectional parts and framings and this necessitated the importation of rolled plate from the United Kingdom and the United States of America. A similar position existed in regard to components, the greater part of which had to be imported. These problems, together with the shortage of labour, caused the industry to wilt and by 1924 it virtually ceased to exist. Yards in Adelaide, Newcastle and Maryborough closed and in some cases were dismantled. Ship repairs and dockings again became the main activities of the waterfront. The spasmodic attempts to keep the industry alive are reflected in the fact that in the fifteen years between 1924 and 1939 Australia's total output was one cruiser, the aircraft carrier ALBATROSS, several small destroyers, lighthouse steamers and some small vessels of under 500 tons.

World War II and Post-war Building

The outbreak of war in 1939 was responsible for the revival of the industry in Australia. This phase falls automatically into two distinct periods — war and post-war. It is proposed to examine the conditions obtaining during these periods and the work achieved and to assess the future possibilities of the industry.

In the first period the exigencies of war created a set of circumstances which favoured shipbuilding to a degree which could never be duplicated under peace-time conditions. Economic factors, such as costs, etc., were subordinated to the urgent need of self-preservation through new or increased channels of production. The priority claims on materials, the allocation and direction of labour allied to non-competitive costs were the driving forces which enabled the industry to attain within a few years a status which would possibly have taken many years of careful nursing and protection under normal conditions. Acknowledging these conditions existed, it must be conceded that the opportunity was seized and handled to advantage.

Developments of the hostilities soon made it apparent that Australia would virtually be isolated from Britain and dependent upon foreign shipping for the maintenance of its international trade. The entry of Japan into the war in 1941 stressed the almost complete isolation of Australia, and as ships were essential Australia was thrown upon her own resources and it was a case of produce or perish.

The Naval programme was speeded up considerably and in 1941 the Australian Shipbuilding Board was created by the Commonwealth Government for the development of merchant shipbuilding on a major scale. The Board, which still functions, is responsible for the building of merchant ships and vessels (other than Naval) to the order of the Commonwealth Government and/or private shipping companies and the fostering of the industry generally. It is purely an administrative and design body, which does not actually operate any shipyard. Its functions are as follow:

(a) Design of vessels.
(b) Calling of tenders and placement of orders.
(c) Co-ordination of Board's supplies to shipbuilders (e.g., main engines and auxiliaries).
(d) Supervision of construction.
(e) Acceptance of vessels after sea trials.

In the early stages the Australian Shipbuilding Board encouraged and, where necessary, financially assisted the establishment of the industry. One of the most pressing problems at that time was the inability to produce marine engines of the sizes and in the quantities required, due to the lack of modern heavy machine tools and suitable assembly shops. The first step towards remedying this position was the establishment of the Commonwealth Government Marine Engine Works at Brisbane and Melbourne and the distribution of heavy machine tools among existing yards. Engineering firms were encouraged and assisted to enter new fields, such as heavy gear cutting and the manufacture of winches, until practically all items of ships' equipment, with the exception of navigation instruments, were built locally. Incidentally, the Commonwealth Government Engine Works at Melbourne are still in operation but the Brisbane Works were taken over by the English Electric Co. in 1948.

The part played by Australia during the war years in connection with ship repairs was a major one and must be mentioned because of its retarding action owing to manpower shortage, on ship construction. Despite docking congestion, the following number of ships were repaired during the period 1942 to 1946 —

12,160 vessels — 53,079,182 tons (does not include Naval vessels).

It is interesting to record that many of the repair jobs successfully undertaken would have been far beyond the capacity of local shipyards in pre-war days.

In small craft construction the industry was put to a severe test. With the South-west Pacific campaign being fought over an extensive area, vessels were required by the thousands. Shipyards were established all over Australia, wherever facilities could be set up. Between 1942 and 1945 162 different types of vessels, ranging from 120 ft. steel lighters to 8 ft. plywood boats, were designed and a grand total of 36,000 were constructed for the various Services.

With the conclusion of hostilities the question of the retention of shipbuilding on a permanent basis had to be faced. Although the defence factor was most important, it was also recognised that permanency and economy of construction in normal times could only be achieved by continuity of work.

At present the eight major shipyards listed hereunder, capable of constructing the whole of Australia's requirements, are engaged on the current Naval or merchant shipbuilding programmes, which should occupy them for the next few years.

Walkers Ltd., Maryborough, Q'land. Evans Deakin & Co. Pty. Ltd., Brisbane, Q'land. State Dockyard, Newcastle, N.S.W. Cockatoo Docks & Engineering Co. Pty. Ltd., Sydney. H.M.A. Naval Establishment, Williamstown, Vic. The Broken Hill Pty. Co. Ltd., Whyalla, S.A. Adelaide Ship Construction Ltd., Birkenhead, S.A. Phoenix Shipbuilding & Engineering Co. Pty. Ltd., Devonport, Tasmania.

Progress of Merchant Ship Construction

The Commonwealth Government envisaged as a commencement of its shipbuilding programme the construction of 60 "A" Class 9,000-tons d.w. vessels, as this type of vessel was the most suitable to aid the United Kingdom in replacing some of her losses. The entry of Japan into the field of hostilities, however, caused a change in the programme, because of our own immediate requirements in Australia.

Over a period of 21 years, which includes the early developmental stage, 78 merchant ships, each of over 500 tons d.w. and totalling approximately 530,000 tons d.w., have been constructed, while a further 14 vessels, aggregating approximately 120,000 tons d.w. and ranging from lighthouse supply vessels to large ore carriers and a super oil tanker, are under construction or on order. The H.M.A. Naval Establishment, Williamstown, Vic., is at present engaged exclusively on a Naval programme.

At least 12 small craft, consisting of Customs and Air Sea Rescue Launches, general purpose vessels, diesel tugs and cargo carriers, are also under construction in yards scattered all around the Australian coast.

A notable ship, in many respects the most important and interesting to be built in this country, has been completed for the Commonwealth Government for the fleet of the Australian National Line. This vessel, the PRINCESS OF TASMANIA, a vehicular/passenger ferry, replaced the TAROONA on the Bass Strait crossing between Melbourne and Devonport on the northern coast of Tasmania, and has perhaps the longest open ocean route in the world for a vessel of its kind. In addition to carrying cars it is used for ferrying large transport vehicles and semi-trailers, which enter the vessel under their own power through watertight doors at the after end of the ship. The total number of passengers to be carried is 334, of which 178 are accommodated for the 14-hour crossing in cabins and 156 will occupy the three spacious lounges. To ensure as smooth a crossing as possible the vessel is fitted with stabilisers and will have a speed of 18-20 knots.

The Tasmanian - mainland service was further augmented by a vehicle deck cargo vessel for the transport of trailers, motor vehicles, containers and timber. This vessel, the BASS TRADER, was completed at the State Dockyard, Newcastle, on 4th April, 1961. Also for the Tasmanian trade a new "big sister" of the PRINCESS OF TASMANIA has been designed by the Australian Shipbuilding Board for the Australian National Line. This passenger/vehicle vessel is to ply between Sydney and Hobart. It will be 444 ft. long and carry 250 passengers and 1,500 tons of cargo at a speed of 18¼ knots. She is due for completion by Cockatoo Docks & Engineering Co. Pty. Ltd., Sydney, in mid-1964.

Marine Engine Manufacture

Manufacturing capacity in the fields of steam turbine and diesel engine construction has developed to such an extent that the limitation of demand is the only restriction on production. As a matter of fact, in marine steam engine production the industry has achieved parity with overseas suppliers in workmanship and with some suppliers also parity in costs.

Steam turbine construction was a pre-war project, but like reciprocating steam engine construction it has not been developed to any extent in Australia. In 1926 Cockatoo Docks, Sydney, built turbines up to 21,000 shaft horsepower (twin screw) for Naval vessels. The rotor forgings, blading and other components, however, were imported. Since 1945 this section of the industry has steadily progressed, until today turbines can be 100 per cent. Australian in manufacture and materials. Cockatoo Docks is building turbines of 54,000 shaft horsepower (twin screw) and The Broken Hill Pty. Co. Ltd. built some of 6,500 shaft horsepower (single screw) for installation in the "Iron" (BHTC) Class ore carriers.

The progress of diesel engine construction has been rapid. Prior to 1945 the largest oil engine built locally was about 200 brake horsepower. In that year Walkers Ltd. of Maryborough, Queensland, built under licence "Mirrlees" diesel engines of 540 brake horsepower and installed them in the "E" Class vessels. This company has now produced similar engines of 720 brake horsepower for the "D/A" Class vessels. The Commonwealth Government Engine Works, Melbourne, manufactured, also under licence, "Doxford" engines of 3,300 and 4,400 brake horsepower, and for the latest vessels is producing "Doxford" engines capable of developing 5,700 brake horsepower and "Sulzer" developing up to 10,500 b.h.p. In 1953 the State Dockyard, Newcastle, N.S.W., was granted a licence to manufacture "Polar" diesel engines, which it is now building for 2,000 brake horsepower marine installations.

It can therefore be said that there is no real problem in the local production of marine engines, either steam or diesel, but in order to justify the initial costs of tooling for production, continuity of work is essential.

Auxiliaries and Components

The spheres of auxiliary and component manufacture have gradually been enlarged to a degree of self-sufficiency. Today Australia possesses the capacity to produce 98 per cent. of the requirements of a steamship and 95 per cent. of those of a motorship. It is in these fields that the ramifications of shipbuilding are apparent, but in the outfitting of a vessel practically every industry and trade make a contribution. In the latter connection an idea of the ramifications of the industry can be obtained from the fact that the items necessary for the outfitting of an "A" Class 9,000-tons d.w. vessel would furnish at least 12 suburban homes. In addition, a vessel is equipped with many items of equipment necessary for the safety of life at sea.

Importance and Future of Industry

A review of shipbuilding activities since the revival of the industry and an assessment of its claims to permanency reveal that, on the credit side, the industry is vital to the defence of the country, well established, virtually self-sufficient in materials, capable of expansion and the workmanship and materials reflected in the constructed vessels compare more than favourably with those from overseas. On the debit side, however, is the fact that Australian costs are not competitive with those of the United Kingdom, which can only be remedied, in the early stages at least, by some form of Government assistance.

The maritime strength of any nation is based upon its mercantile fleet and its ability to construct and maintain it during war years. In a nation such as Australia, which is so dependent upon marine transport for interstate and international trade, this axiom has

a special significance. This was recognised during the recent war years when shipbuilding and ship repairs were accorded "absolute" priority in manpower and materials. The part played by the industry was vital to the successful maintenance of supply lines. The movement of men, materials of war and basic materials rests, as does the mobility of the Navy, upon the strength of the mercantile fleet. A further factor contributing to the need for a strong merchant shipbuilding industry is the precision required in Naval construction, which calls for workmen of skill and experience beyond that possessed by dilutee labour. The average peace-time programme of Naval vessels only would not permit continuity of employment in more than one shipyard in Australia; consequently there must be a reservoir from which skilled men can be drawn when required and the only sources from which these could come are the shipyards in which continuity of employment exists by virtue of merchant shipbuilding and repair work.

The growth of heavy and secondary industries has not been matched by a similar growth in transport facilities. The need for more ships, particularly of the bulk carrier type, and the replacement of average tonnage are essential if the national development is not to be retarded. Shipyards in Australia are capable of further expansion and could cope with the requirements of the coastal trade. The question of capital outlay in shipyards, however, is one which exercises the minds of the various private companies, which need the assurance of a long-range programme before making commitments for additional facilities and equipment. The Commonwealth Government has taken cognizance of this and has placed orders for bulk and ore carriers, and specialised vessels which keep the industry going for a further two or three years.

Over the past ten years there has been a serious decline in the volume of general cargo carried on the Australian coast due largely to competition from rail, road and to some extent air transport. This has led to the elimination of most of the small coastal vessels engaged on intrastate trades. The outlook for the Yards with the capacity of building only the smaller type of vessel is, therefore, not encouraging.

The tendency today is for shipowners to build specialised vessels and larger ore and bulk carriers. Before the war there were no bulk carriers over 7,000 tons d.w. on the Australian coast. Ore carriers now being built are of 16,400, 19,000 and 21,400 tons d.w., and The Broken Hill Pty. Co. Ltd. is considering vessels of 40,000 tons d.w. for its future programme.

It is conceded that Australian shipbuilding costs are high in comparison with the United Kingdom, but they compare more than favourably with a number of foreign countries. In an endeavour to obtain parity with the United Kingdom costs, the Commonwealth Government is at present subsidising shipowners by paying a subsidy of up to 33-1/3 per cent. of Australian costs.

It is known that the shipbuilding industry in practically every country is receiving assistance of some kind or other and with the high standard of living which exists in

(Continued on page 17)

AUSTRALIAN SHIPBUILDING BOARD

SHIPBUILDING PROGRAMME AS AT 1st JUNE, 1962

VESSEL No.	Name	Description	d.w. Tonnage	Main Engine and Builder	Shipbuilder	Owner	Estimated Completion Date
S.T.AM.35	P. J. Adams	Oil Tanker, 1,560,000 c. ft. City	32,250	Parsons Steam Turbine The Broken Hill Pty. Co. Ltd., Parsons, U.K.	The Broken Hill Pty. Co. Ltd., Whyalla, S.A.	Ampol Petroleum	Oct., '62
OCB.37	Mittagong	Ore Carrier	16,400	Doxford 67LBL5 C'wealth Govt. Engine Works, Melbourne.	The Broken Hill Pty. Co. Ltd., Whyalla, S.A.	Bulkships Limited	Mar., '63
BHS.38		Bulk Ore Carrier	21,400	Sulzer 7RD76 C'wealth Govt. Engine Works, Melbourne.	The Broken Hill Pty. Co. Ltd., Whyalla, S.A.	The Broken Hill Pty. Co. Ltd.	June, '64
BHS.39		Bulk Ore Carrier	21,400	Sulzer 7RD76 C'wealth Govt. Engine Works, Melbourne.	The Broken Hill Pty. Co. Ltd., Whyalla, S.A.	The Broken Hill Pty. Co. Ltd.	June, '65
UC.40		Car Vehicle, Drive in/Drive off	3,250	Mirrlees Monarch 8 cyl. Twin Screw U.K.	The Broken Hill Pty. Co. Ltd., Whyalla, S.A.	Union Steam Ship Co. of New Zealand Ltd.	Oct., '63
UC.41		Car Vehicle, Drive in/Drive off	3,250	Mirrlees Monarch 8 cyl. Twin Screw U.K.	The Broken Hill Pty. Co. Ltd., Whyalla, S.A.	Union Steam Ship Co. of New Zealand Ltd.	Jan., '64
ANP.220		Sydney/Tasmania, Passenger-Vehicle	2,175	M.A.N. K10257/80c Twin Screw W. Germany	Cockatoo Docks & Engineering Co., Ltd., Sydney.	Australian National Line	June, '64
MPC.42	Kangaroo	Passenger Cargo for West Australian Service	2,500	Twin British Polar M47M U.K.	Evans Deakin & Co. Pty. Ltd., Brisbane.	State Shipping Service, Govt. of Western Australia	Sept., '62
ANB.45		Bulk Carrier	7,500	Sulzer 6RD56 C'wealth Govt. Engine Works, Melbourne.	Evans Deakin & Co. Pty. Ltd., Brisbane.	Australian National Line	Oct., '63
L.H.68	Cape Don	Lighthouse Supply	900	Polar M65T State Dockyard	State Dockyard, Newcastle.	Dept. of Shipping & Transport	Jan., '63
L.H.69	Cape Moreton	Lighthouse Supply	900	Polar M65T State Dockyard	State Dockyard, Newcastle.	Dept. of Shipping & Transport	Apr., '63
L.H.70	Cape Pillar	Lighthouse Supply	900	Polar M65T State Dockyard	State Dockyard, Newcastle.	Dept. of Shipping & Transport	Late '64
NSV.71		Naval Survey	*3,000	English Elect. 16CSVM U.K.	State Dockyard, Newcastle.	Dept. of the Navy	Sept., '63
M.S.72		Seismic	5,400	Sulzer 5RD76 U.K.	State Dockyard, Newcastle.	McIlwraith, McEacharn Limited	June, '64
A.T.12	Joe Mann	Diesel Tug 60′		General Motors 1200 3C Series 71 Tandem U.S.A.	Adelaide Ship Construction Ltd., Birkenhead, S.A.	Dept. of Army	Oct., '62
A.T.13	The Luke	Diesel Tug 60′		General Motors 1200 3C Series 71 Tandem U.S.A.	Adelaide Ship Construction Ltd., Birkenhead, S.A.	Dept. of Army	Oct., '62
P.S.43	Arinya	Pilot's Survey 100′		General Motors T. Screw 6/71 Series U.S.A.	Walkers Limited, Maryborough, Q'land.	Dept. of External Affairs	Aug., '62
ASR.59		Air/Sea Rescue Launch 76′		General Motors 16V/71 Twin Screw, U.S.A.	Mill Kraft Boat Yard Pty. Ltd., Brisbane, Q'land.	Dept. of Civil Aviation	Aug., '62
C.V.70		Customs Launch 70′		Rolls Royce C8TFLM Twin Screw U.K.	Norman R. Wright & Sons Pty. Ltd., Brisbane, Q'land.	Dept. of Customs & Excise	Sept., '62

* Gr.

ROYAL NAVY ADOPTS COMPUTER

£20 MILLION STOCKLIST TO COPE WITH

A £¼ million computer installation for the Royal Navy was officially opened by the Civil Lord of the Admiralty (Mr. C. I. Orr-Ewing, O.B.E., M.P.) at the R.N. Store Depot, Copenacre, Wiltshire, on Thursday, June 14, 1962.

It is hoped that when the installation is in full operation there will be a considerable saving and increase of efficiency in the organisation of electronic stores for the Fleet.

The computer will keep a daily stock record of over 90,000 electronic stores items, which range from half-ounce transistors to seven-ton radar aerials, pinpointing immediately any fluctuations in supply and demand.

In terms of labour, the installation will be operated by a staff of 25 and should eventually lead to a net staff saving of about 100.

As an example of the saving in time, the assessment of requirements for 8,500 electronic items for a guided missile destroyer like H.M.S. Devonshire — which now takes about eight weeks — will be assessed by the computer as part of the normal processing work within three days.

In this example, in addition to giving a complete list of the 8,500 different items needed, the computer also gives warning of impending shortages in stock.

Called the Emidec 1100, the computer includes several magnetic tape units which will work out complete lists of components — up to several hundred — needed for all radio, asdic and radar sets, look up the stock record, confirm availability, debit the stock record and prepare printed invoices for the items to be despatched to the ships.

The R.N. Store Department employs some 16,000 people serving in Admiralty establishments ashore and in Royal Fleet Auxiliaries afloat, and is responsible for the provision and supply of over half-a-million different items ranging from flags and furniture to aircraft spares and anchors.

A fleet of over 4,000 vehicles is also operated by the Department, which dates back as a self-contained organisation within the Admiralty to the appointment of the first "Clerk of the Stores" in 1542.

THE NEW DEFENCE POLICY

By "REACTOR" in the United Kingdom Magazine "The Navy"

Part 1.

The Defence White Paper

For weeks before its publication defence correspondents (including the writer) had been busy forecasting the likely contents of the 1962 Defence White Paper and in the process providing Mr. Watkinson with a wealth of ideas about the future role of the British armed forces. Sweeping changes in the organisation of the Services had been widely forecast and it was confidently expected that the end of national service, together with the need to streamline the whole defence structure would result in a document of more than usual interest. There had also been much speculation as to how the British Government would react to the mounting demands from the N.A.T.O. Alliance, and not least from the Pentagon, for an increase in conventional forces in Europe in order to raise the threshold of nuclear war, and thus obtain in the dramatic words of President Kennedy "a choice between humiliation and holocaust."

In the event the Defence White Paper proved to be a disappointment, equivocal in its answers to the great questions surrounding our defence problems and lacking the decisions necessary to build a realistic defence policy in the light of the many complex conditions of today. To a much greater extent than in previous years the emphasis is on the economic facts of life. "Our object," says the White Paper, "is not to cut defence expenditure, but to contain it"; to contain it, that is, within a total of seven per cent. of the Gross National Product. This is the amount of the country's resources which the Cabinet is prepared to allocate to defence spending in the current economic state of the nation, and all estimates are therefore tailored to fit this overall figure. The resulting compromises can be seen on almost every page of the White Paper and the final picture is one which cannot fail to cause alarm to anyone with the interests of his country at heart. For what this strict adherence to a financial total has revealed, finally and conclusively, is that it is impossible for Britain to continue to maintain her independent contribution to the nuclear deterrent of the Western Powers and at the same time provide conventional forces of the necessary shape and size to meet our world-wide national commitments, and also to honour our undertakings to the various alliances of which we are members, and particularly our contribution to N.A.T.O.

This is the main conclusion to be drawn from a study of the new defence policy, but the White Paper nevertheless contains some interesting proposals. In a previous article some suggestions were made about a possible reorganisation of the Ministry of Defence and the Service Ministries with the object of obtaining an integrated Joint War Staff at the highest level and an efficient and economic chain of command for our operational forces. Here the Minister has made a tentative beginning but further advance has probably been checked by the traditionalists, and inter-Service difficulties appear to have baulked his initiative just where a bold and comprehensive plan was most needed. "The main concept of the White Paper," said Mr. Watkinson in the Defence Debate in the House of Commons, "is the concept of unified command, joint Service operations, and greater mobility and hitting power." Unified command — but not in Whitehall; the relationship between the Ministry of Defence and the three Service ministries remains virtually unchanged. The setting-up of a new Joint Service Staff in the Ministry of Defence to advise the Chiefs of Staff on all aspects of joint Service operations will certainly improve the machinery for inter-Service planning, whilst the execution of agreed inter-Service operations will now be supervised from day to day by a small operational staff manning the Defence Ministry war room on a joint Service basis. But the Naval, General, and Air Staffs remain in existence in their separate offices, and they will be able to object to, or even to veto, the work of the new joint staff. Streamlined forces need a streamlined defence organisation to plan and control their employment. Let us hope that the Minister will be able to make further progress towards his stated objective of unified

command before the next election.

The delays and evident difficulties in establishing the new unified command for our forces in the Far East again reflect objections to the proposal, especially by the local Commanders-in-Chief in Singapore. In last year's White Paper the establishment of a unified command in the Far East was "under consideration"; twelve months later and after visits to the area both by the former Chief of the Imperial General Staff, and now by Mr. Watkinson himself, the new command has still not been set up nor a Supreme Commander appointed. Yet, as I have pointed out so often in these articles, without an efficient unified command organisation it will be impossible to operate the Joint Service Task Forces which are now rightly seen to be the future core of our Middle and Far Eastern forces.

Nevertheless some constructive, it minor, steps have been taken to improve the command organisation; the long-range communications systems of the three Services are to be integrated and a common signals procedure evolved. Clearly this will lead to increased efficiency and greater flexibility, at the same time ensuring that the maximum use is made of the available facilities. The amount of joint Service training at staff colleges is to be increased and officers introduced to inter-Service problems at an earlier stage in their careers than before. This will build up the understanding attitude so essential to smooth co-operation between the Services. Finally, the White Paper admits that "there may well be scope for further rationalisation of the administrative and support functions of the Services in the interests of economy and efficiency," and a committee is being set up to study the whole question. Here indeed is a ray of hope, for if this committee is allowed to do its work properly, its recommendations could well form the basis for those economies in civilian administration, especially in Whitehall, without which our forces can never function to the best advantage.

The concept of the Joint Service Task Force for operations east of Suez is introduced in the White Paper for the first time, but the economic restrictions already referred to will cause delays in the formation of the first of these forces. Although a second assault ship is to be built, there is to be no shortening of the four-year period required to complete these ships and so it will be 1966 before the first one is available to replace the slow and ageing Amphibious Warfare Squadron of today. In the same way, although H.M.S. ALBION will commission this summer as the second Commando ship, at first she will only be able to replace H.M.S. BULWARK whilst the latter is taken in hand for a much-needed refit. Thus our amphibious capability in the potentially dangerous Persian Gulf area will remain virtually unchanged for some years to come.

It had been widely forecast that this year's Estimates would include provision for the first of a new generation of aircraft carriers and there has been some disappointment over the further delay in this matter implicit in the decision only to put the necessary design work for a new class of ship in hand. But the White Paper also refers to future generations of vertical and short take off and landing aircraft for the Royal Air Force which will also be able to operate from aircraft carriers, and the basic features of any new carrier must obviously depend very largely on these revolutionary types of aircraft which will be embarked in them. It looks as if we are likely to require a type of floating air base carrying the maximum number of the new planes and relying on the accompanying guided weapon destroyers for defence against close range air attack.

Despite the welcome improvement in recent recruiting figures for all the Services, the Army has abandoned its target of a total of 182,000 regular volunteers as too high, and as a result the Navy has been allowed to recruit to a higher figure than had at first been agreed. A total of 95,000 for the Royal Navy and Royal Marines is now in mind and a new Marine Commando is already being formed as a result of this increase. Thus the end of national service appears likely to benefit the Royal Navy more than it will the other Services.

During the Defence debate the real value of our strategic deterrent force was widely questioned, and with both the Labour and Liberal parties now officially committed to a policy of gradually phasing out the British deterrent when the Vulcan/Skybolt system becomes obsolete, it looks as if we shall hear a great deal more on this subject during the coming months.

Slowly but inevitably we are approaching the moment when the great decisions about the future defence policy of this country must be faced. Do we wish to remain a great military power? Are we prepared to make the necessary sacrifices to do so? What defence system is best suited to membership of the E.E.C.? The answers will not be easy to find; unfortunately, the 1962 Defence White Paper does nothing to signpost the way.

(To be Concluded)

MOVE OF 40 COMMANDO

40 Commando Royal Marines (Lieutenant Colonel D. P. L. Hunter, M.C., R.M.) were moved from Malta to Singapore in April, 1962, in order to provide a second Commando to operate with the Commando ship H.M.S. BULWARK. The move is a routine one designed to improve the operational flexibility of the Commando ships. Families will be able to go with the unit.

Formed in February, 1942, 40 Commando took part in the Dieppe Raid in August of that year and suffered heavy casualties. In July, 1943, the Commando landed in Sicily — the first seaborne troops into Europe — and later took part in the Anzio landings and operations in Italy and Yugoslavia.

In 1946, 40 Commando became part of the 3rd Commando Brigade Royal Marines and it has been abroad continuously since then, engaged in garrison and internal security duties. The Commando has seen service in Hong Kong, Malaya, Palestine, Cyprus, the Canal Zone and Malta.

SHIPBUILDING IN AUSTRALIA

(Continued from page 12)

Australia, it is inevitable that such a competitive industry as shipbuilding must receive Government assistance until such time as it is established on a competitive basis.

As a result of the Commonwealth Government's policy of subsidising shipowners, an order was placed on 28th February, 1958, through the Australian Shipbuilding Board by Ampol Petroleum Ltd., for the construction of a super tanker of 32,250 tons d.w. to be built at the yard of The Broken Hill Pty. Co. Ltd., Whyalla, South Australia.

This will be the largest ship ever built in Australia and will be completed about October, 1962.

In Manila, two Australian sailors visit the memorial to Filipino war dead. The wreath was laid at the Tomb of the Unknown Soldier by the Flag Officer Commanding the Australian Fleet, Rear Admiral Alan McNicoll, on behalf of the SEATO nations taking part in the recent exercise, "SEA DEVIL".

The sailors in this picture are Radio Electrical Mechanic Graham Williams (left), of Cootamundra, N.S.W., and Radio Electrical Mechanic Edward Miller, of Punchbowl, N.S.W.

R.A.N. VISITS CHRISTMAS ISLAND

The arrival of an R.A.N. frigate is rarely an occasion for celebration by an entire community, but the visit of H.M.A.S. QUEENBOROUGH to Christmas Island during March was something of a special occasion.

It was the first official visit by an R.A.N. warship since Christmas Island became an Australian territory three-and-a-half years ago.

The population of the isolated Indian Ocean island, comprising Chinese, Malays and Europeans, turned out in force to greet H.M.A.S. QUEENBOROUGH (Captain B. S. Murray, R.A.N.). In a twenty-four hour visit, one third of the island's three-thousand inhabitants visited the ship.

Christmas Island, which produces 500-thousand tons of phosphate a year, was transferred to Australia by Britain in October, 1958.

The Minister for the Navy, Senator Gorton, said that it was policy for Navy ships to visit Australian territories, although heavy training and operational commitments made such visits a rare pleasure.

During the twenty-four hour call at Christmsa Island, QUEENBOROUGH'S 120 officers and men were given shore leave. They took part in cricket, tennis, soccer and basketball matches, and toured the island's rich phosphate fields. Entertainment included a barbecue and dance, and QUEENBOROUGH gave a cocktail party.

QUEENBOROUGH has now sailed for Singapore, where she is to serve with the British Commonwealth Strategic Reserve.

THE BATTLE OF THE RIVER PLATE

(Continued from the previous issue)

NEWS OF THE AWARD ONLY LEARNT IN 1950 FROM THE CAPTIAN OF A P & O LINER HOMEWARD BOUND FROM AUSTRALIA WHO HAD BEEN IN THE BATTLE

It was not till 1950 that by chance I heard the outcome of this recommendation. In March of that year I was travelling back from Australia on the P & O HIMALAYA and went to make a courtesy call on the captain, as I always did since the days when, on entering or leaving Montevideo as British Minister, the Minister's flag was flown on the ship even when — on one occasion — it had been the "crack" German liner CAP ARCONA.

This visit was intended to last some fifteen minutes but lasted fifty or more after I had mentioned my post at Montevideo and Captain Forsyth had told me that he had been a sub-lieutenant on board the armed liner MACEDONIA forming part of Sturdee's squadron at the Falklands! I recalled my reading of Sturdee's report and asked if he could tell me whether that V.C. had been awarded and the man's name. He mentioned it and assured me that the award had in fact been made. At that time I had no thought of writing or compiling anything about the GRAF SPEE except in my memoirs if I ever wrote them.

THE EXACT STORY LEARNT IN 1959 FROM THE ADMIRALTY

When, however, I decided to compile the present anthology, one of my first enquiries to the Head of the Historical Section at the Admiralty, Commander P. K. Kemp, was whether he could remind me of the name and give me perhaps the "citation" of this rating who had won the V.C. He informed me that no V.C. had been awarded at the Falklands. Soon afterwards I read "Coronel and After" by my old friend, Commander Lloyd Hirst, who in the GLASGOW had taken part in both battles. He had been Secretary to the Senior Naval Officer (that is Admiral Cradock) and also Station Intelligence Officer. In this book I came across a description of what was obviously the same feat but performed in the light cruiser KENT by a sergeant Mayes of the Royal Marines.

On referring the matter again to Commander Kemp he informed me that Sergeant Charles Mayes had been awarded for this a C.G.M. (Conspicuous Gallantry Medal).

DESCRIPTION OF SERGEANT MAYES' FEAT

The feat was so remarkable that the following description of it is quoted from Mr. Barrie Pitt's excellent book "Coronel and The Falkland" published in 1960.

". . . A shell had burst just outside the midship casemate with results which only narrowly escaped blowing his ship and all her company sky-high. Shell-splinters tore through the 6-inch casemate, killing one man instantly and starting a fire, fierce and sudden enough to cause severe burns to the other nine men in the casemate. Moreover the ammunition-hoist had been open and the flash passed down the hoist and ignited a charge which was hooked on at the bottom—in the ammunition passage.

"It was indeed fortunate for KENT that at the bottom of the hoist was also Sergeant Charles Mayes of the Royal Marine Light Infantry. He tore the burning charge from the hook, slammed tight the sliding scuttle in the hoist and yelled to the men around to fetch hoses. He had isolated the fire from the magazine, but was still in possession of a burning cordite charge, and before the hoses arrived he had perforce to throw down the charge in a place where it would do least harm—not an easy place to find in a confined ammunition passage. By the time the hoses arrived, empty shell-bags were burning with the original charge inside, but Sergeant Mayes had isolated the cordite in the vicinity and soon everything was soaking wet and the flames out. But for safety's sake, the sergeant then very wisely flooded the entire compartment."

WHY IT WAS UNFORTUNATE THAT THE INCIDENT DID NOT OCCUR ON A BATTLE CRUISER

So my memory had been somewhat at fault, but in his reply Commander Kemp had implied that it was unfortunate that it had *not* happened on one of the battle cruisers rather than

on the KENT. When I enquired the reason he gave the following very interesting explanation.

"At the Dogger Bank action one of the German battle cruisers was nearly lost through flash descending through the turret trunk to the handing room, which might well have blown up the magazine. The Germans learnt the lesson and promptly fitted an anti-flash contrivance. No such hit occurred on our battle cruisers either at the Falklands or Dogger Bank, and we were consequently unaware of the danger till three of them blew up at Jutland, and a fourth—the LION—nearly did so—after which we took similar steps to the Germans, as we should certainly have done after the Falklands had such a hit occurred."

MEETING WITH HARWOOD ON THE SOUTHAMPTON IN MONTEVIDEO WHEN HOMEWARD BOUND, JULY, 1919

The above, then, was my very distant connection with the Battles of Coronel and the Falklands at that time, but it is perhaps worth recalling that 4½ years later, I left Buenos Aires on June 30, the day the Treaty of Versailles was signed. I had embarked at La Plata on the old Houlder Line steamer EL PARAGUYO carrying frozen meat and as she stayed in Montevideo some 3 days I had ample opportunity to observe the SOUTHAMPTON, which was famous as having taken part in the Battle of Jutland as the flagship of Admiral Sir William Goodenough and had been badly damaged.

She was then engaged on a cruise round the whole of South America under Admiral Sir Thomas Hunt, C-in-C South American Station, 1919-1920, and the torpedo officer on board was none other than Lieutenant Henry Harwood, whom I must have met with a number of other officers at a sherry party given for them by the British community. Harwood's special friend among his fellow officers on the SOUTHAMPTON was Lt. Edelsten, who now as Admiral of the fleet Sir John H. Edelsten, G.C.B., has been good enough to furnish me with a memoir of Harwood in which it is emphasised that this cruise on the SOUTHAMPTON greatly stimulated Harwood's interest in Latin America So that, when in 1937, he became Commodore of the South American Station, it undoubtedly was the fulfilment of an aspiration.

Lastly, as these reminiscences have been described at the outset as foreshadowing events twenty-five years later, it may be mentioned here that in World War I Uruguay had anticipated her staunch pro-Democratic and pro-Allied attitude in World War II as manifested at the time of the GRAF SPEE incident by being the only Spanish American country to break off diplomatic relations with Germany in World War I, and did so in October, 1917, when the issue was still much in doubt.

LIEUTENANT WASHBOURN'S ACCOUNT OF THE WATCH OFF MONTEVIDEO AND THE LAST EVENING. THE AJAX AIRCRAFT REPORTS THAT THE GRAF SPEE HAS BLOWN HERSELF UP. NEARER APPROACH TO THE BURNING WRECK AND MUTUAL CHEERING OF THE CREWS OF THE AJAX AND THE ACHILLES THE SAME SCENE DESCRIBED BY THE PILOT OF THE AJAX AIRCRAFT, COMMANDER LEWIN.

From a letter written to a naval friend on January 20, 1940, by Lt. Washbourn, Gunnery Officer of the ACHILLES (Text kindly given by Rear Admiral R. E. Washbourn, C.B., D.S.O., O.B.E.); and from a letter to the Compiler from Captain E. D. G. Lewin, C.B., C.B.E., D.S.O., D.S.C.

Then we sat down for a day or two and listened to the B.B.C. assembling mythical fleets off the Plate, secure in the knowledge that all that could bar her exit was one and a half cruisers with 6 7th of their outfit fired. At the end of the next day we were comforted by the appearance of a great grey hulk, knowing that if she did nothing else she would play the part of an EXETER and take the first of the punishment from the 11 in. guns.

Friday and Saturday were full of alarms, and we remained in the first degree of readiness, just outside Montevideo, each night. It was amusing being front page news, but we felt a little embarrassed and ashamed at the fuss that was being made for propaganda purposes. When the B.B.C. promised "interesting developments one way or another" we laughed hollowly. And when the Commodore made his first night policy signal starting "My policy is destruction", someone said "Whose?"

I shall not easily forget that Sunday evening. The three of us closed Montevideo at the time she was due to leave. A glorious clear evening with a vivid sunset over the Argentine coast. AJAX sent her machine up to see what was going on. We were closed up and loaded, ready for whatever might come. I remember hearing someone in my Group saying, I think it came from the A.C.P. "Well, I shall never be afraid of going to the dentist again."

We received the news that she had sailed, and increased speed to close her at a convenient position for the closing phases. We could hear the Yankee broadcasters giving their running commentaries from Montevideo breakwater. "The suicide squadron with their little popguns . . ." listened with interest. News came that she had sent large numbers of her crew to our old friend TACOMA before sailing. It was thought that all the married men had been sent out of the ship.

And then, enormous moment, AJAX's machine said "GRAF SPEE has just blown herself up". We were close enough then to the trained on the very unmistakeable smoke from her Diesels, and my Rate Officer had actually seen the puff of black smoke of the explosion.

We ordered all hands on deck; and, with guns still loaded and tubes inserted everyone left their quarters and crowded on all the vantage points of the ship to see the last of the old enemy. AJAX, leading us, either forgot to make a signal to tell us that she had reduced, or we weren't troubling about signals at that time. We shot up on her, sheered out, and as the two ships passed close to in the gathering twilight there was the most magnificent spontaneous expression of feeling, and each ship cheered the other until no one had any voice left. And when we had stopped through exhaustion someone in AJAX shouted "Well done the Diggers", and it started all over again. I don't expect ever to feel or witness anything like that again.

We continued to close, at a more dignified speed, and gradually the burning hulk came up

CHINA

Chinese Communist warships may be sent to the Mediterranean in the near future. According to the Communist Chinese Party magazine, "Red Flag," the warships will escort Chinese merchant vessels taking supplies to Albania. This move follows the formation of a Sino Albanian Shipping Company. "Red Flag" speaks of the company as giving economic security to the "heroic Albanian people"! According to one report, "Red Flag" also states that "It would be foolish not to supplement this with the security for vessels belonging to the company."

If China does send naval vessels into the Mediterranean, it seems certain that they will be based at Valona, the chief Albanian port. This base was formerly used by six submarines of the Soviet Navy, which were ordered out last June, a few months before the final split in diplomatic relations between Russia and Albania.

Reactions to this news seem to have been slow, but Yugoslav officials in Belgrade scoffed at the idea that the supply ships would need protection.

Yugoslav opinion is that the rumour was circulated to bolster Albania's position against the present wave of Russian attacks.

Russia, too, is searching for a new naval base in the Mediterranean. President Nasser of Egypt recently denied reports that Russian Naval vessels were based in Egypt. For some time now it has been suggested that Russian submarines, and possibly surface vessels, are based at Suez and Alexandria. When the Russians lost their naval base in Albania it seemed logical that they should turn to Egypt and ask for these privileges.

In recent months though, relations between Egypt and Russia have been far from cordial.

KEEL LAYING OF GUIDED MISSILE DESTROYER

The keel of the fifth guided missile destroyer of the County class was laid at the Govan, Glasgow, yard of the Fairfield Shipbuilding and Engineering Co. Ltd., on Thursday, 31st May.

When it is subsequently launched, the ship will be named FIFE.

The main machinery contractors are the Fairfield Shipbuilding and Engineering Co. Ltd., who will also manufacture the main gear boxes. The main engines, consisting of G.6. gas turbines and steam turbines, are being manufactured by Harland and Wolff Ltd. of Belfast under licence from Associated Electrical Industries, Trafford Park, Manchester.

The FIFE will be equipped with the Mark 2 Seaslug, which is an improved version of the ship-to-air weapon at present being installed in the first four ships of the class.

This will be the first time an H.M. Ship will bear the name FIFE, the principle being followed by the Admiralty Ships' Names Committee when recommending these County class names is to spread them territorially throughout the country, paying particular attention to areas of Naval, general shipping or other special interest.

over the horizon. The Germans had made a very thorough job of it. She burnt fiercely with small explosions every few minutes as the flames reached some new compartment, presumably containing explosives. Towards midnight we approached within a few miles of the pyre, and then turned away and resumed our various patrols. That night we relaxed and misbehaved ourselves and, for the first time, neglected our dawn action stations. And that was that.

The following briefer description of the same period was contained in a letter to the Compiler from Captain E. D. G. Lewin, who as Commander Lewin was pilot of the AJAX aircraft:

I personally found the first two days patrolling off the Plate after SPEE had entered Montevideo particularly trying. We were all keeping watch-and-watch and, additionally, Kearney and I did a dawn patrol over the Plate to make sure SPEE had not sailed overnight—this, of course, before the quite excellent reporting system off Montevideo had become established. I was so tired by this time that I was constantly falling asleep in the air, which was not good for either Kearney's or my nervous systems.

Of the actual scuttling, I do not know if the grandstand view which we had from the air was more impressive than it was from the ground, but it was quite Wagnerian. SPEE was silhouetted against the sun, which to us had not yet set, and the fantastic series of explosions with which she destroyed herself still stick in my mind. On return to the Cruiser Squadron, Kearney and I were much incensed by being kept waiting while it got darker and darker, and it was not until after we had landed and ACHILLES steamed past in the midst of a mass Maori war dance that we appreciated the very high spirits which our squadron mates were in.

HIGH HEELS FOR WRANS

Members of the Women's Royal Australian Naval Service are to be allowed to wear high heel shoes with their uniforms.

The Minister for the Navy, Senator Gorton, said that the fashion change had been approved for use in certain circumstances. However, high heel shoes would be an optional extra for the Wrans, and would not be part of the Service's clothing allowance.

Giving details of the fashion concession, the Director of the W.R.A.N.S., Chief Officer Joan Streeter, said that Wrans would be able to wear high heel shoes with their uniforms except when actually on duty at Naval establishments. On these occasions they would usually be wearing their working dress, and would continue to wear flat heel shoes. The flat heel shoes would also be uniform dress for all ceremonial occasions.

Chief Officer Streeter said the decision on high heel shoes was expected to appeal to fashion-conscious girls in the Service. The shoes approved by the Service would have medium high heels, and exaggerated styles would not be permitted. The Wrans could wear white high heel shoes in the summer, and black court shoes with their winter uniforms.

One of the first official appearances of the new Wran fashion was at the Combined Services Display in Sydney, when Wrans on duty wore high heel shoes.

P & O COMMODORE CHIEF ENGINEER RETIRES

The retirement is announced of Mr. D. C. Campbell, Commodore Chief Engineer of the P & O Steam Navigation Company. Mr. Campbell's last ship was the 29,664-ton ARCADIA, in which he served from March, 1960, until March of this year.

Mr. J. W. B. Towler, Chief Engineer of the 24,000-ton CHUSAN, has been appointed Commodore Chief Engineer to succeed Mr. Campbell.

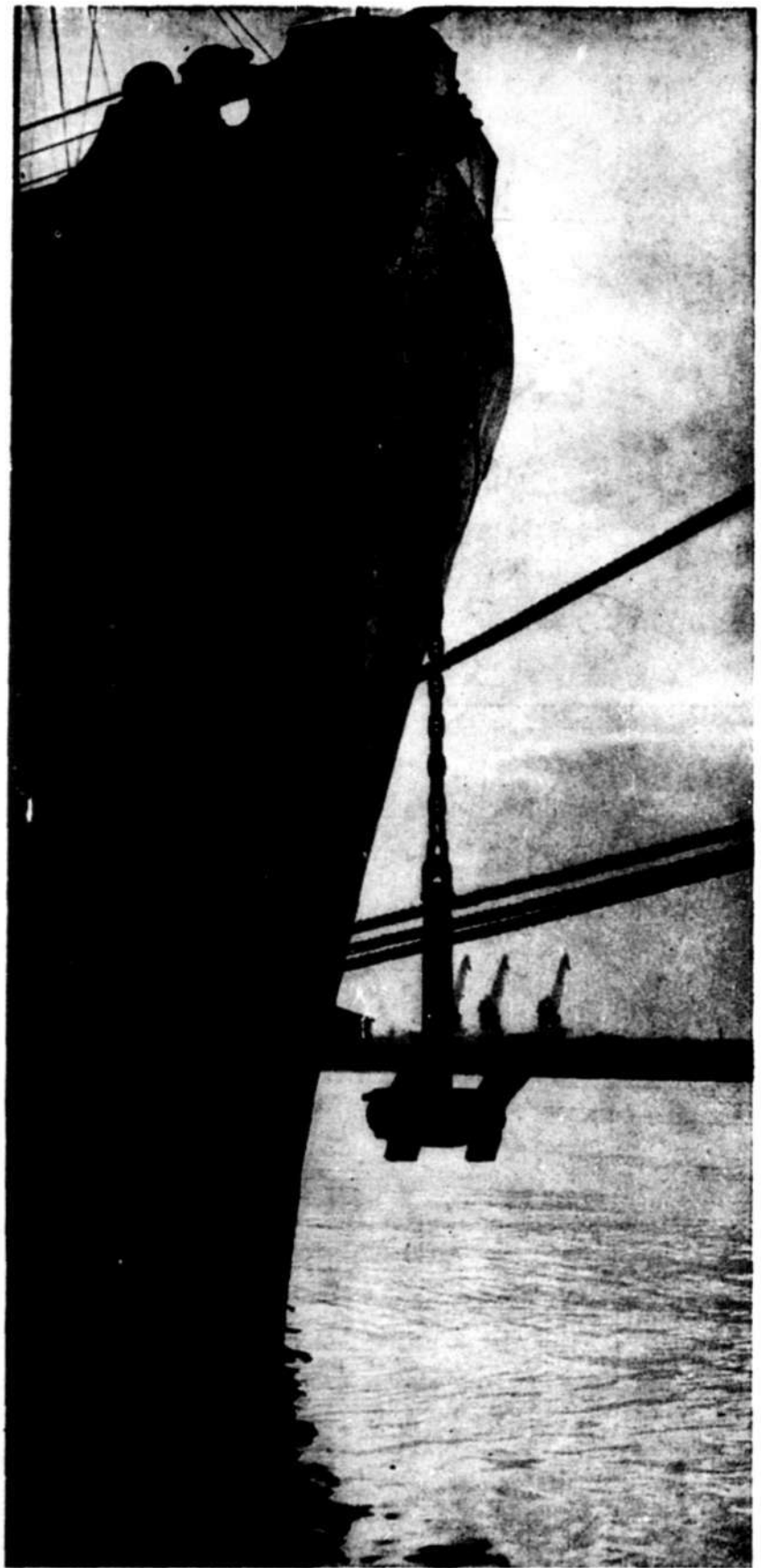
Daniel Colin Campbell was born on 27th April, 1902, at Barrhead, Renfrewshire; his home is now at Worthing, Sussex. He served his apprenticeship with Alexander Chapman & Co. and Dunsmere & Jackson Ltd., and joined P & O in 1925 as Assistant Engineer in the 7,912-ton CHINA. During the years prior to the war, he served in various P & O cargo ships, and had one spell of duty as Fourth Engineer of the famous passenger liner RAWALPINDI, which was later sunk in the epic action by the German battleships SCHARNHORST and GNEISENAU.

In August, 1938, Mr. Campbell was appointed Third Engineer in CANTON. The following year he was serving in the same capacity in MALOJA when war was declared. He signed Admiralty papers, and did not return to the Company's service until October, 1946.

SEA CADETS UNDER TRAINING
Sea Cadets from Canberra under training at H.M.A.S. Penguin in Sydney.

More stories from Sea Cadets would be appreciated.

(Blocks by courtesy of "Canberra Times")



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President: Surgeon Cdr. Sir Francis Matters, R.A.N.V.R. (Retd.).
Hon. Sec.: R. R. Sutton, Esq., 30 Pirie Street, Adelaide.

Tasmanian Division:
Patron: Vice Admiral Sir Guy Wyatt, K.B.E., C.B., R.N.
President: Cdr. A. H. Green, O.B.E., D.S.C., R.A.N. (Retd.).
Hon. Sec.: Lt. Cdr. A. K. Wertheimer, R.A.N.R., 112 Main Rd., Lindisfarne, Hobart.

Western Australian Division:
Patron: His Excellency, The Governor of Western Australia.
President: Roland Smith, Esq.
Hon. Sec.: K. R. Olson Esq., 62 Blencowe Street, West Leederville, W.A.

A Representative from each Navy League Division, also—
S.C. Cdr. L. E. Forsythe.
Lieut. Cdr. F. G. Evans, R.A.N.V.R.
Hon. Sec.: Lieutenant L. Mackay-Cruise, R.A.N.R.

MIDSHIPMEN GRADUATE

At a colourful graduation ceremony at Jervis Bay on the 20th July, twenty young Australians and New Zealanders became the first Midshipmen to complete the new training programme at the Royal Australian Naval College.

The College has raised its academic standards, and the overall pattern of Officer training has been revised, to produce Officers specially prepared to cope with the complex "missile age" Navy.

For the first time for nearly twenty years, Cadets graduating from the Naval College wore the distinctive white collar patches of Midshipmen. Under the new training scheme, they will spend a year as Midshipmen in the Australian Fleet before continuing their Officer training in Britain.

About four hundred guests, including the Chiefs of Staff of the Army and Air Force, watched the graduation ceremony at the Royal Australian Naval College.

ADDRESS GIVEN BY VICE-ADMIRAL W. H. HARRINGTON, C.B., C.B.E., D.S.O,

Your Excellency, my fellow Chiefs of Staff, Cadets about to Graduate, Distinguished Guests, Admiral Gatacre, Captain Peel, Ladies and Gentlemen.

May I first thank Captain Peel for his interesting and encouraging Report. You will recall that in his Report, Captain Peel said "it is necessary to have Officers who are leaders," and he mentions certain changes which have been made to meet this aim. I give you this quotation from his Report because it is proper to invite your particular attention to the aim of this Establishment, i.e., to produce the leaders of the future for our Navy. To this end the whole effort of Captain Peel and his Staff is devoted. He spoke of certain changes, and in this regard I can tell you that many changes have been made over the past few years, perhaps more than are comfortable, but I believe, inevitably, more changes will have to be made. I have heard certain criticisms that there have been too many changes. Physiologically, humans are animals, and to all animals change is upsetting.

Vice Admiral W. H. Harrington, C.B., C.B.E., D.S.O, Chief of Naval Staff, inspects the Guard of Midshipmen. Accompanying him are the Captain of the College, Captain E. J. Peel, D.S.C., R.A.N., and Chief Cadet Captain, Stephen Youll.

The most desirable state of affairs is when a rhythm of physical and mental routine can be established, nevertheless, the routine must achieve the aim. This is a time of change, and this establishment cannot expect to escape its disadvantages if the advantages of new and better methods are to be obtained.

This body of young men, and if I may say so, they are not at all a bad-looking lot, are the first product of the particular system which is now in vogue. They will go to sea for 12 months as Midshipmen, and will spend 12 months at sea in the wardrooms of the Fleet in order to enable them to gain practical experience and to get the feel of the men and material which later, and after further instruction, they will be required to command. They are at a very interesting stage in their Naval lives. They are, as it were, at the bridal stage, about to become wedded to the Service, and their state recalls to my mind a letter which was written to my great-great-grandmother by the Bishop of London in 1799 on the announcement of her engagement to be married, in which, in expressing his felicitations, he said that he could no reason why she should not approach this alliance with courage and fortitude and, he hoped, with satisfaction and solace.

The good Bishop no doubt had his reasons for choosing these particular words. I do not know his reasons — I never met my great-great-grandfather, but to my mind they are more appropriate to the situation of these young men than that of my great-great-grandmother. If they are, indeed, to be the leaders of the Navy, they must be possessed of the attributes of courage and fortitude, and I am sure that we all wish them solace and satisfaction in their careers. I use the simile of being at the bridal stage because it is certain that on them depends not only the future happiness of the Service but its very continuity of existence. For the Navy, and if I may presume to say so in the presence of the Chief of the General Staff and the Chief of the Air Staff, like the other armed Services, depends precisely on the brains, on the professional skill and on the integrity of its Officers.

This is a fact about which there can be no argument, and if the Navy does not attract to itself the right people for its Officers and does not teach them the things necessary to their profession, and if they in turn, do not absorb the teaching, then the Navy has no future. I am able to inform you that the standard of the men on the lower deck is as good as I have ever known it and, furthermore, in my opinion, is improving. Better men need and deserve and will demand better Officers so that our Officers need to be very good indeed, and these are the sort of standards to which you young men must aspire. I have no doubt that if you listen carefully to such an address as mine you will reflect that having worked hard here, I know you must have done so in order to graduate, you are now faced with a seemingly unending vista of future work. That is a logical and correct deduction, and I hope and expect that such a prospect does not discourage you. Work never hurt anybody, but I hasten to assure you that there is ample fun associated with Naval life. Take advantage of it. Play games. Play them for fun, that's their real purpose, but learn to play them well, because they will help you in your relations with your men — they will keep you fit, and they provide a means whereby you will meet and get to know men and women of all nations. This last aspect is very important. Your profession demands that you study men — make your study wide — don't just study Naval men, but spread your consideration to all men, wherever you meet them. Don't expect too much of them; remember the caution — you should not expect to find in Petty Officers attributes only rarely discovered in Admirals. If you don't expect too much, you will never be disappointed. On the whole they are nice creatures, almost as fascinating and almost as incalculable as women— another subject and one in which you will no doubt be interested, but one which is best left to post-graduate study.

Vice Admiral W. H. Harrington, C.B., C.B.E., D.S.O., Chief of Naval Staff chats with Midshipman W. M. Drysdale at the graduation ceremony. Midshipman Drysdale is the son of Lieutenant Commander Drysdale, R.A.N. (Retd.).

Report by Capt. E. J. PEEL, D.S.C.

Your Excellency, Admiral Harrington, Distinguished Guests, Ladies and Gentlemen. It is indeed a privilege to welcome you all here today and an honour for us to have you, Sir, to revue our Parade and address the young gentlemen who have just placed a foot on the second bottom rung of the ladder of their Naval Career.

It is fitting to note that Vice-Admiral Sir William CRESWELL, the first Chief of the Naval Staff of the R.A.N., and the officer after whom this establishment was named, was born 110 years ago today.

The last Graduation from the Royal Australian Naval College took place in December, 1960. In the intervening period we have been busy implementing the first stage of the new policy for the training of junior Naval officers. The level of academic learning has been raised to that of the United Kingdom General Certificate of Education at the Advanced Level for such subjects as Pure Mathematics, Applied Mathematics, Physics, English and French. This is the standard required for entry into Britannia Royal Naval College, Dartmouth, and I regret to report, Sir, that it appears to be about a year higher than a good Australian Matriculation pass.

The Naval College has just been inspected by a distinguished Committee of educational authorities under the Chairmanship of Mr. Weedon, the Director of Commonwealth Education. Its members included representatives from the National University and the Universities of Sydney and Melbourne, together with representatives from the Departments of Education in N.S.W. and Victoria, and the Headmaster of a well-known independent school. The substance of their Report, when it is presented, will do much to illustrate the level of the educational standard to which this establishment instructs.

In addition to academic studies, Cadet Midshipmen are instructed in professional matters to at least the same standard as is reached by Cadets of the Royal Navy after one year at Dartmouth. Such instruction includes a period of 16 weeks at sea in a training ship.

The Graduating Year, Sir, now join the fleet as Midshipmen on Sunday. They will serve for one year at sea before passing further professional examinations, after which they proceed to the United Kingdom. There, they join up with their contemporaries in the Royal Navy at either Dartmouth or the R.N.E.C. Manadon, depending upon their specialisation.

It is well known, Sir, that all work and no play makes Jack a dull boy, and I have to inform you that the present Graduates should not be dull if the amount of play, which is superimposed upon the work, is taken into account.

During their training at this College, Cadets play all the codes of games that are played by the men that in the future they will command. This is done so that they will be able to take part in these games with their men, and by so doing gain a better understanding of them. To attain this aim, Cadets are taught, and play compulsorily, Rugby Union, Australian Rules and Soccer in the field of Football. Hockey is also a winter game in this category, while Basketball is played throughout

Dux of the College was Midshipman C. J. Skinner, of Adelaide, who was only the second Graduate of the College to be top in all seven subjects, pictured with his parents.

the year. Cricket is the predominant summer game, but this is leavened with Athletics, the high point of which is the Inter-Service College Sports. Water Polo now comes within our scope of instruction, but stress in Swimming is laid more upon life saving than the winning of competitive races. Tennis is, of course, also included in the summer sports, and we hope some day to acquire Squash Courts. In competition with both Officers and Ship's Company, Cadets also play Softball.

There are also other fields in the euphemistically labelled "recreational" group in which Cadet Midshipmen play their part, but which have a professional aspect. The chief of these is sailing. This is done in TAM O' SHANTER and SABRINA, our yachts, and in whalers and skiffs. The period that has elapsed since the last Graduation has also seen an innovation in the shape of a New Zealand designed sailing catamaran, which we have built and paid for ourselves, and which has afforded much pleasure. We hope that we shall in the future be able to acquire more of these fast and very popular craft.

I am also pleased to be able to tell you, Sir, that a Morgan Giles sail training craft is being built for us by Garden Island Dockyard, and should be delivered by the end of this year. This craft will enable us again to enter the Sydney - Hobart yacht races. Expedition training, either by boat or on foot, is not neglected, and is aimed at developing self-reliance. Such expeditions take place either during week-ends or in the leave period, and include such forms as sailing week-ends, mountain climbing, and camps in the bush.

The Australian Commonwealth Naval Board has been generous enough to grant money which enables ten Cadets per year to qualify in Gliding. This activity is one which develops determination, self-discipline and decision, as well as team work. The R.A.N. Gliding Association now keeps a glider at our own airstrip, and it is operated by Cadets at least once a week, when the weather is suitable, generally on Sunday afternoons.

On the purely recreational side, Sir, we have an attractive 9-hole Golf Course, a 10-Pin Alley of two lanes, and a Skeet range. In addition to the above may be added Club activity, which includes Scottish Country Dancing, Photography, Chess, Science and a Glee Club.

Thus it is seen that though the academic standard has been raised at this establishment, it has not been allowed completely to predominate. Nowadays, as always in the past, it is necessary to have Officers who are leaders, if we are to have men whose standard and character meet the needs of the Service and the Country.

To assist in meeting this aim, another change has been instituted since the last Graduation. The Naval Board has approved the abolition of Cadet Captains. In the past a Chief Cadet Captain was appointed, and four Divisional Cadet Captains. In order to give all a chance of exercising authority and assuming responsibility, the tasks hitherto performed by the Divisional Cadet Captain will in the future be undertaken in rotational periods of about six to eight weeks by all members of the Senior Year. In this way, Sir, it is hoped that all Cadets will gain experience in this important aspect before they proceed to sea.

And now, Sir, we would be grateful and honoured if you would see fit to address the young men who are so shortly to join the Fleet.

Rear-Admiral G. G. O. GATACRE C.B.E., D.S.O., D.S.C., and BAR

Rear-Admiral Gatacre took up the appointment of Flag Officer-in-Charge, East Australia Area, on the 6th July, 1962.

He was born in Queensland on the 11th June, 1907. He entered Royal Australian Naval College in 1921 as Cadet Midshipman, and graduated at the end of 1924, after four years at College.

He saw service as a Midshipman and Sub-Lieutenant in H.M.A. and H.M. Ships on Australian, China, Mediterranean and U.K. Naval Stations.

Rear-Admiral Gatacre has had an amount of sea experience unusual in any Navy. Between 1925 and 1947 (inclusive) — 23 years — he had only two and a half years ashore, the longest period being in U.K. for Sub-Lieutenants' courses — 11 months; in 37 years' service since graduating from R.A.N. College, 23 years have been spent at sea.

He was the first R.A.N. officer to be capped in 1928 for playing representative matches (in U.K.) with the Royal Navy and Royal Marines' Cricket XI. Rear-Admiral Morrison is the only other R.A.N. to have represented R.N. and R.M. at cricket.

Service off Spanish coast during Spanish Civil War during two years in (1937-39) H.M.S. DEVONSHIRE, was unusual for an R.A.N. officer, and was valuable experience.

Combat war service in World War II started on 3rd September, 1939, in H.M.S. EDINBURGH with the (Royal Navy) Home Fleet anchored in the Fleet base at Scapa Flow, expecting an air attack.

Of his service in this ship, Rear-Admiral Gatacre has this story to tell:—

"When serving in H.M.S. EDINBURGH, the ship was bombed at anchor in the Firth of Forth one afternoon in September (or October), 1939. Wife and son had been on board to lunch; the launch hadn't reached the shore with them when the first bombs dropped round the ship from German HEINKEL III bombers. Wife and son witnessed the attack, which lasted about half an hour and was made on H.M.S. EDINBURGH and H.M.S SOUTHAMPTON. Both ships were damaged. Son Roddy, then aged 4, threw gravel at the swooping bombers, protesting: 'They are bombing Daddy's nice new ship!'

"When a number of dead, about 14, I think, were landed after the attack, my wife had the harrowing experience of seeing the bodies brought ashore, but of being unable to elicit from anyone handling them whether her husband, 'the navigator of the EDINBURGH,' was one of the shrouded bodies, or whether he had been wounded in the attack. It was some time before I could get word ashore to inform my wife that I was alright.

"It was in that attack that the first bombs fell on English soil in World War II — the bombs were intended for the two ships. No actual attack was made on any shore target."

In H.M.S. RODNEY'S successful engagement of the German battleship BISMARCK, he was in what is likely to be the last daylight gunnery duel between battleships; it seems unlikely that battleships with 16-inch guns as RODNEY had, will ever be built again in any Navy.

Except for 11 months at Navy Office towards the end of the

Rear - Admiral and Mrs. Gatacre with daughter.

war, he was at sea and in actual combat operations throughout the war from 3rd September, 1939.

Further combat service in Korean War.

Served two (two year) periods as Deputy Chief of Naval Staff at Navy Office.

Served two (two year) periods in U.S.A., 1953-55, as Naval Attache; 1960-61 as Head of Australian Joint Services' Staff and Attache (Defence Adviser).

First Captain of the present H.M.A.S. MELBOURNE, taking over the ship from the builders in U.K., in 1956, and commissioning her into the R.A.N.; introduced the carrier operation of jet aircraft into the R.A.N.; served in the first H.M.A.S. MELBOURNE (light cruiser), 1925-26.

Mrs. Gatacre and Admiral Gatacre were married in January, 1933. Mrs. Gatacre is a grand-daughter of F. J. Palmer, who founded F. J. Palmer and Son, Pitt and Park Streets Store. As Wendy Palmer, she was a well-known Sydney socialite, noted in 1920's for her charity work, amateur theatricals and ballroom dancing. Returned to Australia in June, having remained in U.S.A. for several months longer than her husband.

He has a son, Lieutenant Roddy Gatacre, R.A.N., and a daughter, aged 21.

INTERNATIONAL HYDROGRAPHIC CONFERENCE

Captain A. H. Cooper, Hydrographer, R.A.N., who recently returned from attending the International Hydrographic Conference, said:—

"I went over to attend the Eighth Conference of the International Hydrographic Bureau.

"This is an International organisation with 41 members, which began in 1921, largely at the instigation of Prince Ranier's father, who was very interested in oceanography and matters of the sea.

"After several preliminary meetings, the Bureau was formed on a proper basis, and Prince Ranier's father presented the buildings which we occupy in *Monaco today.*

"Australia became a member in 1958, having previously been a subsidiary member with Britain, but this is the first time we have been represented.

"The Conference lasted a fortnight. It was a very highly organised one, and we spent the time in conferences, Committee meetings, and so forth.

"The majority of the subjects discussed were purely technical, but the main points were:—

"The standardization of charts so that any mariner throughout the world can use any chart.

"This has been very largely achieved since 1911; the most outstanding thing that has not been achieved is putting everything in the metric system.

"The Bureau is run between Conferences by a Directing Committee of three, and one of the tasks, of course, is to elect the Directing Committee of three for the following five years, and this was done.

"Captain Tancred was nominated Australia's representative, *but unfortunately was not elected.*

"One of the main problems discussed was to stress very strongly the growing importance of oceanography.

"Australia is well to the front with this, after Britain, United States and Russia.

"It was this job to be interested in oceanography to the extent that it will be the hydrographer's job to prepare charts for all oceans, etc.

"Indonesia to Antarctica and right across Australia was laid down as our area.

"Oceanography is important, because four-fifths of the earth's *surface is ocean, and at present* we know just about as much about the ocean as people knew about the dry part of the surface when Vasco deGama sailed.

"The benefits of the ocean are tremendous, and we must realise its importance as regard to the climate and weather, production of food, mineral resources, etc.

"Two of Australia's ships, H.M.A.S. DIAMANTINA and H.M.A.S. GASCOYNE are engaged in this work, combined with other activities.

"The budget of the programme was approximately 250,000 gold francs, spread over five years. Ten thousand gold francs is equal to about £A15,000.

"Russia is not a member of the organisation, but was represented by observers. These observers are allowed to speak at the Conference, but are not allowed to vote.

"There is no secrecy in the Conference, nor does politics enter into it at all.

"Britain, France and America produce charts for the whole world. Japan is also very active."

R.A.N. SHIPS SAIL ON CHARTING PROJECTS

Two Navy survey vessels sailed from Sydney on the 9th July for opposite sides of Australia to undertake charting work that will contribute to the nation's development.

H.M.A.S. WARREGO sailed north to help in the exploitation of bauxite deposits, while H.M.A.S. BARCOO went south, to improve navigation in Spencer Gulf.

WARREGO is to chart a passage for shipping between *Torres Strait, off the north-east* tip of Australia, and Weipa, in the Gulf of Carpentaria. The survey is designed to ensure safe navigation for the ships collecting bauxite from the deposits at Weipa.

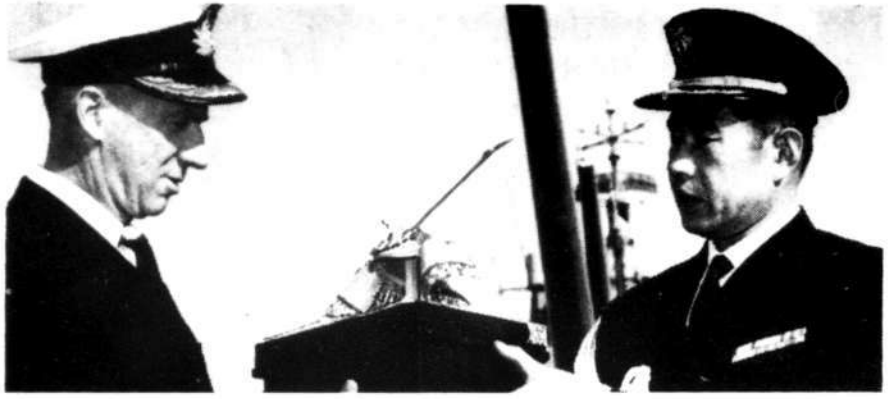
In helping establish Weipa as a port, the Navy will be making a significant contribution to the development of Northern Australia.

The survey entails charting a 10-mile wide shipping lane for a distance of about 120 miles from Booby Island to Weipa.

WARREGO will work in the Gulf of Carpentaria until October, and will be assisted by the smaller survey vessel, H.M.A.S. BASS, to chart the approaches to Weipa Harbour.

In South Australia, H.M.A.S. BARCOO will continue with the survey of Spencer Gulf. The Navy is bringing the charts up to date to improve navigation for the big flow of shipping using the Gulf.

WARREGO is under the command of Commander H. W. C. Dillon, of Cremorne, N.S.W. BARCOO'S Captain is Lieutenant-Commander E. R. Whitmore, of Strathfield, N.S.W.



The Chief Staff Officer to the Flag Officer-in-Charge, East Australia, Captain R. A. H. Millar, R.A.N., receives from Captain Kato an ancient Japanese warrior's helmet, a scroll and accompanying letters on behalf of the relatives of the late Rear Admiral Muirhead-Gould who was the Rear Admiral-in-Charge, Naval Establishments, Sydney, on May 31, 1942, when three Japanese Midget Submarines penetrated the Sydney Harbour defeaces. Rear Admiral Muirhead-Gould accorded the Japanese who died in the attack full Naval honours at their burial. The presentation was arranged by classmates of the dead submariners at a Japanese Naval Academy.

JAPANESE VISIT

Four units of the Japan Maritime Self Defence Force recently concluded a most successful goodwill visit to Australia — the first visit by Japanese naval ships for twenty-seven years.

Rear Admiral Nagai's Flagship sails up Sydney Harbour.

BROTHERS TO COMMAND SISTER SHIPS

The appointment of a new Captain for H.M.A.S. VOYAGER makes history for the Royal Australian Navy. For the first time since the R.A.N. was established 51 years ago, two brothers will command ships in the same destroyer squadron.

The Minister for the Navy, Senator Gorton, said that Commander A. A. Willis would take command of the Daring Class destroyer, H.M.A.S. VOYAGER, at the end of this month.

His brother, Captain G. J. Willis, is in command of another Daring Class ship, H.M.A.S. VAMPIRE. Their first simultaneous command was in 1959, when Commander Jim Willis was Captain of H.M.A.S. QUIBERON, and Commander Alan Willis was Commanding Officer of WARRAMUNGA. However, the new appointment means that they will not only have ship commands at the same time, but will be Captains of sister ships of the same squadron — the 10th Destroyer Squadron.

The brothers, who joined the Royal Australian Naval College within three years of each other, came from Mount Gambier, in South Australia. Except for a brief period at the Naval College, and a few weeks in the aircraft carrier, H.M.A.S. SYDNEY, they have never served together in the same ship or Naval Establishment.

Captain Jim Willis graduated from the College in 1940, and immediately went on active service as a Cadet Midshipman in the cruiser CANBERRA. Later, he was in destroyers in the Mediterranean and Pacific, and also served in the Korean War. His post-war service has included appointments as Naval Member of the Joint Planning Staff at Navy Office and as Commander of the Royal Australian Naval College.

Commander Alan Willis graduated from the College three years after his brother, in 1943. He served with the British Home Fleet for the rest of the War.

His first command was as Captain of H.M.A.S. WARRAMUNGA, in 1957. He was later Commander in the flagship, H.M.A.S. MELBOURNE, and then went to Canberra, where he served with the Department of Defence as Staff Officer to the Chairman of the Chiefs of Staff Committee, and as Secretary to the Joint Administrative Planning Committee. He is at present serving at Navy Office as Director of Naval Reserves.

Captain Willis receiving the Pakistan Shield from the High Commissioner for Pakistan at a ceremony on board VAMPIRE.

WOMEN'S SERVICES AT EXHIBITION

At a recent exhibition by the services in Sydney, members of the Women's Services modelled the various types of uniforms worn. It was the first occasion on which high heels were worn.

NAVY'S NEW PERSONNEL CHIEF TAKES OVER

A new member of the Naval Board began duty at Navy Office in Canberra on the 9th July.

He is Rear-Admiral V. A. Smith, D.S.C., who took over as Second Member of the Naval Board, responsible for Naval personnel and training. Admiral Smith was formerly in command of the Australian flagship, H.M.A.S. MELBOURNE. At Navy Office he succeeds Rear-Admiral G. G. O. Gatacre, C.B.E., D.S.O., D.S.C., who has been appointed Flag Officer-in-Charge, East Australia Area.

Admiral Smith is a "pioneer" of the Fleet Air Arm, and won his observer's wings in 1937. He was mentioned in despatches for air torpedo attacks against the SCHARNHORST off Norway in 1940. The following year he was awarded the D.S.C. in fighter squadron operations from H.M.S. ARK ROYAL.

He was serving in H.M.A.S. CANBERRA when she was sunk off Savo Island in 1942.

In the post-war years, Admiral Smith has held many important appointments at sea and ashore, including those of Director of Air Warfare, Captain of the First Frigate Squadron, and Commanding Officer of the Naval Air Station at Nowra.

HALF A CENTURY WITH THE NAVY

A man who began work as a Naval clerk in the same year that the R.A.N. took delivery of its first Fleet, retired from the Department of the Navy on the 13th July, after a career of 49 years.

He is Mr. W. J. Kenny, who is the Head of the Naval Personnel Branch at Navy Office, Canberra.

Mr. Kenny began work at the original Navy Office in Lonsdale Street, Melbourne, in November, 1913. He became Head of the Naval Personnel Branch in 1951 after 38 years in Accounts Branches of Navy Office. Between 1929 and 1937, he worked at Australia House in London as the Naval Accounts Officer.

For the past 11 years, he has been responsible for the tens of thousands of detailed records on the men who are serving, and have served, in the Royal Australian Navy.

Shortly after the First World War, Mr. Kenny was well-known in Melbourne sporting circles as a South Melbourne footballer and as a professional runner.

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FIFTY YEARS OF SERVICE FLYING THE NAVY'S SHARE

WHEN the Golden Jubilee celebrations to mark the 50th Anniversary of the formation of the Royal Flying Corps were held on May 13th, the Royal Navy, in every sense, shared the honours. It was, in fact, an inter-Service occasion, for the Government White Paper of May 13th, 1912, approved the formation of the new Corps with both Naval and Military Wings. The Naval Wing was formed from those Naval pilots and ratings already in existence and who had received their training the year before under the aegis of the Royal Aero Club at Eastchurch. Known unofficially from the start as the Royal Naval Air Service, this title was officially recognised on July 1st, 1914, when the Navy also took over all responsibility for this new arm.

The large part played by the Royal Naval Air Service in the First World War is often not fully realised. For the first two years, the R.N.A.S. was responsible for the air defence of Great Britain; the first British air raid on Germany, on the Zeppelin sheds at Dusseldorf, was carried out by a formation of R.N.A.S. planes.

Naval aircraft played, also, a most important part in anti-submarine warfare, carrying out extensive patrols and attacking some 93 enemy submarines. By the time of the amalgamation with the Royal Flying Corps in April, 1918, to form the Royal Air Force, the R.N.A.S. had no fewer than 3,000 aircraft (including seaplanes and flying boats) over 50 airships, more than 100 air stations all over the world, and a strength of 55,000 officers and ratings. The need for seaplane carriers was early seen, and one of the former merchantmen converted to this role was H.M.S. Ark Royal, fitted to carry 10 seaplanes.

Nor must the very considerable technical achievement be forgotten; the pioneer work done at Eastchurch on wireless telegraphy in the air, so that, by the time war broke out in 1914, 16 seaplanes had been fitted with wireless. Naval pilots were also instrumental in developing the first bomb sight, and were the first to fit machine-guns in aeroplanes.

The events of the Second World War are nearer to us and better known, and many memories will be recalled when, at the Flying Display at Upavon on June 16th, the Swordfish, associated with so many of the exploits of the Fleet Air Arm, flew again, together with the earlier Sopwith Pup and other famous types.

FLYING IN THE NAVY — EARLY YEARS

"'We have now acquired some land at Eastchurch . . . . for flying purposes. The buildings and sheds for the Naval Aviation School are in course of erection. A considerable number of aeroplanes both for training and experimental purposes have been purchased, principally in England, and some of them are being adapted for the special needs of the Navy . . . ."

WINSTON CHURCHILL,
First Lord of Admiralty.
18th March, 1912.

WHEN the then Mr. Churchill wrote in the Explanatory Statement to the 1912 Navy Estimates, making it clear that the Navy was taking heavier-than-air-machines seriously, there were many — both inside and outside the Admiralty — who were still unconvinced that there was an immediate practical use for aeroplanes in the Navy. But at this time it was becoming increasingly difficult to ignore the enthusiasm for this new concept of Naval warfare. Although the above date was one of the earliest occasions on which the Navy officially recognised and publicly announced the need for aircraft, the attempts of far-seeing Naval officers and civilians to persuade the Admiralty to take up aircraft for use with the Fleet went back some years before.

In 1907, the Wright brothers — who four years earlier had for the first time achieved controlled flight in an aeroplane — offered to sell their patent for aircraft

construction to the Admiralty, but their offer was turned down as being of no "practical use to the Naval Service."

However, in 1908 the international interest in aircraft had reached such a point that the Admiralty sent Captain R. H. Bacon to France to report on the air races at Rheims. Previously the Navy had pinned its hopes and interest in lighter-than-air-machines because of their load-carrying capacity, their range and their ability to adjust their speed to that of the Fleet with which they would operate in war. When Captain Bacon returned from France, fired with enthusiasm for the "new flying machines", he advised that a special Air Department should be set up. His suggestion was approved with the appointment of a Naval Air Assistant.

Early in 1909 an Air Section was added to the Naval Staff, and in May, 1909, Vickers Sons and Maxim got the order for building No. 1 Rigid Naval Airship. The 512-ft. long airship was unofficially called "Mayfly", the cause of many jokes ended only when the wind broke her back at the moorings and it was obvious that "Mayfly" wasn't going to.

While the Navy had been putting its official faith in the airship there were several Naval officers who were lobbying to get official interest in the heavier-than-air-machines. Commander Oliver Schwann bought an Avro biplane at his own expense and fitted it with floats and gas bags to become the first man in the Navy to fly a seaplane. He succeeded on November 18th, 1911, in taking off from the sea, but the Avro crashed on landing.

Meanwhile, some pressure was being brought to bear on the Admiralty by the Royal Aero Club, which had bought land at an Isle of Sheppey farm to provide flying facilities for its members alongside the sheds of the Short Brothers, who a short while before had set up Britain's first aircraft factory on the undulating marshland of Eastchurch and Leysdown. The Club was so keen to see the Admiralty take up flying that it offered, through one of its members, to provide aircraft and tuition free. The Admiralty accepted the offer, and early in 1911 called for volunteers from the Fleet. Over 200 volunteered, and out of these, three Royal Naval and two Royal Marine officers were selected. One of the latter was delayed by illness, but on March 2nd, 1911, the four pioneers of Naval flying reported to the collection sheds and hangars grouped around a small hill at the eastern end of the Isle of Sheppey. The airfield ran round the bottom of the hill in a gentle, undulating curve, and it is said that the first machine to fly from Eastchurch often used to taxi up the hill first, so that they could get sufficient speed to take off going down hill again!

These first four aviators were destined to become famous, each in his own way. They were Lieutenant C. R. Samson, of H.M.S. Foresight; Lieutenant R. Gregory, of H.M.S. Antrim; Lieutenant A. M. Longmore, of H.M. Torpedo Boat 24, and Lieutenant E. L. Gerrard, R.M.L.I., of H.M.S. Hermione. (Of these, Air Chief Marshal Sir Arthur Longmore is the sole survivor).

They were joined, before they had completed their joint flying and aircraft engineering course by the other original selection, Lieutenant G. Wildman-Lushington, R.M.A., all being trained on two 50 h.p. Gnome "pusher" rotary-engined aircraft. Their course ended in September, 1911, after only two minor accidents, and before the end of that year the Admiralty had selected more officers for pilot training, sent 12 Naval engineering ratings to Eastchurch, and bought land and buildings for the first Royal Naval Air Station. Today, on the 600 acres of the original airfield some of the hangars of 1911 remain. They are used as cow sheds and straw stores for Eastchurch Prison.

Instruction in those days was not easy. The machines were "pushers", and the pilot sat in front with the control in his right hand. The pupil sat huddled up behind the instructor, catching hold of the control by stretching his arm over the instructor's shoulder, getting occasional jabs in the forearm from the instructor's elbows as a hint to let go.

Commander Schwann had already proved that an aircraft could be made to float and that it could take off from the water. Lieutenant Samson, working from Eastchurch, persuaded the Admiralty that the next step was to fly an aircraft from a ship. The battleship H.M.S. Africa was taken to Chatham Dockyard for fitting of a platform along the forecastle, in December, 1911, and Lieutenant Samson successfully modified a Short Biplane by fitting flotation bags to the wheels to make it float. Although there appears to be some doubt about the actual date, most sources credit Lieutenant Samson with having successfully made the first flight from "Africa" in this plane in January, 1912, while the ship was an anchor off Sheerness.

By the end of 1912, the Royal Navy was to have 16 aircraft in service (13 of them landplanes made up of eight biplanes and five monoplanes, and three of them "hydro-aeroplanes", later called seaplanes). This was the year that saw Lieutenant Samson and his fellow-pioneers experimenting with mechanical bomb aimers and dropping mechanism, and for the first time transmitting wireless signals from aircraft.

New ideas encountered much inertia, even in aeronautical circles. When it was known, for example, that the Navy was thinking of modifying a ship so as to allow aircraft to land on, as well as take off, one air magazine commented:—

> "It is reported, without any corroboration, that Mr. Samson has the intention of attempting to alight on the deck of one of the battleships at Sheerness. It is sincerely hoped that he will not make the attempt, for he is not only one of the most magnificent flyers in the country, but he is an exceedingly valuable officer, and a man of very considerable mental ability, and should not, therefore, be permitted to risk his life on what is, when all is said and done, simply a dangerous trick which though it may perhaps seem convincing to a few old-fashioned officers who do not yet realise even the present possibilities of the aeroplane, is actually of no practical value whatever."

Again this phrase "of no practical value". Officials and public alike were often content to be amused by flying, but hesitant to accept a new way of tactical thinking.

The hopes of the Navy in airships were dashed, temporarily, as it later turned out, on January 25th, 1912, when a conference in the First Sea Lord's room at Admiralty acted on a recommendation of a court of enquiry following the wrecking of the first Naval Rigid Airship. The conference decreed that airship experiments should be discontinued and the Airship Section of the Admiralty should be disbanded. Despite this, however, the pioneers of Naval aviation were undeterred. In the demise of the airship they saw the opportunity of pressing home claims for the aircraft. Shortly afterwards, Captain Murray Sueter, giving evidence before a sub-committee of the Committee of Imperial Defence, told them that in his view airships and aeroplanes were both required, and that neither should be developed at the expense of the other. He and other witnesses before the Committee forecast that control of the air would be a vital factor and a necessary victory for a successful future war in Europe.

But to revert to the aeroplane. While the Board of Admiralty was still waiting for the Imperial Committee on Defence to decree the future air policy, the Navy's development of Eastchurch as the first R.N. Air Station was continuing. More and more aircraft factories were being started, and the Admiralty was seeking their advice and co-operation for the development of aircraft specially suited for Naval needs. It was recognised, as soon as the first brief trial flight had been made, that the seaplane con-

cept was perhaps the most important for an immediate Naval use.

Commander Samson and Mr. Horace Short together designed the first real seaplane, with mahogany floats, which demonstrated, during tests at Portland, that it was easy to take off from, and land on, the sea. It flew a total of 150 hours without incident. With it came Mr. T. O. M. Sopwith's first flying boat prototype, later adopted by the Navy as the "Sopwith Bat Boat".

With this growing interest in aviation (the Army had a Flying Wing from early 1911), it was inevitable that the Government had to take a firm policy decision to steer its growth along a unified line. In November, 1911, Mr. Asquith had asked the Committee of Imperial Defence to consider the future of aerial navigation for both naval and military purposes, and that the Committee should also investigate what steps should be taken to form a Corps of Aviators, "or otherwise to co-ordinate the study of aviation in the Navy and Army." The Committee's Report, later endorsed by the Government, proposed the setting up of a central flying school, to be administered by the War Office, and the establishment of a central pool of pilots drawn from the Army and the Navy — trained at the central school — available for work with either Service. Thus the R.F.C. was formed, with Naval and Military Wings, when the Government approved the White Paper to this effect on May 13th, 1912.

This White Paper was never fully accepted by the Admiralty, and despite the proposal to set up one central flying school, Eastchurch continued to provide most of the Naval pilots. With the formation of the R.F.C., the Naval pilots officialy became members of the "Royal Flying Corps — Naval Wing". From the start, however, they had become known as the "Royal Naval Air Service", and this they continued to be called, unofficially, of course. Naval Air Department, Admiralty, was formed in July, 1912, under Captain Murray Sueter, R.N., who later became a Rear-Admiral and Member of Parliament. Despite the recommendations of the Imperial Committee on Defence, the Navy decided it wanted its own officers to fly, rather than Army pilots who would be "loaned" for Naval work. Pilots continued to train at Eastchurch, although some also went to the Central Flying School, on its formation at Upavon.

In the original Royal Flying Corps scheme it was envisaged that the Army would be a reserve for the Navy, and vice versa. As an example of this, inter-Service liaison, Naval officers flew with the Army in manoeuvres over Salisbury Plain in 1912, and in July, 1912, the Air Committee (set up to co-ordinate the efforts of both Services) had its first meeting. The first Chairman was Colonel Seely (Secretary of State for War), and Admiral Sir John Jellicoe was Vice-Chairman.

In March, 1912, it was announced in the House of Commons that there was to be a requirement of about 30 or 40 Naval officers for the Naval Wing of the R.F.C. (Colonel Seely, Secretary of State for War).

As well as providing the first pilots for the Naval Wing of the R.F.C., Eastchurch Naval Air Station was from the start concerned with experiments to adapt aircraft for Naval purposes. In addition to the work done there to design and develop the seaplane concept, one of the major achievements was the work done in 1912 to perfect wireless telegraphy in the air. Early in 1912 there were no lightweight sets, and in any case no spare aircraft which could be fitted for W/T. A station was therefore set up on Burntwick Island, in the Medway, with conditions being as near as possible to those in an aircraft. In the first transmissions stray signals were picked up by H.M.S. Actaeon, about a mile away. From these experiments on Burntwick Island the practice wireless set as used in destroyers at the time was adapted to fit the first Short seaplane, and in June, 1912, Commander Samson, on a flight from Eastchurch, succeeded in transmitting W/T messages a distance of three miles. On successive flights, this was increased to four and ten miles. In August, Lieut. Raymond Fitzmaurice, R.N., who had served as one of the first W/T officers with the Fleet, was appointed to "arrange for the installation of W/T apparatus in Naval aircraft". This resulted in a total of 16 seaplanes being fitted with wireless by the outbreak of war.

The Central Flying School, Upavon, was opened in June, 1912, but because of the shortage of machines (monoplanes had been banned because of the high accident rate just before) the first course did not begin until August 17th, 1912, with 19 pilots, and did not complete until the end of December.

Throughout the year Samson continued to experiment with ship flying. The result of the H.M.S. Africa experiment of December, 1911, led to the building of trackways and platforms on H.M. Ships Hibernia and London, and he made many successive flights, using Short biplanes. The launching tracks enabled the aircraft to make runs of between 25 and 100-ft., thus clearing the ships' fore turrets and fo'c'sles.

Naval aircraft took part in a Naval Review for the first time in May, 1912, and this was also the first occasion that an aeroplane had ever taken off from a moving ship. Both Samson and a Lieutenant L'Estrange Malone flew a Short "pusher" biplane, S.27, from H.M.S. Hibernia while she was steaming at 10½ knots off Weymouth.

The First Lord of the Admiralty at this time was the then Mr. Winston Churchill. He was, from the start of aviation in this country a most ardent supporter of those who forecast a Naval aviation role. It was Churchill who personally suggested modifying seaplanes so that they could fold their wings for easy stowage on board ship, and in this and all other Naval experiments he took a keen personal interest. As the seaplane experiments grew throughout 1912, he got the Admiralty to agree in October to the setting up of special seaplane stations round the East and South Coasts.

The first of these stations (also the first R.N.A.S. "Experimental Station") was at Grain, just across the Medway, facing the Royal Naval Dockyard. It was commissioned in December, 1912, under the command of Commander J. W. Seddon (then a Lieutenant). In the following months, others followed at Calshot, Felixstowe, Yarmouth and Cromarty.

Grain was the second R.N.A.S. station to be opened. It became synonymous from the start with seaplane development. It developed the folding-wing idea, conceived by Mr. Churchill and still used today in modern aircraft. All that remains of this once-famous air station, where Churchill on many occasions flew with Commander Seddon, are the concrete bases of the buildings which once sheltered the early seaplanes, and the home of a 92-year-old man who nearly 40 years ago built his present house alongside the seawall, using iron sheets from the hangars for his walls. Some of the earliest aircraft patrols were flown from Grain Royal Naval Air Station, which grew up around Port Victoria.

Commander Seddon several times flew Churchill the 16 miles from Gravesend to Grain in a very early seaplane so that he could see progress on his "folding wing" development for himself. On one occasion the flight took place in a gale.

> ". . . . I flew back almost on the surface of the water to cheat the wind of some of its strength, but the bumping we got was severe. I know I would have been sick as a passenger, but Mr. Churchill never turned a hair. It took us nearly an hour to cover those 16 miles."

Churchill apparently used to go to Grain in the Board Yacht, H.M.S. Enchantress, and enlivened the post-luncheon gatherings of Naval pilots by inviting them to make paper gliders, with a prize of a guinea

The Good Old Days

It is doubtful if modern aircraft, Sea-Venoms, Gannets, etc., all of which weigh in the vicinity of 10 tons and land at a speed of about 100 knots, would take kindly to this form of manhandling.

EDITOR'S NOTE

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It is regretted that because of a mail delay, the second part of the article, "The New Defence Policy" did not arrive in time for publication in this issue. It will be published as soon as possible.

★

for any which went from one side of the saloon to the other without touching the deck.

By the end of 1912, Naval pilots at Eastchurch had been the first to develop a workable method of bombing, the first to develop a wireless transmitter in aircraft, and the first to fit machine-guns in aeroplanes. They had also succeeded in developing a seaplane which was capable of operating with the Fleet.

In an official report of the same year a requirement for seaplanes includes the hope that such an aircraft would be capable of not only carrying a pilot and observer, but also of being able to rise from the sea with them. Equipment in such an aircraft, reported a Senior Naval Officer, should include food for 24 hours.

From the start, the Navy had never been happy with the Imperial Committee of Defence edict that it should either share the Army pilots or give its own to the Army. The Navy felt that because of the needs for specialised knowledge, it was essential that the Navy had only Naval officers as its pilots.

Eventually it got its way, and the Royal Naval Air Service was officially recognised on July 1st, 1914, breaking away entirely from the Army control. On the outbreak of the First World War on August 4th, 1914, the Royal Naval Air Service had some 52 seaplanes, 39 landplanes, seven airships, and 128 officers and 700 ratings.

Because of the rapid development of experimental work, the Navy had installed wireless in many of its seaplanes by the beginning of the war, and the first torpedo drops had been successfully carried out by one of the original four pilots (Longmore). More ships were also taken in hand for conversion to seaplane carriers.

In 1917, the Royal Naval Air Service had 46 different types of aircraft in service, though no-one seems to have recorded any of the headaches of the Naval Stores organisation set up to cope with the growing air requirements.

The achievement of Squadron Commander E. H. Dunning in being the first man to land an aircraft on a British warship on August 3rd, 1917, was just another of the milestones which were passed by the R.N.A.S. during the war years. Flying a Sopwith Pup fighter alongside the FURIOUS, he passed her bridge structure, then side-slipped the aircraft on to the 200-ft. long wooden flight deck. His fellow-pilots, gathered on the deck to watch the fun, ran out and literally pulled the aircraft down. Commander Dunning was not satisfied with the need for "manual arrester gear", and decided to try again the next day without outside help. This second attempt ended in tragedy on landing, the aircraft went over the side, and Dunning was drowned. It was, however, the start of aircraft carriers as we know them today, for shortly after Dunning's death the FURIOUS went into dockyard hands for the removal of her 18-inch gun turret aft and the building, in its place, of an additional landing-on deck which extended from stern to funnel.

On April 1st, 1918, the Royal Naval Air Service again lost its separate identity on its amalgamation with the R.F.C. to form the Royal Air Force, and R.N.A.S. personnel began to wear R.A.F. blue, though officers were permitted to wear out their old Naval uniforms before making the change. In 1921 a Naval Observer Branch was formed to give training in air navigation over the sea, bombing, wireless telegraphy, spotting for Naval gunnery, etc.

In 1924, it was decided to name the Naval Aviation Branch of the R.A.F. the Fleet Air Arm of the Royal Air Force. It was also agreed from 1924 that the Admiralty would pay for its own aircraft, that all air observers in the F.A.A. would in future be 100 per cent. Naval officers, and that 70 per cent. of the pilots should also be Naval.

In the summer of 1937, the Prime Minister (Mr. Neville Chamberlain) announced that all control of the Fleet Air Arm of the Royal Air Force was to pass to the Admiralty, and that by the end of two years all personnel would again be Naval. Accordingly, in May, 1939, it was announced that the Admiralty had completed the take-over of the Fleet Air Arm from the R.A.F.

NEW R.N. SUBMARINE COMMANDER IN AUSTRALIA

The Royal Navy submarines based in Australia have a new Commanding Officer.

The Minister for the Navy, Senator Gorton, said recently that Commander L. H. Oliphant, D.S.C., R.N., had been appointed to command the Fourth Submarine Division in Sydney.

Commander Oliphant succeeds Commander P. R. Wood, D.S.C., who had been responsible for the Submarine Division for the past two years. Commander Wood has returned to Britain.

Commander Oliphant entered the Royal Navy's Submarine Service in 1943, and served in the Pacific Theatre during the Second World War. While operating from Western Australia, he won a D.S.C. in the South China Sea. He commanded a midget submarine towards the end of the war.

Commander Oliphant's most recent appointment was in the Operations Division of the Admiralty.

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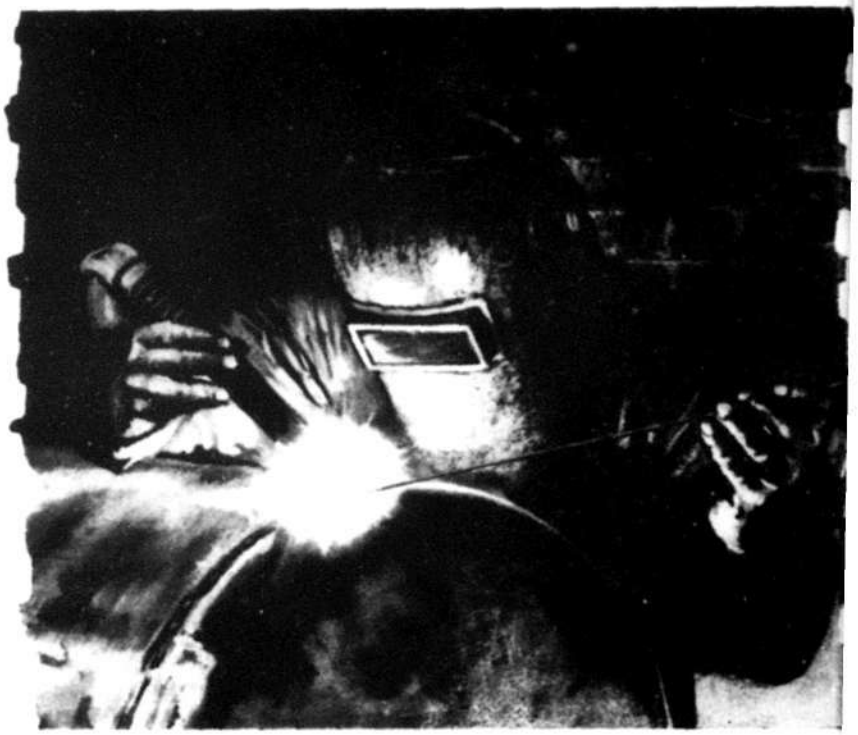

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