THE Navy

H.M.A.S. MORESBY COMMISSIONS

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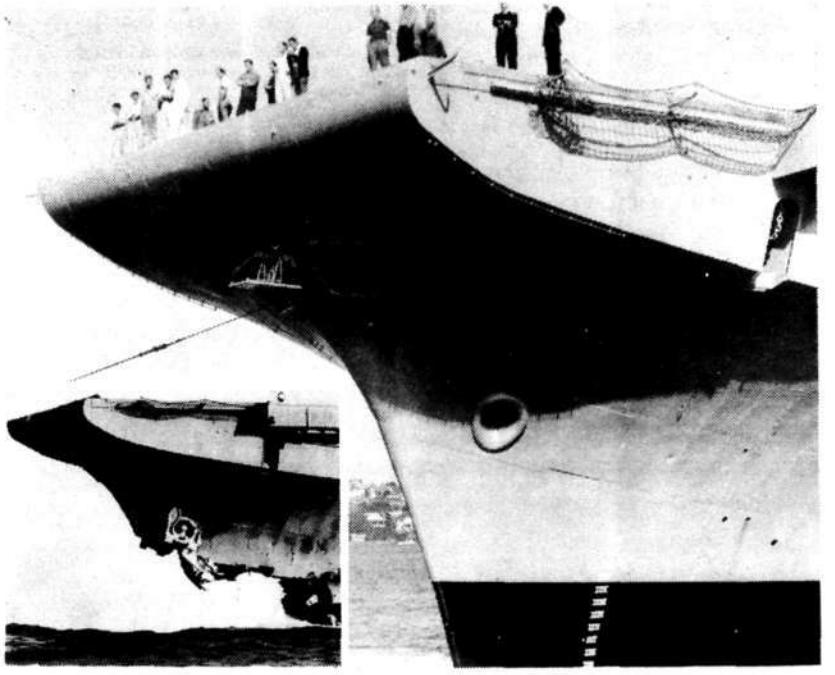
New Bow for H.M.A.S. Melbourne



A photograph of H.M.A.S. MELBOURNE's new all-welded bow which was taken when she was being towed to Garden Island from Cockatoo Dock on the 27th April.

The new bow was prefabricated ashore and then placed, on specially prepared "ways", at the head of the dock. When MELBOURNE was placed in position in the dock the bow was eased back into position and then welded on.

Cockatoo Dock engineers and workmen have been congratulated for the speedy and efficient way in which the repairs were carried out.

H.M.A.S. MORESBY COMMISSIONS

The Royal Australian Navy's first specially designed survey ship, H.M.A.S. MORESBY, commissioned in Sydney on 6th March.

MORESBY, of 2,300 tons and costing about £2,000,000, was built at the Newcastle State Dockyard.

The new survey ship, which will play a prominent role in the development of Australia, completed her final trials on February 12.

A Navy spokesman said H.M.A.S: MORESBY was a most important addition to the R.A.N.'s Hydrographic Service.

"For the first time, the Navy hydrographers will have a ship specifically designed for survey work, instead of converted warships," he said.

Best in World

"MORESBY will rank among the best survey ships in the world and will make a very significant contribution to the continuous task of preparing modern charts of Australia's 12,000 miles of coastline".

He said up-to-date charts were essential in the development of new areas of Australia.

Large sections of the Australian coast had never been surveyed, while in other places the original charts of the explorer-surveyors were still the only maps available.

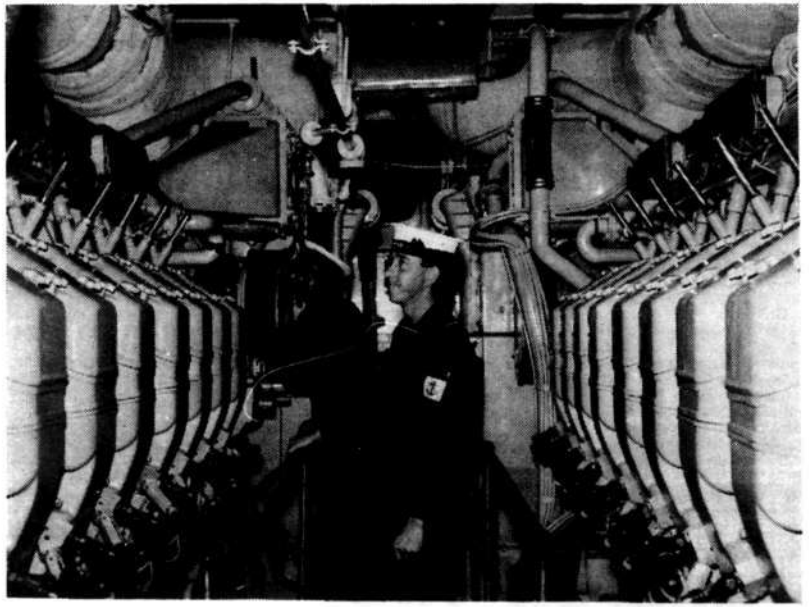
MORESBY had been fitted with the most advanced equipment and survey aids to help tackle this formidable charting task.

Her electronic equipment included the Lambda point fixing system, involving the use of portable transmitters erected ashore.

She would also have a helicopter for the fast transportation of shore parties to mountain tops and other inaccessible points, and small auxiliary boats fitted with echo sounders.

MORESBY has a long range to avoid time-wasting trips to port for fuel, and incorporated high standards of amenities for her 120-man crew.

A Naval hydrographer with more than 20 years' experience, Commander John Osborn, has been appointed Captain of the new ship.



THE ENGINE ROOM OF MORESBY

Year of Progress for Royal Navy

Over the past few years, the Royal Navy has been experiencing the greatest period of change in its long history. Not only new ships, new aircraft, new weapons and equipment, but new methods of propulsion and new tactical and operational techniques in anti-submarine warfare, carrier operations and air defence have changed not only the 'face' of the Navy, but naval thinking and tactics generally.

We are now beginning to reap the fruits of this new thinking and 1963 saw, in no small measure, the building up of a versatile and balanced Fleet. During the past year, no less than 16 new ships joined the Fleet. This number included three guided missile destroyers, HAMPSHIRE, KENT and LONDON and eight general purpose frigates (4 Leanders and 4 Tribals) — all of which are to be fitted with guided weapon systems and helicopters. The year also saw the commissioning of Britain's first nuclear-powered vessel, the attack submarine H. M. S. DREADNOUGHT, and the acceptance into service of two fast fleet replenishment tankers.

Today, the pace of change is, if anything, quickening. A new 50,000 ton aircraft carrier is to be built, the VALIANT, sister to H.M.S. DREADNOUGHT, has been launched and a third attack submarine, WARSPITE laid down, while arrangements are going ahead to equip the Royal Navy with a force of four nuclear-powered Polaris submarines as Britain's independent contribution to the deterrent forces of the Western Alliance. Two more guided-missile destroyers are on the way and the first of the new assault ships, the FEARLESS, has been launched. The Buccaneer, the Navy's new low-level strike aircraft with nuclear capability, is now in front-line service with Fleet Air Arm. New weapons and equipment like the CF 299 guided weapon system and Variable Depth Sonar are under development.

In step with these encouraging additions to the Fleet is the stress on the maximum versatility in design. More than ever before, ships are being built capable of meeting all likely contingencies in various parts of the world. A striking example of this is the general purpose frigate of the Leander class, which combines the functions hitherto carried out by separate classes of anti-submarine, air direction and anti-aircraft frigate. Where such complex equipment has had to be fitted into a ship of her size it is satisfactory to record that the clean lines and pleasing symmetry of the Leander design have been universally acclaimed.

OBERON CLASS SUBMARINES PRAISED

High praise for the usefulness of the Oberon Class submarine was made by Rear Admiral B. H. Law, C.B., O.B.E., D.S.C., Flag Officer Submarines, during a press interview in Sydney, before he left for Canberra for talks with the Naval Board.

Answering many questions in a 30-minute interview with radio, television and newsheet representatives at Naval Headquarters, East Australia Area, Rear Admiral Law backed up his opinion that the Oberon Class submarine was the "best in the world", by saying that the Australian Government would not have bought them unless they were of such quality.

Rear Admiral Law added that the Canadian Government also had placed orders for the Oberon Class.

Australia has ordered four Oberon Class submarines at a cost of £4,000,000 each. The first two should be ready for delivery in 1966 and 1967, and the third and fourth in 1968 and 1969.

The Oberon is one of the most advanced conventional submarines in the World and combines high speed with long underwater endurance.

Rear Admiral Law said that of the 43 submarines operational in the Royal Navy, about half were Oberon type boats.

All British submarines had tremendous utility value and were destined for vital roles should there be an offensive against the nations of the Free World.

"Royal Navy submarines are one of the weapons by which *Britain intends to maintain* maritime supremacy," he said.

"In any aggression the submarine is a most useful weapon. It can be used for attack and defence, it can travel long distances, and it has the advantage of being an underwater vessel, which unlike many other types of vessels and weapons, cannot be seen."

Rear Admiral Law said the cost of the Oberon was about one-fifth of that of the nuclear hunter-killer submarine.

When asked if he thought the Australian Government was wise in buying the conventional type Oberon instead of an atomic submarine, Rear Admiral Law, unhesitatingly and firmly, said that he had no comment to make as it was Australia's business.

Rear Admiral Law refused to compare the strength of the submarine strength of the Royal Navy with that of other Great Powers, but added that it was generally recognised that Russia had the biggest fleet of submarines in the world.

Rear Admiral Law meets the Officers of H.M.S. TACITURN during his visit to Sydney.

In a busy few days Rear Admiral Law found time to pay a call on R.N. establishments and Depots within the East Australia Area.

VISIT FROM U.S. ANTI-SUBMARINE FORCE COMMANDER

The Admiral who commands the United States' anti-submarine forces in the Pacific and Indian Oceans arrived in Canberra recently for discussions with Australian Naval authorities.

He is Vice-Admiral John T. Hayward, the Commander, Anti-Submarine Warfare Force, United States Pacific Fleet.

Admiral Hayward is regarded as one of the most outstanding officers in the United States Navy. In a Naval career of 38 years he has logged over 12,000 hours as a pilot; has achieved distinction in the field of science and physics; has assisted with the development of new weapons and techniques, and has commanded aircraft carriers.

As the first Deputy Director of Naval Operations for Development, Admiral Hayward was responsible for the acceleration of research and development in anti-submarine warfare.

In his present post at Pearl Harbour, he directs a twenty-four hour a day surveillance of submarine activities in 85-million square miles of ocean. He is the principal advisor to the Commander-in-Chief of the Pacific Fleet on all anti-submarine matters and commands all forces, Sea and Air, allocated to the control and protection of shipping in the Pacific area, and the Indian Ocean.

Admiral Hayward organised and trained the U.S.N.'s first Heavy Attack Bomber Squadron, giving the Navy its initial atomic capability. He was the first Naval aviator to land a heavy attack aircraft on a U.S. carrier.

On the scientific side, he has worked on all phases of rocket development, took part in the design of ordnance components of the original atomic weapons, and was responsible for the design and development of the first atomic depth charge and for a new family of anti-submarine warfare mines.

He holds 11 decorations for outstanding service in action during World War II and the Korean War, and during the Cuban crisis he commanded the first U.S. nuclear powered task force, with his flag in the attack carrier, ENTERPRISE. This force was responsible for the surfacing of the Russian submarines in the Cuban area.

AN ADDRESS by . . .
VICE ADMIRAL J. T. HAYWARD

U.S. Navy Commander Antisubmarine Warfare Force
U.S. Pacific Fleet

"THE CHALLENGE"

Knowing your many diverse interests and my desire to get a message across that had a great deal more than antisubmarine warfare, I have titled my talk "The Challenge" and hope there is a little bit in it for all of you, if you never set foot on the sea! If nothing else, it will emphasize the complexity of the world we dwell in today and the real problems that face us. I will then attempt to show you how we, in my business of trying to keep control of the sea, fit into the framework of this vast challenge that faces us.

Not only has technical progress changed the tools of war, but the mere word itself has been altered. The black or white, peace or war situation does not exist any more. It died a quick death in the "Dictatorship of the Proletariat" and what has followed. This persistent illusion we have that everything has to be legal—such as that Congress has to declare war—you are at war now—for a better term, let us say conflict!! The term "Protracted Conflict" has entered our conversation. The communists have added to the normal conventional arsenal, all out competition, and this is in everything—athletic events, the Bolshoi Ballet, and it goes to guerrilla subversive activities. It all has one end in view, the master strategy to dominate the world. Between the lines of a changing and seemingly illogical pattern, communist events can be seen—a real scheme of timeless and protracted conflict. It is a conflict of new dimensions.

When I say "Protracted Conflict", if you read communist literature, you will understand what I mean, I am sure. It has completely new dimensions, and one of these, of course, is time. They believe time is on their side; they are convinced of it. They are content to follow this policy of applying pressure on wide fronts and of postponing any decisive battle, really, until the balance of power is so overwhelmingly on their side they will win the struggle. They will use any methods they can in this overall challenge. If they say and thought that they could win by a surprise attack, I am sure they would do it.

Let us talk a little more about the nature of this struggle, for we have been locked in it for many years now. It covers a wide band and can be very easily likened to the spectrum of light. It is as if, from a physics point of view, you needed a filter to face this whole spectrum of light of various wave lengths. It extends on one end from the cold war to the other extreme which we all shudder about—the Mega War. There are many shades in between.

The examples of this conflict stem all the way from the Korean Conflict to the Matsu Quemoy Incident and the Lebanon Crisis. These are the active ones but, never forget, they use every element—including those we believe normal and peaceful; including all your cultural pursuits, education, industrial production, trade and technology. They accept conflict as a normal way of life.

We in the United States as the leader of the free world must accept the normal penalty of leadership, which is continual criticism by many uninformed sources and by people who want to tear us down as the leader. You are all aware of the story of the New York Yankees leadership which drives home the point I am making.

Since man began, he has always been intrigued with the future. He has made long dangerous voyages to the oracle of Delphi; he has slaughtered animals to read the entrails; and he has projected his thoughts to outer space, looking to the stars for a solution. Today, as in the past, the future is the most intriguing subject of conversation. The only thing that has changed is the oracle. Of course, something else has changed, and that is the magnitude of the portent. Before, the questions were "What of my future?" "What of the outcome of the battle?" Today we ask, "What of mankind's future and that of civilisation?"

I am sure in ancient years man has often asked himself this very question. History is full of examples of challenges to mankind and nations. Let us look at a few picked to start with from the Roman Republic and Empire. I pick this time for here we have a people faced with grave challenges to their existence, and they gave certain answers. Some were good and some were bad, and the results are there for all of us to see.

The time is the Punic Wars, and Rome has had a difficult time. Hannibal has ravaged the countryside for 16 years. Carthage ruled the sea, and the Mediterranean had long bowed to her will since the Phoenicians settled in Ancient Carthage. Rome had built the most invincible military organisation known to man, namely, the Roman Legion. It had conquered all except the sea-power of Carthage. They faced each other and the one who lost would be condemned to disappear. Now, those who degrade the Legion should remember that to date, it was the most powerful and long-lived military organisation in the history of mankind, as it lasted for almost 1,000 years! We have nothing to compare with it. Pax Romana, or better the peace of Rome, lasted almost five centuries. No one can deny the epic of the Romans is one of the greatest in recorded history.

How did they face this first challenge? They quickly realised that, to defeat Carthage, they had to bring the power of the Legion to bear at sea. A very clever Roman came up with the Corvus and the Rostrae to permit the Legionnaires to race over the opposing galley and kill the opposition. This was a tremendous advance in sea tactics.

If one goes to the ruins of the Ancient Forum of Rome today, he will see the Columna Rostrata erected to commemorate the Victory of Mylae Northwest of Messina in 260 B.C. This was the first big naval victory of Rome over Carthage by C. Dullius. The results of the Punic Wars was of momentous significance for future history. Rome became mistress of the Western Sea; it started her on the road to imperial expansion from which there was no turning back. Thus was decided the destiny of Rome and the whole Mediterranean Basin for centuries to come and, to a large degree, the character of our Western Civilisation.

It was a good answer to a challenge; however, the side effects of war were evident in those days. The seeds of the death of the Republic were sown in these crisis-ridden days in the weakening of the constitutional government. The prestige of the Senatorial Oligarchy was increased with the consequent discrediting of the Democratic Assembly that was held responsible for the disaster at Cannae. This was the beginning of the end of the citizen soldier of Rome and the start of the Professional Volunteer serving at the behest of the General. None the less, we must concede, the answer to the challenge was a good one.

Let us look again at Rome and a challenge. It is now 270 A.D., and the Republic has long since fallen. Unrest has spread and the borders of the Empire are aflame with strife. Stories find their way to Rome of the Huns of the north and their power and strength. The Emperor Aurelian, is worried, but has no real answer to this challenge. He had a foreboding about the future of the empire; he could not convince people about it, but it had to do with the threat from the north. Anyway, he decided to build a wall about Rome to answer his fears. It was visible evidence of his fear for the future of the empire. It still stands in part today, and even some people live within its confines. The obvious fact, that this answer was not correct, is borne out by history, for as we all know, Rome fell. It never prevented the sack of Rome or served any real useful purpose.

As in ancient Rome, a wall will do us no good today. We are faced with our greatest challenge in history. I hope our answer is not "The Wall". Once again, it is the sea and a large and primarily land power that faces us. Is Russia Rome? Are we Carthage? Is Kruschev the "Cato" of his day? The future holds these answers. It is what we do that will write the future and the answers. Our President's recent words on the importance of the sea to our future and our

security couldn't have been more timely.

So we come to the sea and what it means to us and how we are threatened on it. First, as you know, we are allied to 55 other nations in what I call the free alliance. We are allied to such an extent you and I are pledged to go fight and assist not only with our wealth but our very lives to guarantee their freedom. This alliance is held together by the sea. We must control it if we are to survive. This means the surface of the sea, its depths, and the air above it. We must be able to use it when and where we want and to be able to permit our friends to do the same. We must place in the hands of our policy-makers the tools to enable them to match that spectrum of challenge against us. This is all the way from the cold war to the mega war, no matter how bad that sounds. Contrary to the belief of many in the Soviet, there are many who would rather be dead than red, and I certainly number myself among these!

What is the threat? The Soviets have set out to build the tools to tear down our ability to control the sea in all the ways I have said. They have seen the events of the two previous wars and have gone the submarine way. Why, we ask? It is a natural answer to our strength. They want to prevent us from being able to project our power across the sea. If they can get us to retreat to "Fortress America", they know they will win, for "Fortress America" cannot survive anymore than "Festung Europa" did.

Technically, the submarine has made tremendous strides and is truly a difficult problem. It not only comes to sink us but can strike devastating blows against our land. It is truly a formidable weapon system. I have heard many people say, why don't we just use air transportation to project our power across the sea. It is obvious they have no knowledge of the logistics of such an operation. A ship measures its cargo in tons, an airplane in pounds, and one must never forget—just like the sea, one must control the air where these helpless transports must land, and then one must have the jet fuel to bring them back across the sea. One doesn't face a MIG 21 with a Piper Cub or a 707!

This brings the answer to why we have aircraft carriers and the Russians don't have any. The decision on the surface of the sea, as well as the land, still rests with the decision in the air. We must bring our modern mach 2 fighters and air support with us to control the situation where we want to project our power across the sea. If we lose this ability, we will lose the control of the sea in that we can't project our power to help our friends and defeat our enemies. We are a great nation for the over-simplification of the issues, so when you think of the problem that faces us in the Navy, you see why we have a reason for the tools we have.

The job we have of projecting our power across the sea requires the use of modern technology across the board from submarines, destroyers to the most complex of missile systems. If we are not successful in our job, it will do little good to have the finest Army and Air Force in the world, for they will not be able to perform their essential tasks unless they can get to the scene and be adequately supplied with beans and bullets and all that it takes to make a modern armed force operate. If you can't do this, you leave the recourse of the all out war to your policy makers. By pushing the button on the ICBM complex and the Polaris system they can answer, but that will be of little use to your friends in their situation. If this happens, deterrence has failed! So you must put in the hands of your government the ability to make a flexible response such as in the Cuban situation. This flexibility comes from a modern up-to-date Navy prepared to exercise the control of the sea to the extent necessary to project the power across the ocean. It can't be done with just one class of ships and without control of the air over the sea.

I am sure many of you have seen that excellent movie, "The Longest Day". I wonder if you stopped to think as you saw this armada and all the grim fighting going on that it would have never happened if the grim battle of the Atlantic had not been won over the previous two years. I wouldn't blame you, for one of our most knowledgeable Generals was said to have made the following remark, "I didn't see any aircraft carriers at Normandy". No, he wouldn't have seen any, for they had been working night and day for two years to lick the wolf packs of Doenitz far at sea in the Atlantic. Their tribute came from the defeated enemy. Even our own people didn't appreciate the problem.

We are all familiar with the defeat at Pearl Harbour, but our greatest defeat came from the period of 7 December 1941 to 7 December 1942 when we lost 1,073 ships at sea in the Atlantic to the German submarine. Some people have estimated that defeat delayed the end of the war by at least 18 months. Your guess is as good as anyone's, but we do know there is no guessing that if we had lost that struggle, there would have been no Eighth Air Force or invasion at Normandy. The impact of this struggle has been lost on many people in and out of the armed services, but it has not been lost on the opposition. Fortunately, Hitler did not understand the sea nor did the German General Staff. Imagine if he had put the effort into his modern advanced submarines instead of the V-1 and V-2.

Our tools are much better than in those days but we still have a most difficult problem. I wish I could say some scientific advance would make it easy to defeat the submarine, but I am afraid it will always be a tough difficult job requiring all members of the team to accomplish the job. It calls for a tri-dimensional effort using our submarines, destroyers, carriers, helicopters and aircraft. It calls for people—good people—for in the long run, it is the man who does the job and not the equipment. We must never forget this, as many people do in this world of modern management. The skill, courage and their tenacity in battle may be the deciding factor in battle and not cost effectiveness. This is not to imply that cost effectiveness is not important but that people are more important. They are a variable in the equation that is difficult to really evaluate.

Our task can best be described as the least common denominator of all efforts by our country in the use of its power and the alternatives it employs. If we cannot use the sea, you are not going anyplace or do anything in this world of power and power politics. As to the actual accomplishment of this task, there are many imponderables, but I think I can assure you that if hard work will furnish the answer, our people in the Navy will obtain it. Our Antisubmarine Forces are spread from one end of the Pacific to the other. We have a strong programme of research and development in all fields pertaining to this endeavour. It is not something I can say is completely solved, but part of the solution is to convince such groups as this of the importance of the sea in our life and future as a free nation. Our job is never really done as technical progress marches on and the capabilities change by the hour. It won't go away in our life nor the lives of our children, but like most challenges, we must furnish an answer or lose by default. I am sure we won't do that but will face up to the problem. This is just one of the complexities of modern life with this shrinking world of ours.

Time and space have been compressed in every way—science has made the problems of today more profound than before; decisions must be made more quickly; new factors must be more hastily assembled and added to the equation. As life becomes more challenging, by the same token, mastering it becomes more rewarding.

Let me repeat, the emphasis is on life and living. We do not face a single crisis or episode marked by a beginning or ending. We face, simply, another long chapter in the history of our nation and its role in world affairs. What we plan for and do must be consistent with policies and objectives extending over years and years. The success of those policies is measurable only by the extent to which concepts of justice and humanity displace those of oppression and force of affairs of men. We want a world of freedom under law, of government by consent, of strong, independent, self-reliant nations free to determine their own policies and interests. Only in such a world can we, ourselves, be really secure.

What America has in such great measure, we wish deeply and sincerely for all men everywhere, because we know the fundamental values of our own way of life are indivisible within the human community. If freedom is denied, if justice is subverted, if the law is turned out elsewhere in the world, then our own freedom, justice, and law are in danger. It is with this in mind that I have talked with you about the challenge to the United States.

Navy Expands Junior Training

The R.A.N. is expanding its Junior Recruit Training Establishment at H.M.A.S. Leeuwin in Fremantle because of the success of the Navy's junior entry scheme.

H.M.A.S. Leeuwin is to be expanded to cope with some 600 junior recruits next year. New, modern accommodation is being prepared for the extra recruits.

The Junior Recruit School was established at Fremantle four years ago with an entry of 150 boys aged between 15¼ - 16¼. The school was designed to give the junior recruits twelve months of academic and naval background so that they could make the most of their naval careers.

The scheme had proved immensely popular, and progressive expansion had been necessary to take advantage of the large numbers of suitable candidates. A temporary school was set up at H.M.A.S. Cerberus in Victoria so that the Navy could take maximum advantage of this valuable new source of recruits.

The junior recruits, with their year of special training, are already proving their worth in a navy of increasingly complex ships and weapons. The R.A.N. was demanding increasing standards and skills, and the Junior Recruit School was obviously one of the answers.

Junior recruits form nearly one third of the total entries into the R.A.N. Under the expansion at H.M.A.S. Leeuwin, 200 junior recruits would enter the Fremantle establishment three times a year.

During the year at Leeuwin, a close watch is kept for young men with officer potential.

Two Canberra boys, Ronald Hourigan (left) and Robert Lang, discuss their future naval careers with the Director of Naval Recruiting, Commander James Hume, at Navy Office, Canberra.

PRESENTATION TO H.M.A.S. STUART

At Garden Island on April 3, Mr. W. Brennan, a Sydney solicitor, boarded H.M.A.S. STUART where he presented to the ship's company a handsome trophy for inter-ship sport competition.

Introduced to the ship's company, by the Commanding Officer of STUART, Commander Molony, Mr. Brennan told of why he had decided to present the trophy.

"I feel that more interest should be taken in the Services by members of the public and where possible should be demonstrated in some tangible way," he said.

Thanking Mr. Brennan, Commander Molony said his gift was really appreciated.

Mr. Brennan who served in the Army during the War, was later entertained in the wardroom where a magnificent colour print of Her Majesty, Queen Elizabeth, was taken from an original by the eminent painter Leonard Boden, and presented to the ship by Mr. Brennan last year, was admired by other guests.

Her Majesty is shown in the robes of the Order of the Bath. . . . the original painting hangs in the Royal Military College, Sandhurst.

The picture shows Mr. Brennan presenting the sports trophy to Commander Molony.

Endeavour Spends the Summer in the Deep South

It has been summer in the deep south once again for HMNZS "Endeavour". Her record over the last three months has included two supply passages to McMurdo Sound on the Antarctic continent broken by an extensive oceanographic cruise in the stormy Southern Ocean.

"Endeavour's" summer season began when she left Auckland on 22 November. She called at Wellington to load dry cargo for New Zealand's Scott Base and at Lyttelton for half a million gallons of jet fuel for the United State's Navy's "Deep Freeze" operation.

The ship left Lyttelton on 5 December and met ice five days later. At first it was mainly brash and she made a fast passage as far as Franklin Island. There the ice thickened and Endeavour spent two days searching for leads which would take her the final section to McMurdo Sound. Eventually she found the breaks she needed and completed her first journey.

Her cargo and fuel unloaded "Endeavour" planned an early departure and in anticipation of spending 25 December on the "screaming sixties" advanced her Christmas Day five days so that cooks could prepare and ship's company enjoy their Christmas Dinner.

Then it was found that several miles of ice had broken loose from the shore from Cape Royds to Tent Island and had drifted north-west to block the channel.

"Endeavour" waited three days in the hope that a southerly wind would blow the ice clear, and eventually enlisted the aid of the American icebreaker "Burton Island". With a helicopter scouting ahead and the icebreaker clearing a passage "Endeavour" sailed, entered clear water on Christmas Day and made up lost time to reach Lyttelton on schedule on New Year's Eve.

Among the passengers was an 11-week-old husky pup known on board as Snowball. A report from the commanding officer, Commander P. R. H. Silk, said somewhat ruefully: "Snowball chews anything she can reach, brooms, clothing, books, and correspondence, eats one and a half pounds of mince a day, lives in the captain's cabin and is as yet only 50 per cent. housetrained. This has certain disadvantages."

On 6 January "Endeavour", with a party from the New Zealand Oceanographic Institute on board, sailed on a highly successful scientific cruise in the Southern Ocean. In spite of the ocean's lack of hospitality—in

(Continued on Page 18)

R.N. LOAN DESTROYER H.M.S. DUCHESS

Royal Navy Daring class destroyer, H.M.S. DUCHESS, 2,870 tons, which arrived in Sydney on Sunday, April 19, on loan to the Royal Australian Navy, is a ship which according to her Commanding Officer, Captain J. Bitmead, D.S.O., Royal Navy, will please every Australian who serves in her.

"I am certain the R.A.N. will be happy with DUCHESS; she is one of the hardest running operational ships I have served in, and this is my 6th destroyer command," Captain Bitmead said during a press interview shortly after DUCHESS berthed at the overseas passenger terminal, Circular Quay.

"DUCHESS also has the most up-to-date gunnery control system in the world, identical, I am pleased to know, with the system which si being installed in one of your frigates which is to commission soon," he added.

DUCHESS, now at Williamstown undergoing refit, during which time she will be formally handed over to the Royal Australian Navy and will be Commanded by Commander I. M. Burnside, R.A.N., will remain under Australian control for as long as the R.A.N. wants her.

Seven years ago, Commander Burnside served in her as Navigating Officer.

She is to replace the lost R.A.N. destroyer VOYAGER, sunk with the loss of 82 lives in a collision with the carrier H.M.A.S. MELBOURNE, during night flying exercises off Jervis Bay on the night of February 10.

Five hundred people greeted the sleek DUCHESS, as she nosed into Circular Quay to find a temporary resting place pending her transfer next morning to a berth in Garden Island Dockyard.

There she remained until Saturday, April 25, after which she left for Williamstown, arriving in Melbourne on April 27.

H.M.S. DUCHESS BERTHS AT CIRCULAR QUAY

H.M.S. DUCHESS

H. M. S. DUCHESS is a Daring Class Destroyer of 2,870 tons and was built by Messrs. J. Thornycroft and Co. Ltd. at Southhampton. She was launched by the late Countess Mountbatten.

She is the fifth ship of the Royal Navy to bear the name DUCHESS.

The first DUCHESS, a ship of 24 guns, was captured in 1652 and took part in the battle of "The Gabbard". The second DUCHESS, a second rate of 90 guns, was built at Deptford in 1679 and was Rear Admiral Rooke's flagship at the battle of Beachy Head. She also took part in the battle of Barfleur.

Possibly the most famous of her predecessors was the Bristol ship DUCHESS of 260 tons, which sailed round the world between the years 1708 and 1711. During this voyage she rescued Alexander Selkirk (the original "Robinson Crusoe" of Daniel Defoe's book). The ship's badge, a Duchess' coronet over a terrestial globe, commemorates this circumnavigation.

The fourth DUCHESS was a destroyer of the Defender class, built in 1933, and was sunk in the early days of the last war.

The present DUCHESS was present at the Spithead Coronation Review. Her first Commanding Officer, Captain H. R. Law, O.B.E., D.S.C., is at present serving as Flag Officer Submarines.

Re-commissioning in April 1954, H.M.S. DUCHESS escorted H.M. the Queen and the Duke of Edinburgh in the BRITANNIA from Gibraltar to the Nore on the final leg of their world tour. Later in the year she sailed for the Mediterranean where, with three other Daring class ships she formed a division of the 1st Cruiser Squadron. During this commission she distinguished herself by sweeping the board at the Fleet regatta.

In her third commission she was present at Suez.

Captain J. P. Scatchard, D.S.C.[xx], the present Flag Officer Second in Command Far East Fleet, commanded H.M.S. DUCHESS from August, 1957 until she paid off into dockyard hands in January, 1959. There followed a two-year major modernisation and refit including fitting of the latest Gunnery Control System.

H. M. S. DUCHESS recommissioned on 3rd January, 1961 under the command of Captain E. A. S. Bailey, M.B.E., D.S.C. as Captain (D) 5th Destroyer Squadron. This commission was also spent on the Home and Mediterranean Stations.

H.M.S. DUCHESS commissioned for her present commission at Portsmouth on 3rd January, 1963 under the command of Captain J. Bitmead, D.S.O., Royal Navy. After an intensive 8 week work up at Portland she sailed for the Far East on 8th April, 1963 to become the leader of the newly formed 24th Escort Squadron.

After a brief stop at Gibraltar on Good Friday and exercises off Malta she arrived in the Aden area on 24th April. She spent three weeks there escorting H.M.S. CENTAUR and H.M.S. ARK ROYAL, before continuing eastwards and a stop as Gan guardship. She finally arrived at Singapore on 10th June, 1963.

Since January, 1963 she has steamed over 50,000 miles and has maintained her tradition of reliability. She is a lucky ship and has seldom had to delay sailing because of defects throughout her operational life. In her last three commissions there is only one recorded instance of a delay and this was rectified in a few hours.

The ship's company consists of 20 Officers, 25 Chief Petty Officers, 31 Petty Officers and 238 Junior Rates.

Her armament consists of 6 dual-purpose (anti-aircraft or surface) 4.5 in. guns mounted in pairs in three turrets and controlled by the latest gunnery control system, two 40 mm. guns in single mountings, 5 x 21 in. torpedoes and one three-barrelled anti-submarine mortar. She is powered by steam turbines developing 54,000 shaft horse power, giving a speed in excess of 30 knots.

TO COMMAND H.M.A.S. DUCHESS

Commander Ian M. Burnside, of Canberra, has been appointed Captain of DUCHESS, the Royal Navy destroyer being lent to Australia as a temporary replacement for VOYAGER.

Commander Burnside was the navigating officer in DUCHESS during 1956-57 while serving on loan with the Royal Navy. He will take command of DUCHESS in Melbourne.

Commander Burnside, who is 38, is at present serving at Navy Office in Canberra as Deputy Director of Manning. He entered the Royal Australian Naval College in 1939, and graduated in 1942. He saw service in H.M.A. Ships AUSTRALIA and ARUNTA during the Second World War.

He specialised in navigation, and is a former Fleet Navigating Officer, spending two years from 1959 in the Flagship, H.M.A.S. MELBOURNE.

Commander Burnside has taken part in Australian Antarctic expeditions to Macquarie Island and Wilkes Base, and was in the party that made an original exploration of the Oates coast in 1958-59.

FIRST SEA LORD'S VISIT

The First Sea Lord seems to be enjoying his inspection of the 4th Submarine Squadron—or was it Lt. Com. Edwards' beard that caused the smile?

ENDEAVOUR SPENDS THE SUMMER IN THE DEEP SOUTH

(Continued from Page 14)

the first 10 days the ship steamed 2,500 miles in an almost continuous gale—the cruise produced excellent results. An American, Dr. D. Squires of the United States National Museum, made a series of valuable coral findings and the party leader, Dr. E. W. Dawson, took soundings which are expected to play an important part in tracing the shape of the Macquarie Ridge.

Not the least achievement was the completion of a substantial amount of scientific work as the ship rolled a steady 20 to 30 degrees, with an occasional roll to 50 degrees, and at a frequency of six seconds.

"Whenever a dredge or trawl is brought on board the ship's company gather around to comment on the samples," Commander Silk reported from mid-cruise. "The laboratories are filling with plastic bags and bottles containing rocks, shellfish, globs of ooze, dead birds, rabbit heads, bones, animal skulls, and things which could be anything to us, but which Dr. Dawson and his team consider interesting and handle carefully."

An unusual break in the cruise was the opportunity for a visit ashore at Enderby Island. Typical of the deserted nature of the sub-Antarctic island was the tameness of the animal inhabitants. Sailors were able to stroke seal pups and penguin chicks with the mothers keeping a careful watch but otherwise making no attempt to interfere.

"Endeavour" returned to Lyttelton on 28 January. Once again she loaded cargo and fuel for the Antarctic and sailed on 5 February. She arrived back from McMurdo Sound on 28 February and at Auckland and the end of her Antarctic summer on 5 March.

H.M.A.S. DERWENT JOINS THE R.A.N.

A new warship for the R.A.N. officially joined the Navy in Melbourne on April 23.

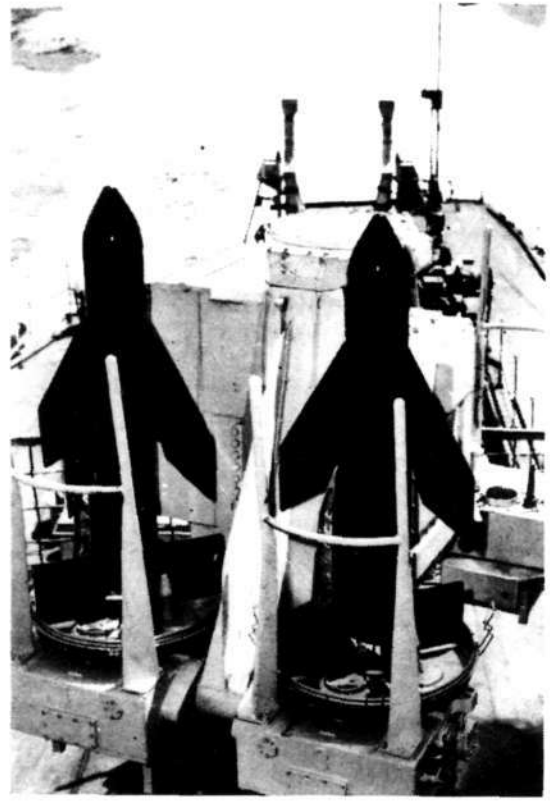
The Minister for the Navy, Mr. Chaney, formally accepted the new frigate, H.M.A.S. DERWENT, at a hand-over ceremony at sea in Port Phillip Bay.

The ship's company of 250 Officers and men commissioned the 2,500 ton frigate at Williamstown Naval Dockyard, Melbourne, on April 30.

DERWENT, built at Williamstown, is the last of four "Type 12" frigates built at Australian dockyards during the past few years.

Her sister ships, PARRAMATTA, YARRA and STUART are already at sea, and they rank among the best anti-submarine frigates in the world.

Mr. Chaney said DERWENT would commission as the R.A.N.'s first ship equipped with an operational guided missile system.



SEACAT—CLOSE RANGE

She had "Seacat" close-range anti-aircraft missiles for self-defence against air attack.

She was also designed for the installation of the "Ikara" anti-submarine missile system currently being developed in Australia.

He said another significant "first" for DERWENT was her submarine detection capacity.

She was the first R.A.N. warship with a variable depth sonar. This equipment could be lowered to various depths beneath the water to improve submarine detection in all sea conditions.

DERWENT's conventional armament includes two 4.5 inch guns, and anti-submarine mortars.

She is prepared for atomic warfare, and has a "wetting down" device to cope with nuclear fall-out.

The new frigate is under the command of Commander R. C. Swan.

H.M.A.S. DERWENT AT SPEED TRIALS

R.A.N. EXHIBITS FOR WASHINGTON

A model of the former Australian cruiser, H.M.A.S. CANBERRA, to be exhibited at a Naval Display Centre in Washington, was presented to the United States Navy at a ceremony in Canberra recently.

H.M.A.S. CANBERRA was lost off Savo Island in 1942 while fighting alongside ships of the United States Navy. Because of this close association, the U.S. Navy has been seeking historical material featuring H.M.A.S. CANBERRA.

At the presentation ceremony at Navy Office, the model was handed to the U.S. Naval Attache, Captain J. D. Mooney, by the Minister for the Navy, Mr. Chaney. Mr. Chaney said the displaying of the model of H. M. A. S. CANBERRA in Washington would be a reminder of the past and a symbol of the future. It would recall a famous sea battle in which Australia and the United States fought side by side, and would symbolize the ever increasing co-operation and friendship between the two navies.

At the same ceremony, the Minister for the Interior, Mr. Anthony, presented a bronze coat of arms of the City of Canberra for display in Washington. The coat of arms was a replica of the original plaque presented to H.M.A.S. CANBERRA by the citizens of the national capital. Mr. Anthony said the coat of arms would provide another link not only between the navies of the United States and Australia, but also between the cities of Canberra and Washington.

The second member of the Naval Board, Rear-Admiral V. A. T. Smith, himself a survivor of the sinking of H.M.A.S. CANBERRA, presented Captain Mooney with a coloured replica

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Clearance Divers and the History of Diving

By LIEUT. WILCOX

Whilst the history of diving is a vast subject, the story of the Clearance Diving Branch is quite new, most of the techniques being a product of World War II.

Breathing underwater has fascinated men since the beginning of time, but it wasn't until 1837 that Mr. Augustus Siebe, in England, designed a type of diving dress which made prolonged diving a reality.

This "closed" type diving dress is still used extensively commercially because of both its excellent performance and simplicity.

The Admiralty first adopted this dress in 1840 and has worked in close conjunction with the firm, Siebe Gorman Pty. Ltd. since this date.

Development of diving remained fairly static until the First World War when the Admiralty formed the Admiralty Salvage Organisation.

This banded together all the salvage firms in the U.K. to save ships and their valuable cargoes which had been sunk in great numbers by the growing 'U' Boat and mine menace.

During this four year period, they salvaged over 260 ships.

The magnificent record of this organisation whetted the Admiralty's appetite for diving, and so, during the years between the wars, they worked in close conjunction with Professor Haldane, C.H., F.R.S., M.D., of Siebe Gorman Pty. Ltd., and developed the stoppage cables which made diving safe to depths of 200 feet.

Thus, in 1939, the Royal Navy had "standard" divers of great skill in most capital ships and also had, as a firefighting equipment in all ships, the Siebe Gorman "Salvus", an oxygen closed circuit breathing apparatus invented in 1908.

The R.A.N. had followed the pattern closely, training divers at H.M.A.S. PENGUIN, Sydney.

The Underwater Working Parties

On November 19, 1941, occurred a revolutionary naval engagement which altered the whole world's concept of military diving.

Without any apparent warning, three ships at anchor in Gibraltar exploded.

As a result, the FIONA SHELL and DENBYDALE sank and DURHAM, a 19,000 ton freighter, was badly damaged.

This was followed closely by the similar sinkings of the battleships QUEEN ELIZABETH and VALIANT in Alexandria Harbour on December 18, 1941.

These sinkings were caused by Italian swimmers, mounted on 'chariots' or men carrying torpedoes and breathing oxygen, who were launched from a submarine outside the normal harbour defences.

They then proceeded to cut their way through any anti-submarine net or other obstacle encountered until they had placed their craft beneath their target.

They then removed the nose and secured it to the ship, this being a 500lb. clock-fired bomb.

Thus, from this date, the heaviest anti-submarine harbour defences meant nothing.

Luckily, the body of one of these swimmers was washed ashore after the first raid.

His set was sent to the U.K. and within two days, the "Salvus" firefighting set was converted into a diving set.

Volunteers were called for and periodic ships' bottom searching was instituted.

This move, coupled with increased harbour and beach patrols did much to deter the attacking swimmers and the Underwater Working Parties continued throughout the war on their routine but occasionally hazardous task.

Finally, since the war, it has been necessary to re-introduce ships' bottom searches against extremely fanatical nationalist swimmers on several occasions, namely Haifa, Israel in 1946, Cyprus 1958-1961 and Suez in 1956.

Combined Operations Pilotage Parties

Another product of the Mediterranean theatre of World War II, these parties (C.O.P. for short) proved their worth during landings at Normandy, North Africa and Sicily.

The idea for these parties came from a Navigating Officer whose job was to plan the actual landing during proposed amphibious operations.

It was obvious to him that the charts of the area did not contain sufficient information for him to do his job properly.

He eventually obtained permission to form a school to teach the technique which he and an Army Officer developed successfully off the occupied island of Rhodes in the Aegean Sea.

This technique was basically a surveying of the beach by a swimmer, swimmers working in pairs and travelling to the beach by canoe.

They obtained such information as the beach gradient (i.e., the angle of the beach) tides and sea conditions, position of shoals and the position and types of any other obstacle which may be found.

Later, these same swimmers returned to the beach immediately before the landing and marked the beach so that waves of landing craft went to the correct beach.

Also associated with these parties were the Landing Craft Obstacle Clearance Units ("Locku" for short), whose job it was to survey the obstacles found and to blast channels through them with explosives.

These men were also swimmers, dropped and recovered by fast landing craft — employing the "drop and pick up" drill so popular at diving displays.

"P" Parties

In the early stages of World War II, the Germans started to use a magnetic mine, that is, a mine which lay on the bottom the sea and was exploded, not by a ship hitting it, but by the ship's magnetic influence as it passed overhead.

As the exact nature of the mine was not known, it was essential to recover one complete, and so, when two were dropped into the mud near the mouth of the Thames River, a party was sent to investigate.

They succeeded in their task and the scientists were able to decide on the counter measures to this mine.

Also, a technique was developed so that they could be rendered safe.

This knowledge proved most valuable later, for, in 1941, these mines, which were fitted with bomb fuses, were used as blast bombs, a terror weapon designed to blast the people of London, Coventry, Liverpool, Portsmouth and Plymouth into submission.

They did not succeed in this, but quite a few of these mines failed to explode and remained on the ground in a most dangerous state.

To deal with this new threat, the Admiralty formed a Land Mine Incidents Section, a group of men, not a few of whom were Australian.

These men worked in teams of two, one officer and one rating, and for the duration of the blitz, risked their lives continuously, using improved equipment to prevent further damage to life and installations valuable to the war effort.

As the R.A.F. began to get the upper hand, their work ashore decreased.

However, it was decided that it would be very handy if new mines could be recovered by divers so that they could be investigated, and appropriate countermeasures and minesweeping devices invented at the earliest possible time.

Lieutenant Commander J. S. Mould, G.C., G.M., R.A.N.V.R. (later D.S.C., G.C., G.M. and Bar), volunteered to undergo a diver course to fulfil his task.

With the aid of the Admiralty Experimental Diving Unit which was situated at Siebe Gormans, a suit was designed which was self-contained, non-magnetic and non accoustic.

It also incorporated 'mixture breathing', for, since the arrival of the Italian swimming rig in 1941, this unit had discovered the problem of oxygen poisoning and had found this alternative in order that divers could dive below 33 feet.

By this time, it was 1943, and plans for the invasion of Europe were underway.

One problem which vexed the planning staff was that they wanted to capture and use the sea ports on the west coast of Europe as soon as possible after the landing, but the Germans were known to be masters of demolition and booby trapping and their mines were fitted with clocks which brought them to life after they had been on the bottom for 80 days.

The answer came from an unusual direction, namely the Officer-in-Charge of mine-watching, Commander C. E. Hammond, D.S.O., D.S.C., R.N.

He co-opted the aid of Lieutenant Commander Mould and proceeded to prove that these harbours could be cleared by teams of divers.

They started diving in Tilbury Docks under the worst diving conditions imaginable.

Their equipment was makeshift, and mostly borrowed, but in these early days they developed many of the searchers now used.

As their supplies increased so they were able to increase the scope of their operations.

Eventually, there were three parties under training, ready for the invasion of Europe.

Thus on D minus 6, "P" parties 1571 and 1572 joined the United States Army at Falmouth for passage across the English Channel to their first job—Cherbourg.

Eventually, six parties worked on the European Coast in the ports of Cherbourg, Dieppe, Le Havre, Rouen, Boulogne, Calais, Ostend, Rotterdam, Hamburg, Bremen and finally Dunkirk.

During these operations they achieved the following results:

(a) Dived some 600 man days.

(b) Searched in excess of 20 million square feet.

(c) Rendered safe (1) 159 mines; (2) 50 Tellermines (landmines); (3) 121 Demolition Charges; (4) 1 V1 Rocket; (5) 8 Torpedoes; (6) 3 Explosive Motor Boats; (7) 7 Midget Submarines.

All this work was done in the worst possible conditions, often

within range of the front line itself.

It is also noteworthy that not one man was killed in these operations.

They earned the esteem and gratitude of all Naval and Military Commanders in the European Theatre for their efficient clearing of these ports and the Admiralty valued their services such as to use their organisation as the basis for the C.D. Branch.

Midget Submarines (X Craft)

After the attack on Gibraltar, the Admiralty considered this form of ship attack and produced four methods of delivering the attack themselves.

Thus we developed "Human Torpedoes", "Submersible Canoes", ship attack swimmers, and most successful of all, the midget submarine.

These vessels were 48 feet long and were five feet six inches in circumference except around the periscope where a man could stand up.

They were divided into four compartments, the battery space forr'd, the "wet and dry" chamber, the control room and the engine room.

The "wet and dry" chamber was an air lock through which a diver could enter and leave under water.

One of the crew was a diver, and his job was to leave the boat and cut through such obstacles as anti-submarine nets with hydraulic-pneumatic shears.

Also, during the actual attack, he secured the charges to the ship's bottom by means of a steel wire strap and clamps.

In its ship attack role it was a most successful weapon, used against the Battleship TIRPITZ in Kaafjord, Norway in September, 1943, and against the Japanese Cruiser TAKOA in Johore Straits, Singapore in July, 1945.

However, they were only employed in areas where there was little or no enemy sonar or hydrophone activity.

Apart from their ship attack role, they were also used extensively in other roles.

They played a great part in the landings at Normandy in that members of the C.O.P. Parties were able to lay off the beaches unobserved for two days before surfacing and guiding the landing craft to their correct beaches.

Whilst their form of ship attack was quite successful, the others should not be discounted.

Submersible canoes and ship attack swimmers were developed too late to be of much practical value, but the "human torpedo" was used with success against the Italian Cruiser BOLZANO in La Spezia Harbour in February, 1944.

It was felt that the wheel had turned the full circle, for La Spezia was the home of the Italian Navy's "Tenth Flotilla" or ship attack swimmers.

Salvage

Little is known of the work performed by the Admiralty Salvage Organisation during World War II, but the tasks they performed proved invaluable to the war effort.

Typical jobs were:

(a) Keeping the Suez Canal open by removing wrecks.

(b) Temporarily repairing the damage done to the QUEEN ELIZABETH and VALIANT so that they could move into dock.

(c) Salvaging sunken enemy vessels in order that their fittings could be studied.

(d) Keeping heavily bombed ports open to traffic and finally,

(e) Salvaging thousands of tons of war cargoes.

Their work was routine and generally unspectacular during an unusual war, but their continued efforts saved the Allies thousands of pounds and many months.

Let us not forget these very fine, very thorough men, for, on completion of hostilities, many of them changed to the Clearance Diving Branch forming a good steady nucleus.

The Birth of the Clearance Diving Branch

On completion of hostilities, many of the personnel active in these various units left the service for their civilian employments.

The Admiralty however was not willing to let the technique die, and so the remaining members of these organisations were banded together in Scotland where they continued development in their various spheres.

However, in the interest of economy, it was decided to streamline this organisation.

Every group had its own ideas, its own equipments and its own problems such that the spare part situation alone was becoming impossible.

Thus the Clearance Diving Branch was formed in 1951 with underwater bomb and mine disposal as its major task.

This allowed a standardisation of stores, techniques, training and policy which has enabled us to advance tremendously since that date.

The tasks of the branch are as follow:

(a) Disposal of any enemy or friendly mine, torpedo or underwater charge anywhere.

(b) Disposal of any enemy or friendly bomb or missile below the high water mark or on Naval property.

"SPLICE THE MAINBRACE", read the message and the men of the R.N. submarine TABARD were soon celebrating the birth of the Royal Baby.

H.M.A.S. VAMPIRE WINS GLOUCESTER CUP

GLOUCESTER CUP PRESENTATION . . . Rear Admiral O. H. Becher, C.B.E., D.S.O., D.S.C. and Bar, Flag Officer Commanding Australian Fleet pictured presenting the Gloucester Cup to H.M.A.S. VAMPIRE at Garden Island last month.

The Cup, coveted in the Navy, was awarded to VAMPIRE in consideration of her results in Fleet Efficiency competitions, at Admiral's Inspection and in training.

Rear Admiral Becher extended congratulations to the Commanding Officer, Officers and members of the ship's company who served in the ship during the year.

R.A.N. EXHIBITS FOR WASHINGTON

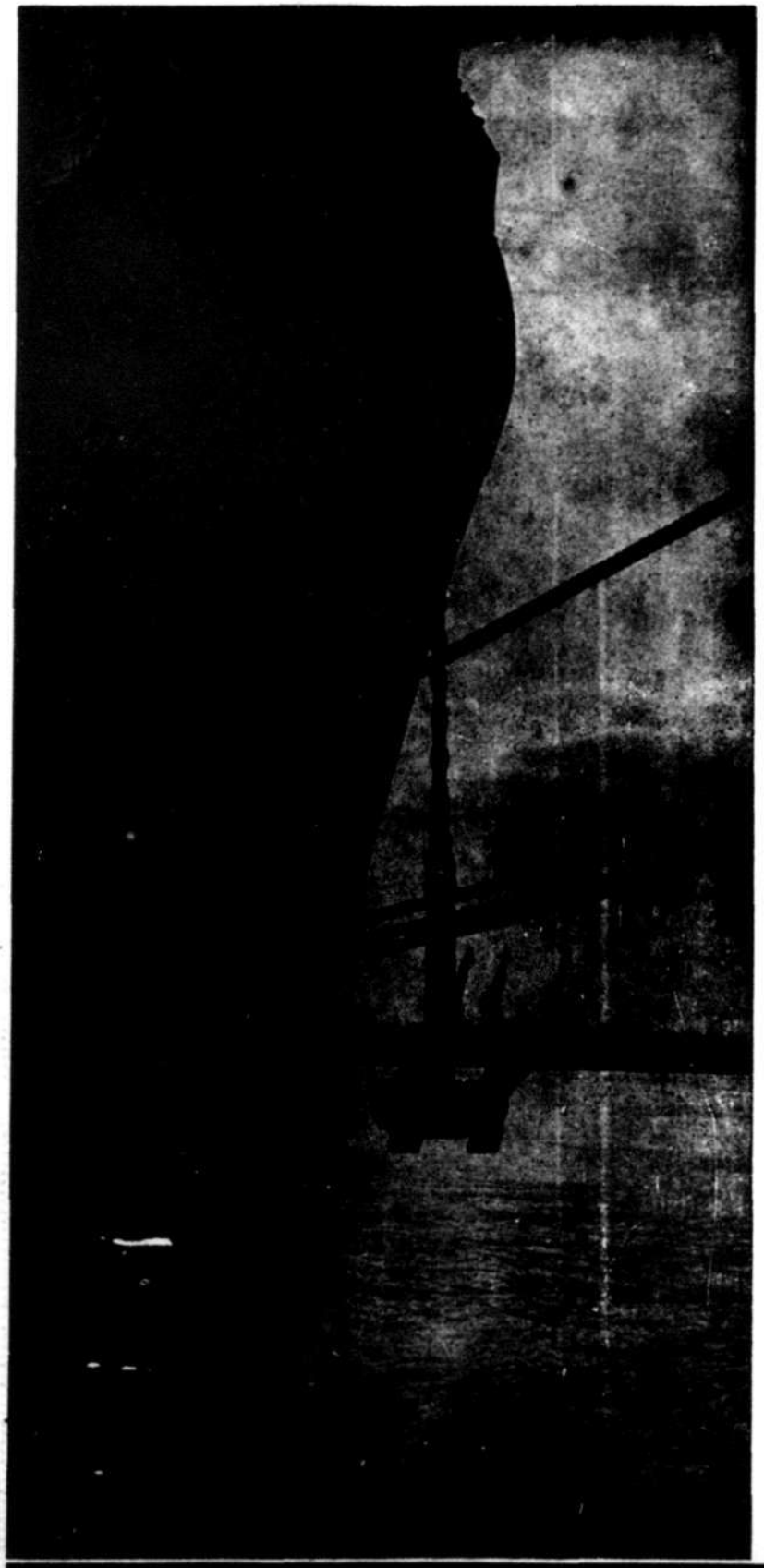
(Continued from Page 19)

of the Canberra coat of arms for the U.S.S. CANBERRA, the United States Navy's guided missile cruiser named in honour of the lost Australian warship. He said the coat of arms was a token of the friendship binding the men of the U.S. and Australian navies, and also a token of gratitude from the H.M.A.S. CANBERRA survivors who were so well looked after by the U.S. Navy after the sinking.

All the presentations were made on behalf of the H.M.A.S. CANBERRA Association, some of whose members attended the ceremony, including the President, Mr. H. J. Alford, of Sydney.

The three foot model of H. M. A. S. CANBERRA was made by a survivor of the Battle of Savo Island, former Petty Officer C. T. Smith, of Waverley, Sydney.

On behalf of the United States Navy, Captain Mooney made presentations to the Minister for the Navy and to the Minister for the Interior. The presentations comprised illustrated cruise books showing the tours of duty undertaken by the U.S.S. CANBERRA.



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GOVERNOR GENERAL VISITS NUCLEAR SUBMARINE

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Hon. Sec.: Mrs. V. M. Slide, c/- H.M.A.S. "Melville", Darwin, N.T.

South Australian Division:

Patron: His Excellency, The Governor of South Australia.
President: F. N. Dunn, Esq.
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.-Cmdr. J. C. Mahon, R.A.N.R., 11 Quorn Street, Sandy Bay, Hobart, Tas.

Western Australian Division:

Patron: His Excellency, The Governor of Western Australia.
President: Roland Smith, Esq.
Hon. Sec.: R. A. Hannah, Esq., 182 Coode Street, Como, W.A.

AUSTRALIAN SEA CADET COUNCIL:

Representatives of the Naval Board:
Director of Naval Reserves, Captain I. K. Purvis, R.A.N.; Lieut. Cdr. E. D. Sandberg, R.A.N.

Navy League:
Rear Admiral H. A. Showers, C.B.E.
Lieut. Cdr. J. B. Howse, V.R.D., R.A.N.V.R.

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

H.M.A.S. VOYAGER --- ROYAL COMMISSION

The taking of evidence in the VOYAGER Royal Commission has been completed and Sir John Spicer is expected to give his finding in the near future. Above, Sir John Spicer (centre) with Captain R. I. Peek and Mr. Jenkyn, Q.C., about to take off in a helicopter from Mascot for H.M.A.S. MELBOURNE.

INCREASE FOR ARMED SERVICES

STATEMENT ON DEFENCE

In his statement issued in Canberra on June 18, the Minister for Defence, Senator Paltridge, elaborated the eight major decisions made by the Government in respect of Australia's defence position and conditions for members of the Navy, Army and R.A.A.F.

Senator Paltridge said the Government's review had been made against a background of continuing instability in South East Asia, the area of direct strategic significance to Australia.

The decisions were:—

1. To increase substantially the pay and allowances of all members of the Services.
2. To widen the circumstances in which Citizen Military Forces are subject to call-up.
3. To exempt from Income Tax, the pay and allowances for part-time training of members of the C.M.F.
4. To establish a completely new reserve for each of the three Services to be known as the Volunteer Emergency Defence Reserve.
5. To provide additional housing for Servicemen by the construction of 3,700 new homes.
6. To build two new modern frigates for the Royal Australian Navy at Australian shipyards.
7. To equip Australia's new Mirage aircraft with the radar-guided Matra air-to-air missile.
8. To retain the Canberra jet bomber without replacement until the delivery of the American supersonic F111 in 1968.

Senator Paltridge said that the annual cost of the pay and allowances increases would be about £10m.

The cost of the Navy's two new ships, the Service housing and the R.A.A.F.'s Matra missiles would be £46,500,000.

Voluntary Recruitment

Senator Paltridge said that in pursuance of Australia's Treaty obligations and for the protection of her own vital interests, we must be in a position to commit forces at short notice in a variety of situations.

"The immediate requirement is for well-trained Regular forces to deal with subversions and insurgency in the so-called cold war," he said.

"The Government is satisfied that at the present time Australia should continue to rely on the voluntary principle for recruitment to the Services.

"The Government has, however, closely examined the present strengths of the forces, the rate of progress towards achievement of the higher manpower targets announced last year, and pay and related conditions of service.

Pay and Conditions of Service

In the past 12 months there has been significant progress in recruiting and in re-engagement towards the higher target strengths which have been announced by the Government.

"Nevertheless, the Government is not satisfied with the rate of progress which has been achieved, particularly in the case of the Army which is still well short of its total of 28,000.

"Consequently a number of decisions have been taken to improve the pay and conditions of service and housing for members of the forces which should greatly stimulate recruiting."

Senator Paltridge then stated the increases in pay and allowances.

He said the annual cost of the increases for the Services would exceed £7m., to which was added an additional amount of £2.7m. for basic wage increases.

Additional Housing for the Services

Senator Paltridge, continuing, said:—

"The Government has approved a large programme for the provision of an additional 3,700 houses for members of the Regular Forces throughout Australia.

"The programme will commence in 1964/65 during which a considerable number of houses will become available.

"The total number will be provided within three years.

"The programme is based on the numbers of personnel whose names are in current waiting lists held by the Services, and provision of those houses will mean that all of these personnel would have their needs satisfied.

"The total cost of the programme to the Commonwealth will be £14.5m.

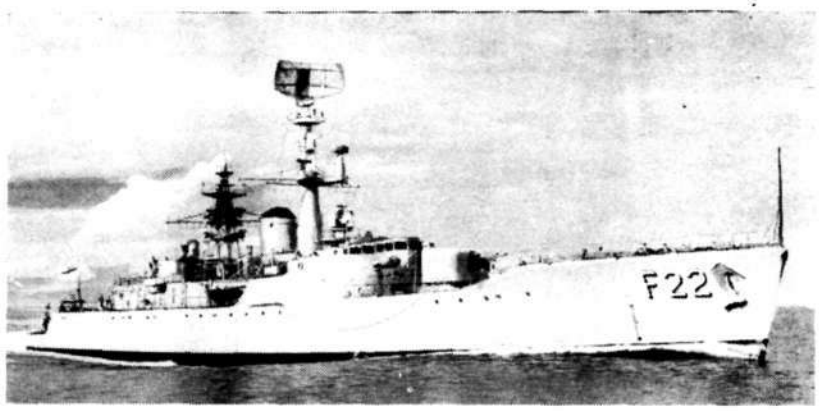
Replacement of H.M.A.S. VOYAGER

Senator Paltridge said that the Government had given careful consideration to the long-term replacement of H.M.A.S. VOYAGER in the R.A.N.

"It has been decided that the best permanent replacement will be two Australian-built type 12 Frigates, with up-dated equipment, including the fitting of the anti-submarine guided weapon Ikara which has been designed and developed in Australia," he said.

"The two ships will be built concurrently in Australia at a total estimated capital cost of about £22m., completely outfitted and with shore support equipment.

TWO NEW FRIGATES



H.M.A.S. DERWENT, the latest Frigate to join the Royal Australian Navy. Two sister ships are to be built to replace H.M.A.S. Voyager. They will be built at Cockatoo Dock and Williamstown Naval Dockyard.

"The necessary increases will be made in the Navy Vote.

"The two new ships, which will be modern and efficient anti-submarine escorts, are expected to enter service in about four years' time.

"They will bring the number of Type 12 frigates in the R.A.N. to six, four other ships of this class (H.M.A.S. YARRA, PARRAMATTA, STUART and DERWENT) having been acquired by the R.A.N. from local construction in the last few years.

"During the next few years, as previously announced, the capability of the R.A.N. will also be substantially increased by the acquisition of three guided missile destroyers of the Charles F. Adams class from the United States, four submarines of the Oberon class from the United Kingdom, and an escort maintenance ship which is being built in Australia.

Replacement of Canberra Bomber

"The Government has considered comprehensive reports by its military advisors on the need for the introduction into the R.A.A.F. of an interim aircraft pending the coming into service of the F111A which is to replace the present Canberra bomber.

"The United States Government had previously offered to make available B-47 aircraft as an interim aircraft should this be desired by the Australian Government.

"In the light of the military evaluation, the Government concluded that there is no military need to introduce an interim aircraft.

"Its expert advice shows clearly that the use of B-47 would pose formidable problems for the R.A.A.F.

"The latest expert advice available to the Government makes it clear that the Canberra will not begin to be phased out of Squadron service until 1970.

"Doubts about its stated fatigue life have been resolved and it will continue to be a useful operational aircraft.

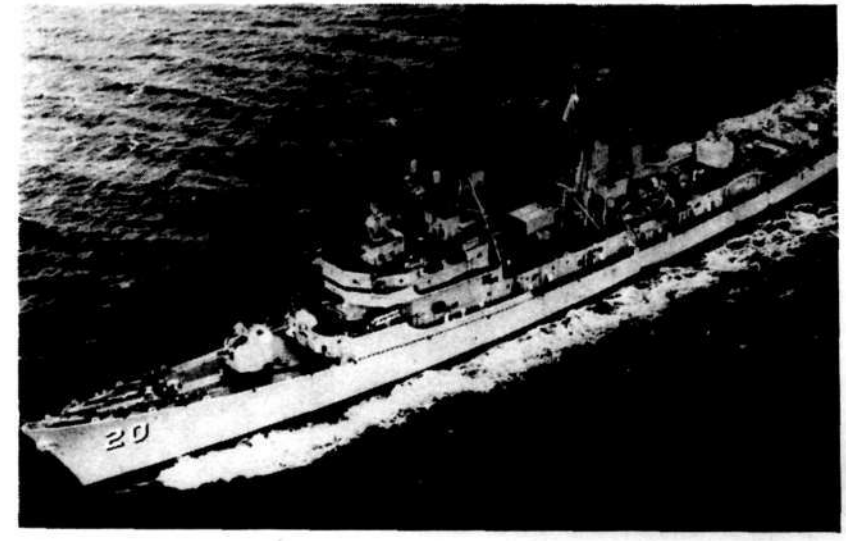
"In the light of advice from its professional advisors, the Government has decided to accept deliveries of F111A aircraft in 1968.

"The aircraft will embody modifications made as a result of United States Air Force squadron trials, thus providing Australia with a fully-tested aircraft.

"Information from the United States shows that the development of the F111A aircraft is proceeding satisfactorily.

Matra Air-to-Air Missile

"Consideration has been given to the armament of the Mirage



Thousands of people who visited Garden Island Dockyard during Coral Sea week saw in the guided missile destroyer, GOLDSBOROUGH, some of the fighting power of the United States Navy. Of the Charles F. Adams Class, and similar to three guided missile destroyers being built in the United States for the R.A.N., GOLDSBOROUGH (DDG-20), is a very versatile ship.

aircraft which are to replace the Avon Sabres in the R.A.A.F.

"As previously announced, 100 Mirage aircraft are on order and deliveries from local production have already commenced.

"The Mirage 111-0 aircraft now coming into service with the R.A.A.F. are a version of the Mirage 11-E supersonic all-weather intercept fighters which are coming into service with the French Air Force.

"To exploit fully the outstanding capability of these aircraft, air-to-air missiles of advanced performance are required.

"The French Air Force has adopted a radar guided air-to-air missile (Matra R.530) for the French Mirage aircraft.

"After a full and careful technical evaluation by the R.A.A.F., the Government has approved the purchase of these missiles as the primary interceptor armament for the R.A.A.F. Mirage aircraft.

"Selection of the Matra missile, which was designed for the Mirage aircraft, will complete the all-weather intercept capability already inherent in the aircraft.

"When equipped with Matra, and along with the radar and associated fire control units, the R.A.A.F. Mirage aircraft will have the ability to seek out and attack targets day or night in any weather.

"The total cost of introducing the Matra R.530 air-to-air missile into the R.A.A.F., including aircraft components, missiles, test and handling equipment, etc., is estimated to be about £10m.

"This amount is provided in existing Air Force allotments."

Volunteer Emergency Reserve

Senator Paltridge, in referring to the Establishment of Volunteer Emergency Defence Forces said a volunteer emergency reserve would be formed for each of the three Services.

These reserves would provide a quick and effective method of increasing our "cold war" military capability, augmenting field force units and providing reinforcements in the initial stages of limited war.

The reserve had particular significance for the Army which planned to raise a force of 3,600 men.

Members of the reserve would undergo 14 days' training each year and receive normal service rates of pay.

In addition, they would receive special bounty payments of £100 for the first year of service in the reserve, rising by £25 each year to £175 for the fourth and subsequent years, together with a gratuity of £55 for each call up for full time duty.

Citizen Forces

Senator Paltridge said the availability of citizen forces played an important part in ensuring that Australia's force contributions in various contingencies that might arise could be met and maintained.

Under present Defence legislation, Citizen Forces could only be called up when there was an attack or threatened attack on the Australian mainland or its territories.

Senator Paltridge said that with the continuing unsettled conditions in the South East Asian area and in the light of Australia's Treaty obligations, there was a need to be able to call up Citizen Forces and Reserves to deal with hostilities on a limited scale which might not pose an immediate and direct threat to Australian territory but which, if unchecked, could gravely prejudice the security of this country. Such situations could occur with little warning.

It had therefore been decided that provision should be made for the call up of Citizen Forces and Reserves to the extent necessary to meet the requirements of all three Services in circumstances short of general war but in which there existed hostilities on a limited scale or the threat of such hostilities.

The increased rates of Service pay would in general apply to the Citizen Forces, and the Government would exempt from income tax the pay and allowances of members of the Citizen Forces received during part-time training.

Departure of Troopship

The Minister for Defence, Senator Shane Paltridge, announced on the 25th May that Australian forces offered to the Malayasian Government for tasks in Borneo and Malaya have sailed in the troop Carrier H.M.A.S. SYDNEY.

Units aboard the troopship were the 7th Field Squadron and supporting detachments, 111th Light Anti-Aircraft Battery and four RAAF Iroquois helicopters with pilots and technicians from No. 5 Squadron.

The 7th Field Squadron will construct airstrips, roads and bridges in the Borneo States. 111th Light Anti-Aircraft Battery will be located at Butterworth in Malaya, where RAAF squadrons serve as part of the Strategic Reserve, and the RAAF helicopters will be made available in support of operations on the Thai-Malaya border.

Senator Paltridge said that in the best interests of national security and of the Australian servicemen concerned, it had been necessary to place some restrictions on the release of information.

RIGHT: H.M.A.S. SYDNEY, with Army trucks and equipment on deck, just prior to sailing.

SEATO-AMPHIBIOUS-AIRBORNE ASSAULT

The Australian Fleet tanker, H.M.A.S. SUPPLY, has just undertaken its biggest international commitment since commissioning with the R.A.N. two years ago.

The 17,000 ton ship is the leader of a group of British Commonwealth vessels which provided underway replenishment to the invasion fleet in the SEATO Exercise, LIGTAS.

The attacking forces in the amphibious-airborne assault exercise are now steaming through the South China Sea to their objective—the Philippine Island of Mindoro. The sea and air assault, which took place on June 4, is designed as a counter-offensive following a simulated invasion of South East Asia. Twenty-thousand men, seventy-five ships and several hundred aircraft of the SEATO nations are taking part in "LIGTAS", which is the twenty-seventh training exercise in SEATO's ten-year history.

Captain G. V. Gladstone, of Canberra, the Commanding Officer of H.M.A.S. SUPPLY, was responsible for the British Commonwealth replenishment ships. He had seven vessels in the Commonwealth Replenishment Group—TIDESPRING, TIDEFLOW, WAVE SOVEREIGN, RELIANT, RETAINER, FORT ROSALIE and FORT CHARLOTTE.

Replenishment at sea is taking place in realistic wartime conditions, with a continuous threat of attack from the aircraft, surface ships and submarines of the opposing forces.

The Australian Daring Class destroyer, H.M.A.S. VAMPIRE, was a member of the international escort group protecting the convoy.

The R.A.A.F. and the Army also participated in Exercise LIGTAS.

INSPECTION OF H.M.A.S. SYDNEY

National Forces 'Must be Ready'

All countries should appreciate their responsibilities in training and maintaining national forces and avoid the deadly sin of complacency, Rear-Admiral A. Davies, head of the British Defence Liaison Staff, Department of Defence, Canberra, said recently.

"Although we believe that a general nuclear war is unlikely, it is a possibility we must never forget," he said.

Rear-Admiral Davies was speaking on "The Present Day Role of the British Forces" at a luncheon meeting of the Legacy Club in Sydney.

"It is terribly important for a democratic country to realise its responsibility," he said.

Nuclear War Unlikely

He also advocated co-operation between the military forces of Australia and the United Kingdom.

Rear-Admiral Davies said it was only through co-operation that both countries could obtain the best defence forces they could afford.

"In the near future, Anglo-Australian defence policies must grow, not diminish," he said.

Rear-Admiral Davies said that Great Britain believed a general nuclear war was unlikely.

He said this was because certain nations were "prepared to fight" in a nuclear war.

"The reason such a war is unlikely is because the United States, and, to a lesser extent, the United Kingdom, has the power to fight a nuclear war," he said.

"We seek to avoid war by being ready to fight," Admiral Davies said.

ROYAL NAVY ESTIMATES

The Estimates — under their new title of Defence (Navy) Estimates — were debated in the House of Commons on March 2, 1964, after a lengthy discussion on the propriety of debating them under this title before the Defence (Transfer of Functions) Bill had completed its passage.

Mr. Hay, the Civil Lord, introducing the Estimates, defined the tasks of the Navy as to keep the peace, to help our friends, and to protect our ships; and he proceeded to quote figures for sea-borne trade—"The industrial West depends heavily on sea-borne trade. The sea is the one free highway open to all. The bulk of our imports of food and raw materials and of our exports must be carried by sea, and will continue to be for as far ahead as we can discern. Every day there are no fewer than 1,200 British merchantmen on the high seas and another 1,000 in port. As for our exports, 94.5 per cent by value and over 99 per cent by tonnage go by sea—and all the time the ships of the Royal Navy are there, by their very presence deterring any interference with the movement of our shipping." (Hansard, column 924.) Welcome as it is, however, to see Mr. Hay's reference to our dependence on shipping to carry our trade, let us get the record straight. Though 99 per cent by tonnage of our exports go by sea, he did not add—as he might have—that the proportion carried in British ships is only about 58 per cent.

Much of Mr. Hay's speech consisted of generalisations. He detailed the new ships which have joined the Fleet or are completing, recapitulating much that has been said in past years. But he gave no indication of a further programme of frigates; and the date when the new aircraft carrier should go out to tender is now the spring of 1966. The proposed conversion of the "Tiger" class cruisers to carry helicopters, the main item of news in the speech, will not begin (from Mr. Hay's winding up speech) until 1966; and the cost will be about £5 million each. Of this, £3 million will be the cost of a long refit, which the three will require in any case.

Also from the winding up speech, incidentally, came some clarification of the build-up of the cost of the Polaris submarines. The £70 million for each is the cost of the vessel, with missiles, plus a proportion of the cost of spares, support and maintenance, including one-fifth of the cost of the Faslane base.

In general, however, the speech undeniably offered a handle to those who have complained in the past, and complained again on this occasion, of the lack of hard detail on which to base the debate. The complaint was backed up by comparisons with the statements of Mr. McNamara, the American Secretary for Defence, to Congressional committees; and it led Mr. E. L. Mallalieu to propose (not for the first time) a naval committee of the House to which confidential information could be given.

Apart from this the main lines of criticism were familiar ones. We had too few ships available to meet our commitments. Where was the second amphibious task force which had been forecast? Was one more carrier really enough? Could not the Commonwealth—Australia and Canada in particular—take over some of the burden in the Far East and the Western Atlantic and West Indies respectively? Underlying all was the controversy about the nuclear deterrent, sharpened in this debate by the knowledge that the Polaris programme has already put back the hunter/killer programme; and that it must inevitably involve a drain on our relatively scarce supply of technicians.

Comment on the debate was sparse, possibly because it was overtaken at once by reports from America of Mr. Harold Wilson's references to the possibility of making British naval forces available from time to time for United Nations operations. Undoubtedly too much was made of a badly-phrased report of a suggestion which the "Scotsman" on March 7, 1964 called "imaginative"; though it added that it required elaboration: did he believe that some elements of the Navy should be constantly earmarked for UN service, and should they include new ships and equipment? The Political Correspondent of the "Guardian", on March 4, 1964, pointed out that Mr. R. A. Butler had in fact implied a similar use of British forces when speaking to the disarmament conference at Geneva a week earlier. Most comment centred on the need for definition of Labour's defence policy, if defence was, as seemed likely, to be an issue at the coming general election. (An opinion poll, sponsored by Aims of Industry, has since shown that defence is one of the two possible election issues of least interest to the general public!)

Criticism of the decision to buy the Phantom for the Royal Navy has flared up at intervals throughout the month. On March 10, 1964 the "Daily Telegraph" carried a leader questioning the need for this new generation of naval fighter aircraft; and also the need to build a 50,000-ton carrier. Surely there would always be bases available within range of the TSR 2 and the P 1154 to allow land-based aircraft to operate.

The leader was answered by Mr. Desmond Wettern in a letter published on March 16, 1964. Mr. Wettern wrote that the leader had missed the vital point—the range limitation of the P 1154. If there was any un-

certainty about a trouble spot being within its range, then aircraft must be brought nearer by sea. Of the TSR 2 the numbers available were likely to be small, possibly only 10 or 20 when the Canberras allotted to NATO in Germany had been replaced. This aircraft would need some sort of a runway; and both aircraft would require fuel, ammunition, stores and maintenance facilities, involving both transport aircraft and tankers with the need for seaborne air cover. American experience in the Mediterranean had shown that such independence of action could only be achieved by means of completely self-contained task forces.

The leader of March 10, 1964 was taken up also by the Director General of the Navy League in another letter which did not appear until March 24, 1964. We quote this in full: "I must take issue with you over your remarks in your leader of March 10, presumably prompted by the assertion in the "Daily Telegraph" of the previous day that there would be a three years' delay before the Royal Navy obtained its Phantoms.

"The Sea Vixen is being replaced because its performance will be inadequate to deal with the threat of the 1970s. For this reason the plan, as announced by the Civil Lord in his closing speech in the Navy Estimates Debate is, and always has been, to phase out this aircraft between the end of the 1960s and the early 1970s. There is therefore no requirement for the Phantom before 1968, nor would it be an economic proposition to buy this aircraft while adequate stocks of the Sea Vixen still exist.

"Furthermore this so-called 'delay' of three years will permit the re-engining of the Royal Navy's Phantoms with the Rolls-Royce Spey engines to which the Civil Lord referred later in his speech. This will not only give the aircraft greatly improved performance, but will also ensure British participation in the project.

"You call into question the Navy's need for a new generation of strike fighter and imply that it would always be possible to use the TSR 2 to strike first and 'take out' any air opposition. The assumption that an airfield under our control would be available is surely completely contrary to the trend of political development. The use of carriers as mobile airfields, from which an adequate defensive or offensive capability can be deployed as occasion demands, enables a flexible response to any threat without fear of political embargo. This is in no way to decry the invaluable role of the P 1154 in support of the Army once air strips can be provided in the area of interest, and presuming the aircraft has the range to reach them.

"To call the new carrier, which has been announced as being somewhat over 50,000 tons deep displacement, a 'giant' does not stand up to comparison with the 70,000 tons of modern American carriers. The tonnage selected is clearly a compromise giving the best return in aircraft capacity and ship armament for the cost that can be afforded.

"To call such a ship a 'sitting target' is completely to ignore the very real problem posed to an enemy in finding and fixing such a mobile target before he can attempt to attack it, and the formidable defences inherent in a modern task force."

Further letters disagreeing with the "Telegraph's" easy assumption that an airstrip would be available within range of a trouble spot appeared on March 19, 1964 from Rear-Admiral Morgan Giles and from Mr. Patrick Wall, M.P.

H.M.A.S. PERTH MEMORIAL APPEAL

WEST AUSTRALIAN SEA CADET CENTRE

While officially launching a £15,000 appeal to build a centre for 'West Australian Sea Cadet Corps units, the Mayor of Fremantle (Sir Frederick Samson) referred to the loss in action of H.M.A.S. PERTH in Bantam Bay, Java, during World War II.

The appeal, he said, to be known as the "H.M.A.S. PERTH Memorial Appeal", could not be more aptly named, as the proposed centre would not only commemorate a gallant action but would also serve as a permanent memorial to those who lost their lives or subsequently died as p.o.w.

Sir Frederick, whose remarks were supported by the Minister for the Navy (the Hon F. C. Chaney), later presented a cheque to Sea Cadet Petty Officer John Kennedy, of Medina, representing the W.A. Division of the Australian Sea Cadet Corps. P/O Kennedy was one of two Sea Cadets chosen to sail in the polar ship "Nella Dan" with the 1964 Australian National Antarctic Research Expedition relief party for Macquarie Island.

The £15,000 is required to construct a centre for the West Australian Division of the Navy League of Australia. It will commemorate the loss of H.M.A.S. PERTH, which was sunk by enemy action in Bantam Bay, Java, on March 1, 1942.

The building will not only serve as a centre but will incorporate a training and drill hall for W.A. Sea Cadet Corps units.

Hon. F. C. CHANEY

A site is being made available by the State Government on recently reclaimed land at Preston Point, East Fremantle, adjacent to H.M.A.S. LEEUWIN.

Much is spoken nowadays about the need for youth guidance. The Australian Sea Cadet Corps provides just that guidance. It offers a splendid opportunity for boys between the ages of 14 and 19 years to learn citizenship, and discipline, as well as receiving basic Naval training.

In W.A. there are at present five Sea Cadet Corps Units: T. S. BEDFORD, T. S. CRESWELL, T. S. CUNNINGHAM, T. S. CYGNET and T. S. VANCOUVER, with a total complement of 27 officers, 10 instructors and 310 cadets.

The Ship that Died Fighting

After day and night actions with the Japanese off Sourabaya, the Australian light cruiser H.M.A.S. PERTH and the American cruiser U.S.S. HOUSTON arrived at Tandjoeng Priok, Java, on February 27, 1942.

The veteran PERTH already had an impressive wartime record. She had seen service in the Carribean, Western Atlantic and Eastern Pacific. After escort and patrol duties on the Australian station, she had taken part in the Battle of Matapan and the evacuation of Greece and Crete where she was damaged by air attack. The Vichy French forces

in Syria also had reason to remember PERTH.

On arrival at Tandjoeng Priok stocks of fuel were low and the Australian cruiser, under the command of Captain H. M. L. Waller, D.S.O., received only 50 per cent. of her requirements. While preparations were made to destroy warehouses and harbour installations, useful stores were loaded.

Orders were then received to sail in company with HOUSTON and the Dutch destroyer EVERTSEN through the Sunda Strait to Tjilatjap. PERTH and HOUSTON cast off at 1900 hours, signalling the EVERTSEN to precede them out of harbour, but because the Dutch destroyer had not received her sailing orders she was told to obtain them and follow as soon as possible.

With HOUSTON stationed five cables astern of PERTH, a course was set for the Sunda Strait.

At 2306 a vessel was sighted close to St. Nicholas Point. Challenged, she was found to be a Japanese destroyer. She was immediately engaged. Shortly afterwards other enemy destroyers were seen to the northward. To enable more than one target to be engaged, armament was split.

By now a large number of enemy ships were attacking from all directions. It became impossible to engage all targets at once, although little damage was caused to PERTH until the action drew to a close.

With stocks of six-inch ammunition almost exhausted, Captain Waller decided about midnight to make an attempt to force a passage through the Sunda Strait. Full speed ahead was ordered, but the vessel had barely steadied on her new course when she was struck by a torpedo on the starboard side.

"That's torn it," Captain Waller remarked.

The order was given to abandon ship after a second torpedo struck just ahead of the first.

After an appreciable interval, the Australian cruiser received a third torpedo again on the starboard side and then a fourth, this time on the port side. Stricken, PERTH righted herself, keeled over and sank.

The time, about 0025 hours. From the first sighting of the enemy, the action had taken some 79 minutes.

Meanwhile, although badly on fire, U.S.S. HOUSTON was still fighting. Shortly afterwards, she, too, sank.

While PERTH was being abandoned she was under close fire from several destroyers. With torpedoes and shells exploding, casualties were heavy. Crew members managed to launch Carley floats and life rafts, but many lives were lost in the water.

Official casualty figures list—

Killed in action	11
Presumed dead	354
Died P.O.W.	105

and ironically—

Accidentally drowned	1

The 471 casualties consisted of 24 officers, 444 ratings and three civilian canteen staff.

It may truly be said that the loss of PERTH was yet another tragic but proud chapter in the history of the Royal Australian Navy.

DONATIONS FOR THIS APPEAL TO:

Mr. C. J. Wansbrough,
Hon. Treasurer,
H.M.A.S. PERTH Memorial Appeal,
P.O. Box 131, Fremantle, Western Australia.

P & O GROUP SUPERTANKER "ORAMA" LAUNCHED

Famous Orient Liners Recalled

The successful launching of the 61,000 tons deadweight tanker "ORAMA" by Lithgows Ltd., of Port Glasgow recently revived memories of two Orient liners of earlier days which bore that name.

The new ship will be followed in due course by two tankers of similar size and a further one of 87,000 tons deadweight. All four will operate on a 10 years' time-charter to Texaco (Panama) Inc.

The first "ORAMA" was built in 1911 and during the three years leading up to the outbreak of World War I, she enjoyed the distinction of being the fastest mail ship in the England/Australia service. In 1914 she was requisitioned by H.M. Government for service as a store ship. In November the same year, as H.M.S. "ORAMA", she was one of a number of units of the British Navy stationed in the South Atlantic. While patrolling independently she sighted and was instrumental in sinking the German supply ship 'Navarra', which at that time was carrying munitions and supplies for enemy cruisers then in the area. "ORAMA's" speed stood her in good stead in the chase and shortly afterwards the crew of the German ship set fire to and abandoned their vessel. The crew of 'Navarra' was rescued by the "ORAMA".

In 1917, "ORAMA" was torpedoed and sunk while on convoy escort duties off the south of Ireland.

The second "ORAMA" was built for the Orient Line in 1924 and was the first of five 20,000 tonners constructed to replace war losses and to modernise the Company's fleet. Like her predecessor, "ORAMA" had a good turn of speed and her modern amenities earned her a high reputation as a popular passenger liner on the Australian run.

As was the case with the earlier ship, the second "ORAMA" was lost by enemy action. Her end came during the course of operations connected with the evacuation of Narvik in May, 1940. The ship was serving as a troop carrier and, whilst steaming alone, she encountered a large enemy force which closed in on her. "ORAMA's" light armament was no match for her opponents and, in the ensuing engagement, she was sunk. Her survivors were picked up by the German heavy cruiser 'Von Hipper' and the destroyers which formed her escort.

The new supertanker "ORAMA", now fitted out, will be owned by Trident Tankers Ltd., the subsidiary of the P & O Group formed in 1962 to bring all Group tankers under a unified management.

Lord Geddes, Chairman of Trident Tankers said after the launching that "ORAMA" and the other three tankers still to be built would be essentially a part of the Texaco fleet, where reliability was of great importance.

As a result of research instigated by Trident Tankers Ltd., a form of bulbous bow is to be fitted to the second ship, "ORISSA", now building by Lithgows Ltd. From tests made with models, it appeared that a much improved performance in certain conditions would result and this development is being watched with interest.

Coral Sea crowds get a view of a TARTAR Missile in U.S.S. Goldsborough.

Nuclear Sub. U.S.S. "Sculpin"

(From a talk by her C.O., Commander R. W. Dickieson, and other sources)

The Nuclear powered submarine U.S.S. SCULPIN arrived in Sydney on Saturday, May 2, 1964 to take part in the Coral Sea celebrations and berthed at Garden Island.

The SCULPIN, which was launched in 1960, is designed for detecting and attacking enemy submarines. Its special football shaped hull makes her very manoeuverable and speedy under water.

Can Remain Submerged for a Month

The SCULPIN can remain completely submerged for a month or longer and can range over 70% of the earth's surface —the water surface.

The SCULPIN is very fast underwater because, unlike a surface vessel, such as a destroyer travelling at high speed, she does not create a bow wave and have to dissipate 60% of her horsepower pushing it.

SCULPIN normally remains submerged at all times.

A normal transit from Hawaii to Sydney would be to submerge off the entrance to Pearl Harbour and surface just short of your entrance here at Sydney.

With the exception of periodic excursions to periscope depth for radio broadcasts and accomplishment of shallow evolutions such as navigation by taking star sights through the periscope sextant and acquiring loran signals if available, SCULPIN remains at transit speed at a comfortable depth.

The ship is capable of speeds greater than 20 knots and depths greater than 400 feet.

The £6 million reactor gives an unrefuelled range of approximately 90,000 miles at full power.

Space Ship

When submerged, the SCULPIN's crew live in an environment as independent of the Earth's atmosphere as a space ship.

The relative humidity is kept at 50 per cent. for both personal comfort and to minimise electrical ground problems.

It is interesting to note that the principles of atmosphere control which are employed in SCULPIN are quite similar to those used in the space capsules similar to that flown by John Glenn.

Nuclear submarine atmosphere control has experienced its growing pains as might be expected.

Paint, with its myriad of chemicals and odours is one problem.

No Commanding Officer willingly accepts an unattractive ship and a substitute for oil based paints is not easily found.

Water based paints don't hold up well and so formica and stainless steel sheet metal have been employed to great advantage.

The initial cost of paneling bulkheads with formica is high but the durability of formica and net savings in man power which would otherwise be expended chipping and re-painting are significant. For the same reason, all of the decks are covered with vinyl tile.

Air Conditioning

Oxygen is supplied, but keeping the artificial atmosphere pure is a problem which is solved by several tons of airconditioning equipment. Carbon dioxide is extracted by one section of this equipment and forced out into the sea. But with a large crew in confined quarters, smelly organic vapours and tobacco smoke, etc., must be eliminated. This is done in the final stages by special activated carbon filters which absorb all traces of organic matter left, until the atmosphere aboard the SCULPIN is cleaner than it is in most cities.

By far the greatest source of carbon monoxide introduction into the ship's atmosphere is from smoking.

In the early days of the nuclear programme, one submarine conducted a 60 day submergence with smoking prohibited. While the difficulties with carbon monoxide were minimised, the crew's efficiency decreased.

Tensions increased, and all further attempts to operate with the smoking lamp out were quickly scrapped.

Purifying Air

The activated charcoal which does such a remarkable job of purifying the air first came into prominence during the first world war when it was found to be effective against the poison gas unleashed by the Germans.

Since this discovery which helped to turn the tide in favour of the Allies, activated carbon filters have been an essential ingredient in both military and industrial gas masks as well as in ventilation systems in hospitals, factories, and in hundreds of other ways. There's even a new cigarette called Lark which has just come on the market with a filter containing activated carbon granules which screens out various irritating gases that are present in small quantities in cigarette smoke. So great is the absorbent power of activated carbon granules that only one pound is enough to filter out nearly all the odours the average person breathes in a lifetime. They make it possible for the crew to breathe the same air over and over again.

Sub Life Pleasant

No detail has been overlooked in making life aboard nuclear submarines as pleasant as possible during the long periods of submersion. For instance, colours are not only worked into interior decoration schemes by world renowned consultants such as Faber Birren, but colour is also used in serving foods because of its morale effect. Sliced carrots are served on green salads, red peppers with meats, etc.

Own Fresh Water

A Nuclear submarine makes about 8,000 gallons of fresh water a day, so the crew has as much as it can possibly want.

The ship contains all the comforts and amenities which modern science can devise, including a modern washing machine. The bunks are large and comfortable and not cramped as they used to be in the conventional World War 2 submarines.

No Animal Fats

But there are certain stringent restrictions necessary on Nuclear subs. which are rigidly enforced. For instance, animal fats cannot be used in cooking because they give off acrolein which can become an eye irritant. Bleaches cannot be used because they produce a high chlorine indication on an atmosphere monitor. Aerosols cannot be taken aboard because they contain freon gas, nor can cigarette lighters nor anything containing petrol or kerosene.

Best Food in Navy

Despite limited galley area, submarine chefs are said to serve the best food in the Navy. Because space is limited, most foods are "ration dense", which means that they are boned or dehydrated or in the case of eggs, frozen without their shells.

For instance, 800 lbs. of frozen eggs (a 90 day supply) is the equivalent of 667 dozen eggs. Or 108 lbs. of rolled turkey, deboned and precooked, is equal to 255 lbs. of turkey on the hoof and only takes 54% of the space. "Ration Dense" milk reconstitutes into good looking milk but has a slightly burnt flavour which isn't noticed if the milk is served at about 30 degrees, as the cold chills the taste buds. Other items on the menu include "ration dense" potatoes, string beans, cabbage, apple pie, ice cream, etc. It is estimated that the average crew member eats about 15/- worth of food a day and this provides him with an ample appetising and nourishing diet.

No Discord

Crews get on well together as they have all been chosen after a careful study of their psychological adjustment and suitability for duty in submarines and have been thoroughly trained for their duties.

The Officers in SCULPIN have all been personally interviewed by Vice Admiral Rickover.

Incredible as it may seem, Admiral Rickover personally interviews and selects every nuclear-trained officer in the United States Navy.

The candidates offered for his selection are drawn from throughout the Service and his standards are high.

The net result is a relatively few officers who generally represent the top of their year group in academic and service qualifications.

Each Officer then receives a six months' course of graduate school level mathematics and physics and a six months' period of prototype training at a land based nuclear-powered plant.

Thus every Officer prior to reporting aboard SCULPIN has received intensive theoretical and practical training in nuclear plant operation.

This might give the impression that all such Officers are solely nuclear engineers, but it is significant to note that one of the previous Engineer Officers in SCULPIN was an English Literature Major in college and another Majored in Marine Biology.

Thus the training serves to bring individuals from often diverse undergraduate training to a uniform level of engineering proficiency.

The majority of the enlisted personnel come from diesel electric submarines.

The United States Submarine Service is composed of volunteers.

Having been through a selection process to originally get into submarines, enlisted personnel are then further screened as candidates for duty in nuclear-powered submarines.

"Get the Cream"

The net results, to quote an American expression, is that 'The Cream of the Crop' is obtained.

This is not only desirable, but it is a necessity. To take an individual, **seal him in a steel hull** that is only **250 feet long** for **60 days** and expect him to live in close proximity with other men and **like it** is no mean feat.

Commander Dickieson said: "It is with great pride that in over three years in SCULPIN, I am yet to observe a significant friction to exist between any enlisted or officer personnel.

"With the extremely difficult challenge of bringing such a heterogeneous group of people and talent that exist in any crew into a compatible and efficient group of human beings solved, the problems of living submerged resort to purely mechanical ones which our ingenious marine engineers have coped with admirably.

COVER:

The Governor-General, Lord De L'Isle, about to enter the U.S. Navy's nuclear-powered submarine at Garden Island. His Excellency was accompanied by his daughter, the Hon. Catherine Sidney, and his son, the Hon. Philip Sidney.

ABOVE:

NEW HELICOPTER FOR R.A.N. The R.A.N.'s first Bell Iroquois H/C which is to replace the Sycamores, being test flown at Bankstown.

VETERAN NAVY SHIP RETIRING

The R.A.N.'s veteran destroyer escort, H.M.A.S. QUIBERON (Lt. Cdr. P. M. Rees, R.A.N.), entered Sydney Heads for the last time at 0830 on Friday, May 29, before being transferred to the Reserve Fleet.

To mark the occasion she flew her 385 feet long paying-off pennant.

Twenty-two years old in July, QUIBERON is the only warship of World War II vintage still remaining in the Navy's Combat Fleet.

She can also lay claim to being the only serving warship to have sunk an enemy destroyer and a submarine.

QUIBERON was first commissioned as an R.A.N. destroyer in July, 1942.

Only four months later she opened her account by sinking the German U-Boat 411.

The following year she sank the Italian destroyer LUPO.

She carries Battle Honours for the Mediterranean, 1942; Atlantic, 1943; North Africa, 1942-43, and Okinawa, 1945.

For a period between 1944-45, QUIBERON was under the Command of Vice Admiral Sir Hastings Harrington, Chief of the Naval Staff.

After the war, QUIBERON was immobilised, but re-commissioned in December, 1957, following modernisation and conversion.

In February, 1958, the ship had the honour of carrying Her Majesty Queen Elizabeth, the Queen Mother, from Manly to Sydney Cove during her Australian tour.

QUIBERON recently returned to Sydney after her fifth tour of duty with the British Commonwealth Strategic Reserve.

She has since been employed predominantly on sea training duties with Sonar Operators from H.M.A.S. WATSON, the Navy's Anti-Submarine Establishment in Sydney, and co-operating with helicopters from the Naval Air Station at Nowra.

Since first commissioning in 1942, QUIBERON has steamed more than half a million miles, equivalent to 20 times around the world.

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THE NAVY

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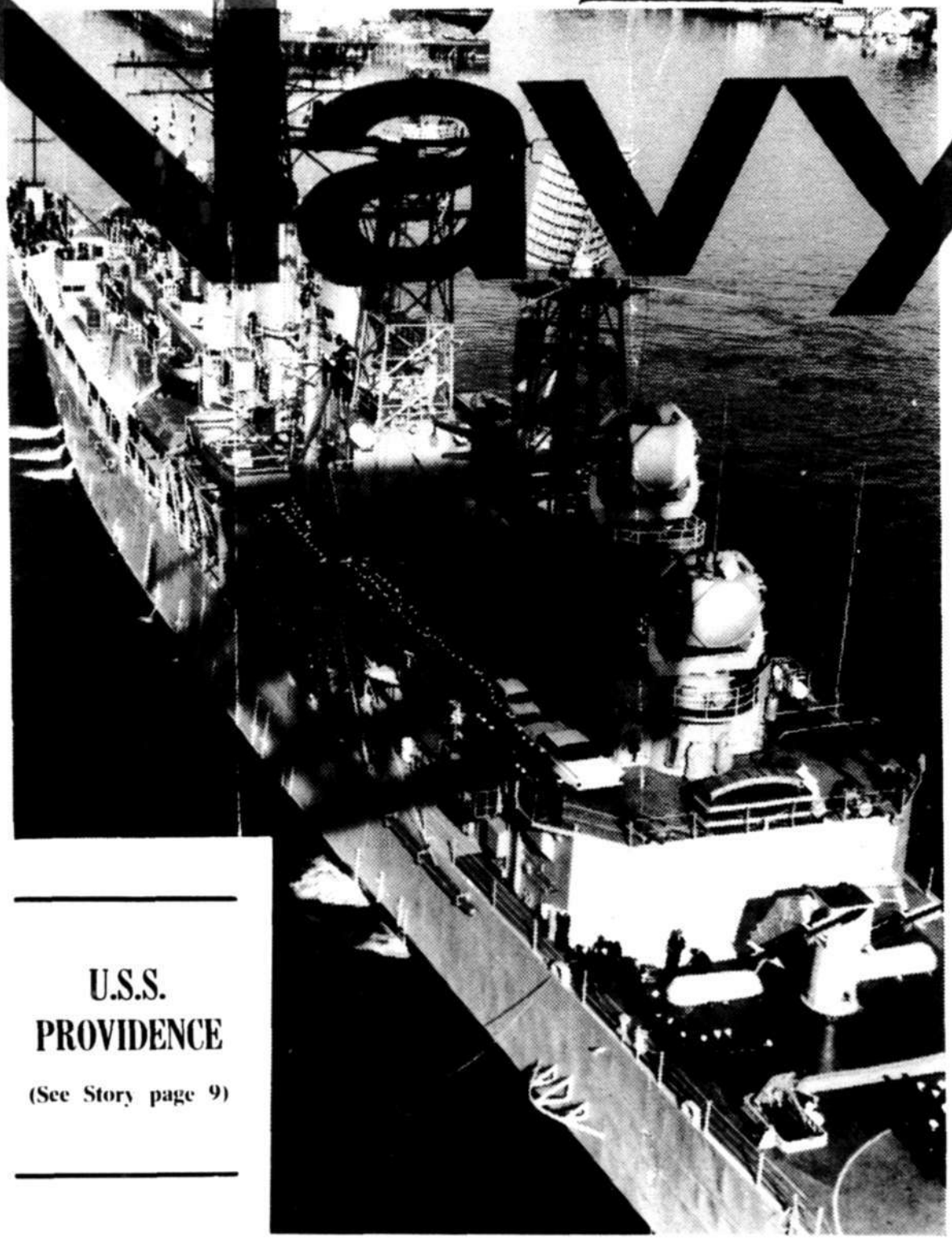

U.S.S. PROVIDENCE

(See Story page 9)

OLD FRIEND ON A NEW SHIP

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MIDSHIPMEN GRADUATE

The Captain of the Royal Australian Naval College, Jervis Bay, Captain D. H. D. Smyth, R.A.N., stated at the Graduation Day ceremony on July 17 that the Academic Standing Committee had recently made more recommendations which might lead to further changes in the pattern of training at the College.

Captain Smyth, who was making his report to a gathering of distinguished guests, who included the recently appointed Minister for Defence, Senator Paltridge, and members of the Royal Australian Naval Board, said it was at present Naval Board policy that the Junior Entry to the College, at the age of about 16, should eventually disappear in favour of the Matriculation Entry alone.

However, this could not occur until matriculants of the desired quality and number were forthcoming. By the aid of a scholarship scheme, which might itself soon be extended, it might be possible to accelerate this transition.

Captain Smyth continued:—

"The increasing progress being made in Naval ships and equipment demands higher education for Naval Officers of all specialisations, and to this requirement might be coupled the academic advances now being made in Australia which could be used to meet peculiarly Naval needs.

"I cannot, in this regard, anticipate the Naval Board's decision or intentions, but I feel sure that the aim of giving an Australian Naval Officer his training **in Australia,** as far as this is possible, will appeal to most people here today, provided he is still able to get such overseas experience later as may be felt desirable to widen his Naval knowledge.

TERTIARY EDUCATION

"My mention of higher education leads me on to tertiary education, concerning University degrees, I hope that one day the Officers who need to acquire degrees will do so completely in Australia, and that this will happen as early as possible," he said.

Captain Smyth said that although he had dealt to some extent upon the academic aspect of training at the College, he desired to emphasise that the whole purpose of the College was to provide the Royal Australian Navy with Officers of character and ability whose Service training and education would enable them progressively to develop their powers and faculties to meet the demands of the highest ranks.

The importance of the qualities of leadership must never be underestimated.

Captain Smyth said the College in the past year had continued the process which was discussed last year whereby junior entry cadets sat for the N.S.W. Matriculation Examinations at the end of the second year and then moved on to an unhampered full academic third year which included for many of them at least one humanities subject taken externally with the University of New England. That year was followed by a half year of training in professional subjects, including two or three months at sea.

The College looked ahead to the time when it would settle down to a long period of academic stability, but he could not pretend it had arrived and he doubted if it would.

Continuing, Captain Smyth said:

"In looking back this year, I think that you will all have been pleased and touched, as we were, to learn that the parents of the eight Midshipmen who graduated last year and who have since lost their lives in the Service of the Navy, have joined together to present, as a memorial and in perpetuity, a Naval Sword to the Midshipman who achieves the best results in his Seamanship examinations at the end of his year at sea.

"The non-academic side of life at the College has gone on as satisfactorily as ever, and as ever we are losing, with regret, many of our best sporting men, and many of our leaders in other extra-curricular activities, amongst today's graduates.

"We know, though, that their prowess at such things will be of more value to the Navy out in the Fleet than hidden away here and furthermore there is plenty of promise amongst the young men who are moving up into their shoes here."

Captain Smyth then invited the Minister for Defence to address the gathering.

MINISTER'S SPEECH

Senator Paltridge, who was the Reviewing Officer at the Parade, congratulated the graduates upon the excellence of their display and on their successful graduation.

"This is my first visit to Jervis Bay. It is the first time I have fulfilled the role of Reviewing Officer at a ceremony such as this. It was an honour to be in-

The Minister for Defence, Senator Shane Paltridge, who made his first visit to the Royal Naval College on July 17 takes the Salute as Cadet Midshipmen of the Graduating Year (right) march past. The Commanding Officer of the College, Captain D. H. D. Smyth, R.A.N., is with Senator Paltridge.

vited and a wonderfully stimulating experience to have taken part," he said.

"The traditions of Navy—as old, it seems, as the sea itself—have been enhanced, generation by generation, by the service of men who have graduated from this College.

"That you have the ability and the confidence to follow **well** in their footsteps you have shown us today.

"And more and more challenges will arise as you grow in this great Service.

"In this age of technology with its multiplying demands on the ingenuity and adaptability of man more and more will be asked of you.

"There will be new skills to learn, new techniques to be mastered and new and more difficult problems to be solved.

"The rate of change will continue to be so rapid that there will be no rest for you.

"You will learn and learn, for the Navy will always have something new to teach you . . . and your **country** will always have something to ask of you.

GOVERNMENT POLICY

"I believe that you are entering service with the Fleet at a time when we are most in need of your talents.

You will have known that the Australian Government, since 1949, has followed a consistent policy of continuously developing our defence forces and that the Navy's share of this development has been, in a technical sense, among the most dramatic.

"You are joining a Fleet that is already a modern and efficient force and which will soon be, in a true 'missile age' sense given the teeth to fight with more strength and hitting power than it has possessed at any other stage of its peacetime history.

"I have said this to you, for though you may already know it, you might well have been influenced in some way by the calumny that has, in recent months, been heaped upon the Navy and indeed upon all the Services by those who claim that we are not doing enough.

"What they have failed to acknowledge or perhaps to grasp is the unquestionable truth that we are better prepared — that Australia's forces today are far stronger than ever before in peacetime and that their capacity is being further and quite dramatically increased.

"Just as you today have accepted the burden of heavy responsibility so have we in Government.

"We are determined that Australia's Navy, Army and Air

Cadet Midshipman D. Shaw, winner of the Governor-General's cup for sport, photographed with Misses Rosemary Sawtell and Sylvia Shaw after the presentation of prizes.

Force will be at Optimum strength . . . that is, to what our commitments demand and our resources allow.

"We do not believe that global or full scale war is likely, but we do accept the risk of limited wars or hostilities, such as those already occurring in South East Asia.

"Should ever we be involved directly, the Navy has a major role to play . . . one that I am sure most of you will readily understand and **all** of you, I am equally sure, will readily accept.

"In any case, we trust that wherever you go, to what great heights you will one day aspire, you will always remember that you are representatives of this country and its Navy. There is high prestige, honour and reputation to uphold . . . and the responsibility rests individually with each one of you.

"Australia wishes you 'God Speed'," he concluded.

PASSING OF THE ADMIRALTY
End of an Era

The hauling down of the Admiralty Flag, crimson with gold horizontal foul anchor, from the Admiralty building in Whitehall marked the end of an era in the country's history. The office of Lord High Admiral, whose flag this is, has existed, with occasional breaks, for over six hundred years. From the earliest days the country's maritime affairs had been entrusted to a single high officer of state but in the year 1628 his functions were put in the hands of commissioners for executing the office of Lord High Admiral, or the Lords Commissioners of the Admiralty. The sovereign, however, still retained the prerogative of reappointing an individual as Lord High Admiral, or even of holding the office himself. Charles II, for example, conferred the office on his brother, James Duke of York, later King James II, and the last man to be Lord High Admiral was the Duke of Clarence, known as the 'Sailor' Prince and later King William IV who held the office in 1827.

In recent years there have been nine members of the Board, two political appointments, the First Lord of the Admiralty and the Civil Lord, six naval officers, known as Sea Lords and the Permanent Secretary. In former times the whole Board changed if there was a new Government, but in recent years only the political members of the Board have changed. Since the office of Lord High Admiral was first put into commission in 1628, the flag of the Lord High Admiral has flown over the Admiralty office; it was only lowered to half-mast on the death of the Sovereign.

Now the Admiralty as a separate Government Department is no more. It has been absorbed into the reorganised Ministry of Defence and the running of the navy will be in the hands of the Navy Department of the Ministry of Defence headed by the Admiralty Board, not — be it noted — the "Navy Board" as originally proposed. Parliament itself decided, after lively debate, that the old title should continue. Moreover, the office of Lord High Admiral has been retained and has been assumed by the Queen, who will, no doubt, fly the flag when she next visits the Fleet.

THE LAST BOARD MEETING

The following statement made by the First Lord to the assembled Board is recorded in the Minutes for Thursday, 26th March, 1964, the last meeting of the Board of Admiralty: "We are now about to hold the last meeting of **this** Board in **this** room. It will be the last meeting of the Lords Commissioners for executing the Office of Lord High Admiral—a body which has been in being — with some interruptions — since 1628 and which has formed, and forms, part of our naval, indeed of our national, tradition.

This Board Room is a very lovely room. It was even more lovely in the days before the Admiralty was enlarged. Then there was a view from these windows right down the Mall. But it is not only a beautiful room. It is also an historic one since it is from here that naval operations have been directed during three major wars, spread over a century-and-a-half. From this chair, former naval persons like Admiral Lord St. Vincent and Sir Winston Churchill have directed the sea affair. (The first news of Trafalgar was delivered to this room, at about one in the morning, when the Board had just finished their day's work.) But nowadays naval operations cannot be conducted in a room equipped only with a windvane; wireless, teleprinters and computers are also needed.

The next time we meet we shall be the Admiralty Board, not the Board of Admiralty. Whether the nature of our discussions will be changed or not is a thing that time will show. But in one way there will be no change. The shop will remain open and the purpose of the shop will remain the service of the Royal Navy and, through the Royal Navy, the nation."

SOME NOTES FOR THE RECORD ON THE ADMIRALTY BOARD ROOM

The old building, of which this room is part, was erected in 1722-25 from plans by Thomas Ripley, to replace the first Admiralty building erected on this site in 1695, which in turn had replaced Wallingford House, bought by the Duke of Buckingham, then Lord High Admiral. The ceiling of the room was reconstructed in 1786 (when First Lord's house was built); the staircase opposite was reconstructed at the same time. No smoking is allowed in the Board Room—not even by Winston Churchill—and there are no telephones in the room.

The Fireplace: This has the arms of Charles II at the back. The limewood carving over the

PASSING OF THE ADMIRALTY END OF AN ERA

(Continued from page 7)

fireplace was probably made for 1695 building and is the work of Grinling Gibbons. It was transferred to the present room in 1725 and at one time was on the South wall. It was put in the present position in 1847 when the room was renovated and pictures added. The nautical instruments represented in the carving are those in general use in the Navy in the 16th-17th centuries and some are the only contemporary facsimile models now in existence.

The wind vane immediately over the fireplace came from the earlier Admiralty building and dates from 1710. It has undoubtedly played a large part in our naval history for during the days of sail and particularly during the Napoleonic Wars, it must have been watched very carefully by Their Lordships. Urgent decisions by the Board were conveyed to the ports by means of a large wooden semaphore on the roof of the building, from whence the message was relayed by similar means by teams of signalmen stationed on prominent points (e.g., Churches, some of which still fly the White Ensign to commemorate the fact) en route. Thus it is recorded that a message from the Board Room reached Portsmouth in twelve minutes.

The Table and Chairs were made about 1786. The cut-out portion was made to accommodate George Ward Hunt (First Lord, 1874-77) who was very corpulent, weighing 24 stone.

The Clock was made specially for the Admiralty (note the Admiralty foul anchor) by Langley Bradley, who made the great clock at St. Paul's. Bradley was a contemporary of a master clockmaker Tompion.

Future of the Board Room:

It has been decided that the Board room will remain where it is, for the present, in what is now known as the Old Admiralty Building and it is likely that it will be used, from time to time, for meetings of the newly constituted Admiralty Board.

U.S.S. PROVIDENCE VISIT TO SYDNEY

When the guided missile cruiser, U.S.S. PROVIDENCE came alongside Garden Island with the band onboard playing "Waltzing Matilda", she brought with her an Officer who had looked forward to this visit for 20 years.

The Officer, Captain M. C. Walley, Commanding Officer of PROVIDENCE, told of how he had always wanted someday to return to Sydney and renew acquaintances with his many Australian friends.

Captain Walley said that he had never forgotten his first visit to Australia during his destroyer escort days in 1944.

"I had eight wonderful nights in Sydney when Commander of U.S.S. GRISWOLD."

Since then Captain Walley has made many more Australian friends. He came into close contact with Australian Navy personnel during the Korean War and while he was Naval Attache at Hong Kong from 1956 to 1958.

But it was no easy task getting back to Sydney.

He explained that a little gentle persuasion in the right place was necessary to gain permission to come to Sydney.

He said that when PROVIDENCE was completing her two-year tour of duty in the Far East, he requested and received permission to visit Australia.

Capt. M. C. Walley

But, as he explained, something went on "behind the scenes" and the trip was disapproved.

GOLF DID THE TRICK

"Fortunately, I had served on the Staff of the Commander-in-Chief, U.S. Pacific Fleet, Vice Admiral J. Moorer, between 1960 and 1962, who was also a personal friend.

"However, somehow or other, the subject arose during a game of golf and I told him of my failing to win permission to come to Sydney.

"He studied the problem and suddenly the staff officers, who had first refused the visit, were looking at it in a new light . . . well, here we are.

"Just before coming alongside, I warned my crew to stay out of trouble for 'the old man' wanted to enjoy the visit just as much as everyone else."

MINISTER ANNOUNCES BUILDING PROGRAMME

The Minister for Defence, Senator Paltridge, announced in Canberra on July 16, a £4,000,-000 programme in respect of medical services in the Defence Forces.

New hospitals are to be built at Holsworthy, N.S.W., for the Army, and at Laverton, Victoria, for the R.A.A.F.

Naval patients will be cared for at the Flinders Hospital on Westernport Bay. The Holsworthy Hospital will also take patients from the Navy.

Plans are to modernise Balmoral Naval Hospital.

Senator Paltridge said a medical service rationalisation committee had recommended a single management system as the most efficient, economical and practical.

The introduction of this integrated system would provide modern facilities for the training of doctors and nurses and other personnel.

It would enable doctors to obtain more varied experience due to the wider range of patients, and it would permit unit training and ensure madical care for service personnel was of the highest standard.

The programme would be spread over five years.

VOLCANIC CENTRE OFF SYDNEY

H.M.A.S. MORESBY has pin-pointed a sea knoll which is believed to be Mount Woolnough, 19 miles east-south-east from Sydney's North Head.

The knoll, approximately 1,000 yards in diameter at its base, is conical shape and rises 400 feet.

Its apex is 1,000 feet below the surface.

In the early half of this century, Professor Woolnough, of the Sydney University, propounded a theory that there was a volcanic centre approximately 20 miles off the Sydney coast. This centre would be in keeping with the world's volcanic pattern.

Searches carried out by R.A.N. ships GASCOYNE, BARCOO, WARREGO and QUICKMATCH failed to locate this 102-feet patch. WARREGO, however, did find a 500-foot peak in the area.

H.M.A.S. MORESBY in four days surveyed 450 square miles to disprove its existence. However, it would appear that Professor Woolnough's theory is probably correct and that there is a volcanic centre 19 miles off the Sydney coast.

FORTY YEARS WITH THE FLEET AIR ARM

The review of the Fleet Air Arm by H.R.H. The Duke of Edinburgh on May 28 will have invoked, among many 'old-timers' attending it, nostalgic memories and comparisons with the early 'shoe-string' days. Forty years ago naval officers returned, after a lamentable interval of seven years, to take a limited but growing share in the air component of the Fleet. They joined an organisation which, through neglect on the part of its overlord, the Air Ministry, and lack of interest by a battleship-besotted Admiralty, had sunk to a state of insignificance in which it was looked upon by the former as a tiresome ancillary and by the latter simply as a regrettably unreliable servant of the queen of battles, the big gun.

It was to bring a greater degree of professional competence to the two principal tasks envisaged for naval aviation—spotting and reconnaissance — that naval officers were invited to volunteer for duty, first as observers and later as pilots, reluctant agreement having been wrung from the Air Ministry. The observers were 'lent' to the R.A.F. for training at the seaplane station at Lee. They were dismayed, to say the least, by the quality of training given by the officers who, as a result of R.A.F. indifference to maritime air matters, had inevitably gravitated to the Coastal Command of that era.

With a no more than normal affection for their own safety, they were less than happy staggering uncertainly into the sky in ancient machines, as unreliable in performance as some of the pilots who vegetated in that backwater of their Service. Training progressed at a pace governed by a minimal degree of sense of purpose.

Fortunately the naval observers were recruited for the most part from conscientious officers with a real belief in the importance of their mission or the scheme could never have survived. Naval pilots, the first of whom began their training in June, 1924, tended to be of a somewhat different type. Flying was in those days still one of the most exciting sports with an almost irresistible appeal to those of individualistic natures or extrovert tendencies, with any streak of exhibitionism or an itch for adventure and the exhilaration of risks taken. Furthermore, to the young naval officer it offered a way out from the deadly boredom of harbour watchkeeping and its absorption in the minutiae of routine and ceremonial which governed big-ship life.

Most of those who volunteered for training as pilots were therefore happy-go-lucky types who flew for the fun of flying and in whom ambition was tempered by a determination not to sacrifice this enjoyment for the sake of promotion. They had to be, indeed, for their applications usually went in against their captains' objections at thus wrecking their promising careers to become 'ruddy chauffeurs'. At the same time they were very sure that they were the new elite of the Navy in spite of mocking references to 'intrepid birdmen' by their shipmates and a refusal of the dominating Gunnery branch to take them seriously.

Unlike the observers, naval pilots were not lent or seconded but they were given commissions as Flying Officers in the R.A.F. in order to bring them wholly under R.A.F. discipline while ashore, and to enable them to administer the R.A.F. Discipline Act with regard to the Other Ranks who maintained their aircraft. They thus developed a sort of schizophrenia, switching loyalties from one Service and Commanding Officer to another depending upon whether the aircraft was based aboard a ship or ashore.

It was to lead to some curious situations in the course of time; but in the meanwhile the life for trainees at the R.A.F. Station, Netheravon, on Salisbury Plain, with its easy discipline, flying instruction mixed with only a rudimentary theoretical syllabus and plenty of leave, was a joyful experience to those who were disenchanted with the stuffier and more rigid protocol of battleship life.

In the 1920's and early 1930's flying had progressed hardly at all since the end of the Great War so far as the R.A.F. and F.A.A. were concerned. All aircraft were biplanes with pronounced camber to their wings. Construction was of wood, cockpits were open, engines were unsupercharged, propellers were of fixed pitch. There were no brakes or flaps. Pilots learned to fly on the Avro 504K with the rotary Gnome Monosoupape engine—little different from the Avro 504 of 1914—and to taxi which it was necessary to 'blip' the ignition switch and proceed in a series of furious bursts and a cloud of atomised castor oil.

Shock absorbers for the flimsy undercarriage were simply coils of catapult elastic and it did not take a big error of judgment to break an axle or the fixed, wooden tail skid on the tussocky grass of a Salisbury Plain airfield.

Reconnaissance pilots graduated from the Avro to the fantastic, lumbering Blackburn 'Blackburn' or 'Bison' via the wartime DH9. Torpedo pilots went on to another Blackburn machine, the 'Dart', a slow and very stable old lady with no vestige of vice. It cruised at about 65 knots like the 'Blackburn' and the 'Bison', decklanded at about 40 so that in conditions of high wind it could almost hover over the flight deck.

The Fleet fighter was the Fairey 'Flycatcher' which in appearance, performance and armament would not have seemed out of place on the Western Front in 1918. Its stubby wings, short, thick, unstreamlined fuselage and radial, Jaguar air-cooled engine gave it a top speed of not much over 100 knots but a high degree of manoeuvrability. Its armament consisted of two forward-firing Vickers .303 machine guns mounted alongside the cockpit, and it could carry eight 20-lb. bombs—aimed by eye.

Coming to sea in 1924, it still comprised the standard equipment of some carrier squadrons ten years later.

It is astonishing to recall the primitive state of the art of flying in the years between the wars. Until 1933 carrier decks had no arrester gear and the aircraft no brakes. Deck landings were made without benefit of batsmen and according to individual pilots' varied idiosyncrasies, some favouring a curved approach, some straight; some wobbled their way down from high above the carrier's stern, while others scraped their way low over the round-down. Accidents were not infrequent and were generally caused by drift, a ground loop and over the side. Observers were, not surprisingly, knowledgeable critics of pilots' skill and reliability and on occasions were known to 'abandon ship' as the aircraft skimmed the deck at the second or third attempt to get down.

Night flying was very little practised and night deck-landings were first carried out during the middle 1930s. Instrument flying was also virtually non-existent and, in fact, neither the equipment for it nor the facilities for instruction existed until about 1930 when a small instrument flying section was incorporated in the R.A.F. Central Flying School. The number of F.A.A. pilots who attended it could be counted on one hand. As no service aircraft were fitted with an artificial horizon, instrument flying was in any case confined to brief climbs to above cloud and was avoided whenever possible.

Navigation was naturally the principal preoccupation of observers. Over the sea it was dependent upon ingeniously conceived methods of finding the wind force and direction, involving the use of smoke floats. In the absence of beacons or other radio aids other than a simple W/T set in multi-seater aircraft which relied upon a trailing aerial, accuracy of an observer's calculations was literally vital. Failure could mean a descent on to the sea with rescue thereafter by no means certain. One or two observers became notorious for their repeated immersions.

The chance details on which a reconnaissance aircraft's safe return could depend are illustrated by the occasion when a four-plane search mission met disaster during the '30s. During the flight, made in poor visibility, a weather front passed over the area, causing a sharp shift in wind direction. One of the aircraft carried a strut thermometer on which the observer noticed a change of atmospheric temperature from which he rightly calculated the shift in wind, applied it to his navigation and returned safely to his carrier. The remainder all made forced landings and were only rescued with difficulty.

Single-seaters could not go out of sight of the carrier for any length of time without a multi-seater escort. Lacking any means of radio communication, this greatly reduced the fighter aircraft's interception capabilities and they were apt to be relegated to bridge-strafing duties to the fury of cruiser and battleship captains who had their immaculate bridges bespattered with bursting flour bags.

Over land, pilot navigation was rudimentary in the extreme and was justifiably known as 'flying by Bradshaw', pilots often literally following the railway lines between two points rather than steering a compass course. Some were known to complain bitterly at getting lost through their line disappearing unexpectedly into a long railway tunnel. On one occasion a whole flight of 'Flycatchers' flying down from Donibristle to Gosport prior to re-embarkation got hopelessly lost. The Flight Commander (R.A.F. let it be said) strayed so far off course that he mistook the Bristol Channel for the Thames Estuary and was only enlightened when he flew low over a railway station to read the nameplate—Newport (Mon.).

The impression given by all this of a generally low grade of effectiveness of the F.A.A. is unfortunately not a false one. It was perhaps inevitable, given the crazy set-up under which it worked. The aircraft were simple, unsophisticated products of the biplane-wood-and-canvas era. Except that the F.A.A. was always last in the queue for any new equipment and the same types lingered on far beyond obsolence, they were not much worse than their R.A.F. contemporaries. But there were no reserves allowed, so that squadrons were rarely at full strength, particularly between cruises of their parent carriers, as maintenance and repairs had to be adjusted to ensure a maximum serviceability and availability of flying time when re-embarkation came round.

On disembarkation, the naval pilots (some 50 per cent of the total) became R.A.F. officers in all but the colour of their uni-

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forms. The carrier captain had no control over them or their training, facilities for which were dependent upon the goodwill of a sister service which had little interest in or, indeed, any belief in the necessity for a Fleet Air Arm. Meanwhile the observers, for whose benefit most of the training of the multi-seater squadrons should have operated, were usually retained in the carrier where they had ship duties to perform.

Under such an arrangement it is not entirely to be wondered at that senior naval officers knew little about their own air arm and were apt to be unimpressed by its performance during exercises. On one occasion the observer spotting for a battle-practice demonstration for the assembled Commonwealth Premiers signalled 'overs' as 'shorts' and vice-versa with resultant red faces and umbrage that can be left to the imagination.

When the veterans of those early days meet, however, it is not the shortcomings they remember so much as the **fun** that flying was then. No ponderous briefing and long-drawn cockpit check before take-off. No wrigling into spacemen's suits and helmets—not even a 'Mae West' or parachute. No R/T chatter to control or distract. No 'Big Brother' watching them on the radar screen and telling them where to go and what to do. No traffic regulations to abide by. Flying was a sport with just enough risk to give it a tang.

Nevertheless they have looked with pride and envy at the latest generation of naval aviators on May 28 as it displayed its skill in aircraft, each of which has greater engine power and offensive punch than a battleship of an earlier day—and costs nearly as much.

THE BATTLE OF MATAPAN

By Captain S. W. C. Pack, C.B.E.

The Battle of Matapan was fought on 28th and 29th March, 1941, between the British and Italian Fleets, in the seas to the south and west of the island of Crete. The battle is important from an historical point of view because it was the first main fleet action in which radar was used to track down an unsuspecting enemy, and carrier-borne aircraft played a vital and indispensable role in search, attack, and defence. Germany had overrun Holland and Norway in the spring of 1940, and in June of that year France had fallen, and Italy had entered the war on the side of Germany. Britain and the Commonwealth countries stood virtually alone.

The British Mediterranean Fleet, under Admiral Sir Andrew Cunningham, was in the main old and slow, and, but for the new armoured aircraft carrier FORMIDABLE, was materially inferior to the Italian Fleet. Risk of invasion of Britain remained high, and no further accession of strength to the Mediterranean Fleet was permissible. Cunningham's aim nevertheless was to get to grips with the Italians, and reduce their superiority. Great success had attended his attack on the port of Taranto in November, 1940, but the Italians still remained superior in speed and armament, particularly with their two new 30-knot battleships of the "Vittorio Veneto" class, and six heavy cruisers armed with 8-inch guns that easily outranged the British 6-inch cruisers.

After dark on the evening of Thursday, 27th March, 1941, Cunningham left Alexandria with three old 15-inch battleships WARSPITE, BARHAM and VALIANT, and an anti-submarine screen of nine destroyers to join the FORMIDABLE outside harbour after she had flown on her three squadrons, two of torpedo-bomber-reconnaissance Albacores, and one of fighter Fulmars. Great secrecy of Cunningham's intentions had been preserved after receipt at noon this day of a report from a British Sunderland flying-boat that the Italian Fleet was at sea, steaming towards Crete.

Operation LUSTRE, the convoying of British troops and supplies from Egypt to Greece to help the sorely threatened Greeks, had begun three weeks earlier, and the Germans had been pressing the Italians to intervene. Cunningham now steamed north-westward towards a position just south of Crete. He ordered Vice-Admiral Pridham-Wippell, who had been covering convoys, to be in this position at 0630 the next morning with his 6-inch cruisers, the ORION, the AJAX, the PERTH and the GLOUCESTER, and four destroyers.

By 0600, the battlefleet with H.M.S. FORMIDABLE, still steaming north-westward, had reached a position 150 miles south-east of this rendezvous. Aircraft were now flown off for anti-submarine and anti-aircraft patrols, and five Albacores were despatched to search for the enemy.

Just before 0730 action stations sounded off. Excitement was now intense. The FORMIDABLE's aircraft had reported enemy cruisers and destroyers in two separate groups 20 miles apart. It seemed certain that enemy battleships must also be out in support. But the morning was hazy, and when it became known that Pridham-Wippell was himself in the vicinity of these reported positions, doubts arose and conviction gradually spread that it was his force that was being reported.

Emergency Signal

At 0745 the situation took a dramatic turn when an emergency signal from Pridham-Wippell reported unknown vessels to the north of him. A minute later, having identified them as Italian 8-inch cruisers, he increased to full speed, and with the idea of leading this superior cruiser force towards the British battlefield, headed straight for Cunningham, who was now only 100 miles to the south-eastward of him.

The Italian force composed of the 8-inch cruisers TRIESTE, TRENTO and BOLANZO, and three destroyers now chased Pridham-Wippell, and having closed the range, opened fire on him at 0812. The British cruisers with their 6-inch guns were powerless to reply. Unknown to Pridham-Wippell there was another strong force north-eastward of him composed of the Italian 8-inch cruisers ZARA, FIUME and POLA, with two smaller cruisers and six destroyers in company, in such a position that they could easily cut off his withdrawal towards Cunningham.

After 43 minutes, no hits having been scored, the TRIESTE group suddenly ceased fire and altered course to the north-westward, perhaps suspicious of the presence of British battleships and carrier. Cunningham was now only 70 miles behind them, steaming at high speed to the north-westward. Pridham-Wippell decided to follow and shadow the TRIESTE group, and ordered the ORION, the AJAX, the PERTH, the GLOUCESTER, and the four destroyers to steam north-west. The first round was over, and neither side was yet aware of the presence of enemy battleships.

The situation took a decisive turn at 1058 when a look-out in the ORION sighted an Italian battleship of the fast new "Vittorio Veneto" class, 16 miles to the north-ward. The battleship immediately opened fire. Pridham-Wippell at once altered course to the southward, and all his ships made smoke. The "Trieste" group to the north-westward, whom he had been shadowing, now reversed course, and again closed Pridham-Wippell. The VITTORIO VENETO concentrated her fire on the ORION, and effected some damage until the smoke screen blotted the ORION from view. Fire was then shifted to the GLOUCESTER, and she was repeatedly straddled by 15-inch shell until she in turn was blotted out by smoke. With the approach also of the "Trieste" group Pridham-Wippell's position appeared to be desperate. Suddenly at 1127 when all seemed lost, a torpedo striking force of six Albacores from the FORMIDABLE arrived on the scene. The VITTORIO VENETO broke off action with Pridham-Wippell and opened fire with close range weapons as the Albacores dived to attack. Simultaneously she made a violent turn to starboard, and then withdrew to the north-westward, steaming at 28 knots. At distances of 20 and 50 miles from her respectively, the "Trieste" group and the "Zara" group were now doing the same.

The tables had been dramatically turned.

By 1224 Pridham-Wippell's cruisers had gained touch with Cunningham still chasing to the north-westward at top speed: a top speed that would be insufficient unless the Italians could be slowed down. The aircraft striking force on returning to the FORMIDABLE reported at least one torpedo hit, and Cunningham was hopeful of catching the Italians before nightfall. A second strike had been ranged and flown off from the FORMIDABLE just before the first had flown on, shortly after noon. Visibility was now good, and the wind was beginning to settle in the north-west which meant that aircraft could be flown on and off without detaching the FORMIDABLE from the battlefleet. H.M.S. FORMIDABLE herself now received a torpedo attack from two Italian S 79's. She made two violent alterations of course. Both torpedoes missed. The chase to the north-westward was resumed.

The FORMIDABLE's first striking force had failed to hit the VITTORIO VENETO. Her afternoon strike was more successful, but with loss of the leader, Lieut-Commander Dalyell-Stead, posthumously awarded the D.S.O. The VITTORIO VENETO was hit aft, and at 1530 her engines stopped. Thousands of tons of water were shipped, and

she began to settle by the stern. Sixty-five miles astern of her, unknown to Admiral Iachino, the Italian Commander-in-Chief, was Cunningham, steaming at 22 knots towards him. But no visual contact of the enemy by surface vessel had been made since the VITTORIO VENETO had broken off action in the late forenoon, and Cunningham was still uncertain of the exact composition, position and speed of the enemy. He now sent Pridham-Wippell on at full speed to regain contact, and ordered H.M.S. FORMIDABLE to send in a third striking force at dusk. Hopes were high that a decisive engagement would be fought before nightfall.

In the meantime the VITTORIO VENETO's damage control parties had effected repairs. Engines were started. Pumps were busy. By 1700 she was doing 19 knots. Iachino expected a dusk aircraft attack, and just before 1900 concentrated his fleet of one battleship, six heavy cruisers and eleven destroyers into a group, of five columns, with the VITTORIO VENETO in the centre. His two 6-inch cruisers he detached to Brindisi. The grouping was reported to Cunningham by reconnaissance aircraft. He was still 50 miles astern and realised that a daylight surface action was impossible.

H.M.S. FORMIDABLE's dusk aircraft strike attacked with great gallantry, supported by two Swordfish from the naval air station at Maleme in Crete. In spite of a withering fire from the concentrated fleet, one hit was scored on the POLA. She stopped immediately and drifted out of line. Iachino pressed on homeward, unaware of the POLA's damage. It was fully an hour before he was informed. It was then quite dark, and he ordered the ZARA and FIUME, with four destroyers to return to her assistance, while he with the remainder of his fleet continued to the north-westward.

It was now that radar played its part with its all seeing eye, unknown to the enemy. On the radar screen a stopped ship was seen, some miles ahead, in Cunningham's path. He believed it to be the VITTORIO VENETO. It was in fact the stopped POLA. With his three old battleships in company with H.M.S. FORMIDABLE, screened by only four destroyers, he steamed on at speed through the night. He had already sent the 14th and 2nd Destroyer Flotillas ahead at 2037 with orders to carry out a night torpedo attack on the enemy battleship directly she was found by Pridham-Wippell's cruisers.

By 2220 Cunningham was only four miles from the stopped POLA, his ships ready to open fire, when suddenly, in a completely different direction from that of the stopped ship, could be seen the massive shapes of darkened ships steaming across the path of the battlefleet, from right to left, at a distance of two miles. These were the ZARA, FIUME, and four destroyers coming to stand by the damaged POLA. Seven ships, all unsuspecting of the presence of the British battlefleet before the heavy guns of which they were now committed.

At 2027 the destroyer GREYHOUND opened her searchlight. Simultaneously the WARSPITE and the VALIANT opened fire on the FIUME with 15-inch broadsides; the range was less than 4,000 yards. H.M.S. BARHAM opened fire on the ZARA. Broadsides were accompanied by 6-inch salvoes, and in a matter of seconds, the Italian ships became raging fires.

At 2031 Cunningham made an emergency turn 90° to starboard to avoid torpedoes fired by the enemy destroyers, and ordered his own screen of four destroyers to finish off the enemy. These were later joined by the 14th and 2nd Destroyer Flotillas who had failed to intercept the escaping VITTORIO VENETO. The latter had made a wonderful recovery of speed, and with the "Trieste" division in company and a strategic alteration of course for home at 2048, had been in a position far to the northward of that estimated from their reported position at 1900 when forming into a concentrated group. Pridham-Wippell's cruisers had also missed them and were now ordered to disengage to the north-eastward, to leave the field clear for our destroyers and avoid all danger of our forces engaging each other in the dark.

Now came the mopping up. Only two ships of the "Zara" group escaped. The burning FIUME sank at 2300. The destroyer ALFIERI was torpedoed by the STUART, and sank at 2315. The destroyer CARDUCCI was sunk by the HAVOCK at 2315. The abandoned and burning ZARA was found and sunk by the JERVIS soon after 0200. The disabled POLA, long since abandoned, was sunk at 0400 by the NUBIAN.

Over 900 survivors were picked up by our ships in waters that were within easy reach of enemy shore-based bombers. Cunningham's act of mercy was abruptly terminated when German aircraft appeared. The Fleet was compelled to get under way and shape course for Alexandria. A heavy bomber attack on H.M.S. FORMIDABLE was repelled a few hours later. On Passion Sunday, 30th March, the victorious fleet passed safely through the Great Pass and entered the harbour at Alexandria.

Cunningham summed up: "There is little doubt that the rough handling given to the enemy on this occasion served us in good stead during the subsequent evacuation of Greece and Crete."

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