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THE R.A.N. MEDICAL SERVICE

FROM the inception of the Royal Australian Navy in 1911 until 1915 there was no organised Naval Medical Service as such, but young surgeons were entered for short service and retired after three years, the idea being that fresh entries of young Medical Officers would keep the medical Service at a high standard by the influx of fresh ideas from hospitals.

Advice on medical problems generally was given to Naval Board by Fleet Surgeon Sloggett, R.A.N.R., who was employed part-time as District Naval Medical Officer, Victoria.

With the outbreak of World War I, however, the problem of lack of organisation and control became very apparent and His Majesty's Australian Ships operating in isolated areas were, from a medical point of view, left with no uniform procedure and little in the way of a central base to which any problems arising could be referred.

Following discussions with Admiralty, Fleet Surgeon A. C. Bean, R.N., was made available and on 8th June, 1916, took up his appointment as Director of Medical Services,

R.A.N. (This title was changed to Director of Naval Medical Services in 1917). Fleet Surgeon Bean organised the R.A.N. Medical Service as a replica, on a small scale, of the R.N. Medical Service. The Medical Officers (who did not exceed 15) were permanent or Short Service Officers entered for the period of the war only. The Sick Berth Staff consisted of ex-R.N. Sick Berth ratings together with local recruits who were sent to the United Kingdom for a course of training or who received a modified course of training at the Naval Ward at Caulfield, Vic., Repatriation Hospital.

In spite of many disadvantages the small R.A.N. Medical Service did excellent work during World War I and medical officers were possibly faced with greater problems than were those who served in 1939-1945, owing to the absence of facilities now considered essential and to the isolated service of His Majesty's Ships in many parts of the world.

In 1919, Surgeon Captain E. T. P. Eames, R.N., became Director of Naval Medical Services and in 1921, following a conference between the Department of the Navy and the British Medical Association, a readjustment of pay and conditions of the Permanent Medical Branch took place and this was followed by the entry of a number of keen, capable doctors who adopted the R.A.N. as a permanent career. The opening of Flinders Naval Hospital and the taking over of the Naval Ward at the Repatriation Hospital, Sydney, afforded these doctors opportunities for carrying out major

surgery and attending to all naval cases of a serious nature. Opportunities for the training of Sick Berth staff were also provided at these naval centres and gradually a competent Sick Berth staff was produced.

Surgeon Captain A. G. Phipps, R.N., was Director of Naval Medical Services from 1924 until 1927, when Surgeon Captain L. Darby, C.B.E., K.H.S., R.A.N., became the first Australian Director of Naval Medical Services. About this time the R.A.N. Medical Branch began to stand on its own feet and deviations from R.N. procedure and routine, better suited to Australian conditions were introduced. Medical Officers were encouraged to have specialist qualification and selected Sick Berth staff were trained in X-Ray, Pathological and Operating Theatre work. The Dental Services were greatly expanded and prosthetic facilities provided.

In 1932 Surgeon Captain W. J. Carr, C.B.E., K.H.P., R.A.N., became Director of Naval Medical Services and continued to control the Medical Branch of the R.A.N. until 1946, when he retired with the rank of Surgeon Rear-Admiral. This period covered very troubled times which eventually erupted into World War II.

The R.A.N. Medical Service began building up its Reserve List about 1934, and most intensively after the Munich crisis of 1938. When war did break out in 1939, sufficient Medical Officers were immediately available to meet all commitments and to replace wastage until new graduates came forward.

The reserve training of Sick Berth Staff also proved its worth at this time, as the Naval Sick Berth rating is a trained male nurse and such

training cannot be achieved at short notice. Thanks to the Reserve training, on the outbreak of war, a well-trained body of Sick Berth ratings was available.

As the war progressed and the number of navy personnel grew, the burden thrown on to the Naval Medical Service became very great. With His Majesty's Australian Ships engaged in hostilities in various parts of the world, medical care and supplies had to be provided over a far flung area. Due to the time ships remained at sea and the consequent inability of the Sick Berth Staff to put the sick and injured ashore into Naval hospitals, the Sick Bay itself had to become a hospital ship within a ship capable of providing full treatment. At the Naval Medical Store in Sydney, the staff had to face up to the enormous task of keeping supplies up to the medical officers in ships wherever required. Some idea of the size of this undertaking can be gauged from the fact that in one week alone 800 requisitions were received, with as many as 100 items on a requisition — they were despatched within a week.

Hospital Accommodation

At the outbreak of war, Naval wing in the Repatriation Hospital at Randwick (N.S.W.), was expanded and plans were drawn up for the expansion of Flinders Naval Hospital. The Repatriation Department also was prepared to assist by providing additional beds at Perth and Brisbane. The completion of the Depot at Balmoral on the north side of Sydney Harbour, provided an additional 50 beds in the well-equipped sick quarters there in addition to two hutted wards. Later on as extra accommodation became

necessary for the rapidly expanding R.A.N., further facilities had to be provided and the choice fell on Canonbury. This was a large house on the Harbour front at the end of Darling Point Road, which was the property of the Australian Jockey Club, and had been used as a convalescent home for children. It was taken over by the Navy in May, 1942, and provided an additional 60 hospital beds. It also became the headquarters of the R.A.N. Medical Organisation in Sydney.

Work of the Medical Service in War

The work of the Sick Berth Staff throughout the war deserves all the praise which can be bestowed on it. Their job was not a spectacular one compared with more glamorous branches of the Service, but many a ship had reason to be thankful to their Medical Officer or Sick Berth Staff for his devotion to duty. Proportionate to numbers, decorations and "mentioned in despatches" were high and many a name shows on the Honour Roll of those who gave their lives when serving their country.

Cessation of Hostilities

With the end of the war came further problems for the Medical Branch. Men were demobilised in large numbers and this meant examination and preparation for rehabilitation into civilian life. It was now that the much-reviled "paper war" proved its worth, for the medical records kept with such care and many courses during the time when it seemed so important to get on with the job of winning a war were the mainstay in assembling the full medical history of a man, so assisting him in obtaining his full rights under the Repatriation Act.

MEDICAL DIRECTOR-GENERAL



Surgeon Rear-Admiral L. LOCKWOOD, C.B.E., M.V.O., D.S.C., Q.H.S., who has controlled the Naval Medical Services since 1955.

This immediate post-war period was under the direction of Surgeon Rear-Admiral D. A. Pritchard, C.B.E., Q.H.P., who was appointed Director of Naval Medical Services in January, 1946.

In March, 1955, Surgeon Rear-Admiral L. Lockwood, C.B.E., M.V.O., D.S.C., Q.H.S., who as Medical Officer-in-Charge had laboured to make Balmoral Naval Hospital one that would rank second to none, was appointed to control the Naval Medical Services, the title being changed from Director of Naval Medical Services to Medical Director General.

The Medical Branch Today

The Naval Medical Branch today is at the highest standard of its history. The Medical Officers are highly skilled and have accepted the Navy as a



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Surgeon-Commander HAUGHTON, who was seconded from the R.A.N. to lead an Australian Red Cross team to the Congo, receives a Red Cross Award on his return to Melbourne early this year.

career, giving to it that devotion to duty which is expected of members of the Service. So, too, with Sick Berth ratings. The advances made in training methods have produced a staff of competent, skilled male nurses capable of fulfilling any demands made on them. Balmoral and Flinders Naval Hospitals would now rank as the leading Service Hospitals in Australia, and attached to these hospitals is a panel of consultants (most

holding R.A.N.R. rank) comprising the leading specialists of the medical profession. Much benefit has also been derived from the re-introduction, in 1959, of Nursing Sisters into Naval Hospitals. With the changing times the Medical Branch has kept abreast of the rapid advances of the Services. It has specialised in such new problems as Environmental, Aviation, Underwater and Radiation medicine.

DOCTOR AT SEA, WITH THE NAVY

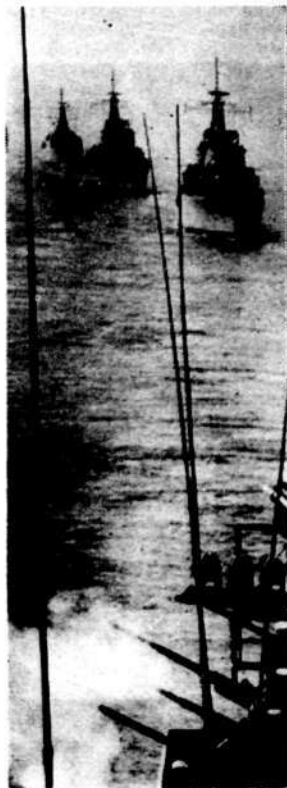
THE newly-joined medical officer may spend his first few weeks or months ashore in a Naval Hospital, to familiarise himself with the Navy's way of doing things; but as early as possible he is given a sea-going appointment, usually in a small ship. After his first sea-going ship the young doctor, who has joined up for a specified period of years in the first instance, usually has a further period of shore service, to give him more clinical experience and a chance to look round for a job if he intends to return to civil life. If, on the other hand, he extends his service or joins the permanent forces, his future employment will alternate between sea-going appointments and periods in a shore establishment or Naval Hospital. Some shore depots in tropical areas, such as Darwin or Manus Island, count in certain circumstances as sea-service, and time spent there is followed by another shore appointment in a more temperate locality.

The young doctor at sea may be the only Medical Officer of a small ship of the destroyer or frigate class, or he may find himself in a large ship such as an aircraft carrier, under guidance and supervision of a senior medical officer of the permanent Naval Force. Most short-service medical officers serve their sea time in small ships, where they are their own "boss" in professional matters. This can at times be a grave responsibility, although the advice of the Fleet Medical Officer, or even of the Medical Director General, can always be obtained by radio.

The sea-going medical officer is responsible in the widest

sense for the health of the ship's company; he spends as much or more time in "public health" activities as in actual attendance on the sick. These duties take him all over the ship, even into the engine-room spaces when environmental conditions are under review, but his headquarters is the Sick Bay. In a small ship the sick bay is a single compartment, fitted with two bunks, desk, examination couch and so forth. The sick berth staff consists of one Leading Sick Berth Attendant or Sick Berth Petty Officer, who is the doctor's right-hand man in all things. In a large ship, however, the sick bay will be made up of several compartments, ward (with ten or more bunks), operating theatre, consulting room, dispensary, etc.; staffed by a Sick Berth Chief Petty Officer, Petty Officer, and a number of L. SBA's and SBA's, any of whom may have specialist qualifications in X-ray, laboratory or operating theatre work, dispensing, etc.

Patients to see the doctor, or requiring regular treatment, visit the sick bay at set times in the morning, after lunch, and in the evening. In a large ship the "attending list" is usually seen by the junior doctor, who refers to the Principal Medical Officer, commonly referred to as the "P.M.O.," when he needs advice. Routine treatments are carried out by the staff, but all new patients are seen by the medical officer, as are any others whose condition warrants the doctor's attention. Minor operations and special examinations are carried out by the doctor whenever necessary, and X-rays are taken by a specialist member



H.M.A. Ships in Line Ahead.

of the staff if one is borne, otherwise they are done by the medical officer himself or the C.P.O. or P.O., all of whom are trained to operate the portable X-ray machine that all carry if they have a doctor aboard. Laboratory tests and dispensing are done by the staff, under the medical officer's supervision, although in small ships they may have to wait until the sea is fairly calm.

Contrary to popular belief, very few major operations are done at sea in peacetime, at

any rate in the smaller ships. The safety of the patient is always the first consideration, and is usually best served by diverting the ship to the nearest port where the operation can be carried out in a hospital. In wartime, of course, a ship cannot be diverted from its purpose, and the medical officer must cope with any eventuality, using his own resources; these are by no means negligible, however, every ship carrying a doctor is equipped with a folding operating table and a full outfit of surgical instruments.

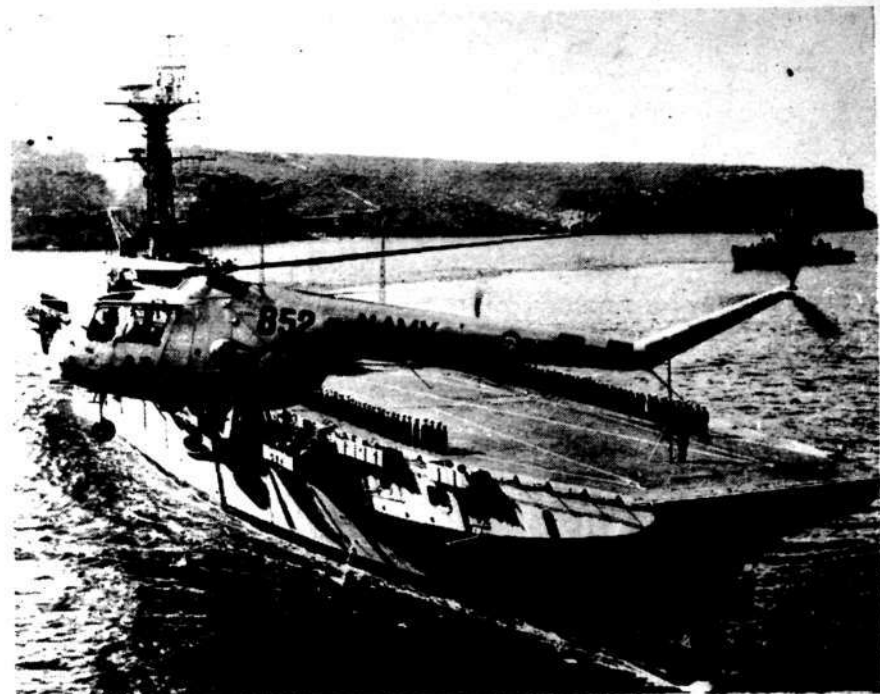
Nevertheless, it is still sometimes necessary to operate at sea in a small ship even in peacetime when in a remote area, and so all medical officers are given at least a minimum of surgical experience in a Naval Hospital before being sent to sea for the first time. In a large ship, the situation is different, as the operating theatre and nursing facilities are as good as in any small hospital, and there are nearly always at least two medical

officers available. Urgent operations are done whenever necessary, without interfering with the ship's movements, so long as the sea is not too rough. If cases arise in ships in company with a carrier, it is usually possible to transport the patient to the latter by helicopter.

In harbour, personnel requiring specialised treatment or operations are sent to the nearest Naval Hospital, if reasonably accessible, or to another Service or Repatriation hospital, or to a civil public hospital if none other is handy. In a Naval Base, patients with any but the most minor ailments, or requiring X-rays, laboratory tests, etc., are sent to the hospital or sick quarters, in order to conserve the ship's medical supplies for use at sea. During such periods the medical officer is encouraged to spend some of his time ashore; in home ports to visit the hospitals and catch up with recent advances in medicine; overseas, to call on local medical authorities to "make his number," arrange

for any professional or technical assistance he may require from shore, and to study the local methods of dealing with any prevalent medical problems. Medical officers render a quarterly "journal" to the Medical Directorate, and any information they can gather overseas on medical matters, natural history, topography, etc., is welcome. When several ships are in port together, the senior medical officer present arranges a roster of "Medical Officers of the Guard," who each in turn remain on board for the day to attend urgent cases in their own or any of the other ships. In a Naval Base, at home or abroad, the visiting medical officers join in the Medical Guard roster with the doctors permanently stationed there.

Such dramatic events as operations at sea are not really very common, even in large ships with a crew of eleven hundred or so. Sailors have to be healthy to get into the Navy in the first place, and any with a temporary dis-



Helicopters have proved invaluable in transporting Doctors and patients from ship to ship or from ship to shore.



Visits to many ports in the Far East by H.M.A. Ships gives the Naval Doctor an opportunity to study the diseases of these countries at first hand.

ability are kept ashore, so that most illness seen on board is minor; coughs, colds and sore throats are in the majority, with skin diseases and stomach upsets when in tropical climes. Serious illness and surgical emergencies appear occasionally, while accidental injuries are rather more common, depending on the activities of the ship.

Although the actual treatment of the sick may take up only a small proportion of the doctor's time, he has many other professional duties to discharge, mostly of a preventive nature. He has to see that

everyone in the ship is protected by vaccination and inoculation against whatever infectious diseases may be prevalent, and to keep up to date the routine medical examinations prescribed by the regulations; and in malarious regions he sees that preventive drugs are taken regularly, and mosquito control measures are carried out. He has to keep an eye on all matters of hygiene, ventilation, food and cooking, and advise the Captain accordingly; for this purpose he accompanies the Captain on the latter's "rounds" of the mess decks, store-rooms, etc.

When the ship's company is paraded at "divisions" the medical officer also accompanies the Captain on his inspection of the men. In a large ship these duties are the prerogative of the P.M.O., who is a Head of Department and has direct access to the Captain at all times. In a large ship, too, there may be enough members of the sick berth staff to constitute a Division, in which case the junior medical officer is the Divisional Officer, and has charge of their Service affairs and welfare. Medical officers may be called as expert witnesses in the Captain or Executive Officer's investiga-

tions of offenses where the physical condition of the offender is relevant, or to advise the Captain in deciding compassionate cases. A medical officer is required regularly to give lectures in hygiene and in first-

aid, which is taught to every officer and man in the Service.

Important requirements for a medical officer are a knowledge of such subjects as aviation medicine when serving in

an aircraft carrier, radiation medicine at all times, and underwater medicine in relation to diving. Environmental problems provide a constant challenge.

His multifarious duties do not necessarily take up all the doctor's time, however, and he usually has ample opportunity to study, or to undertake some non-medical activities to help out his brother officers. If there is no instructor officer in the ship, he may find himself acting as schoolmaster to the junior ratings. He is also usually dragged in to assist in such recurring chores as mustering confidential books and auditing accounts. His sporting accomplishments, if any, will certainly be in demand when the ship is in harbour for any length of time.

Sea-service is an essential part of the Naval medical officer's career, and even if it involves a period of segregation from the main stream of medical life, there are compensating advantages. A welcome opportunity is offered to catch up on professional or general reading; the medical work, if not onerous, is interesting; and the extra-curricular activities are by no means dull. Emergencies, if they arise, provide valuable experience and a chance to display initiative and self-reliance. Perhaps best of all is the prospect of foreign travel; the doctor at sea, in the Navy, has unrivalled opportunities to see the world in comparative comfort, and at the same time serve both Humanity and his Country.

THE ROLE OF The Dental Officer in the R.A.N.

The Royal Australian Navy is currently celebrating its 50th Birthday, and as an introduction to an article about the Navy's Dental Service, it seems appropriate to commence with a precis of the Branch's history.



FREE dental treatment for Naval personnel was first proposed over 50 years ago. Commander Hyde, later to become Sir George Francis Hyde, requested that a Dental Surgery be built at Williamstown Dockyard so that the sailors could be treated at the lowest possible rates, if not entirely free. Unfortunately the appointment of a full-time dentist was considered uneconomical and personnel desirous of treatment visited the dental hospitals. In 1912 dentists were appointed under contract in Sydney and Melbourne, fees paid for amalgam stoppings, as was then the term, being 5/-. Extractions 1/6. It was not until 1918 that the first surgeon dentist was appointed to the Royal Australian Navy to serve aboard the battle cruiser *AUS-TRALIA*.

From these humble beginnings the Dental Service has gradually emerged into adulthood, and at present throughout the Navy it is regarded with respect and admiration for its vigorous efforts to achieve and maintain a high standard of oral health. The

Naval Dental Officer of today is a highly qualified University Graduate who, completely unfettered by economic conditions, can practice his calling to the utmost of his ability, taking pleasure in treating an ideal type of adult patient of above average dental consciousness and who is appreciative of whatever is done. It is common knowledge that a large number of ratings who, before their engagements, believed that a dental surgery was an office for extractions only and to be visited as a last resort when pain became too unbearable, after a few months of Naval life have excellently restored mouths and a new concept of the importance of oral health and hygiene. The practice of dentistry in the R.A.N. is essentially conservative and after personnel are made dentally fit on entry the ratio of dentists to patients is such that any deterioration in dental fitness can be speedily corrected.

Dental Officers are encouraged at all times to perfect known techniques and by constant circulation of local and overseas journals to keep abreast of new developments.

Apart from his more routine professional duties, training and experience must be such that he is capable of splinting fractured jaws, not an uncommon accident to encounter whilst a ship is undergoing a tour of duty, and also of assisting the Medical Team in any casualty treatment during action. Another unusual duty is that if appointed to Manus Island, which is situated N.E. of New Guinea, he will be called upon to act as anaesthetist in the operating theatre of the hospital. A special course in General Anaesthesia is a requirement before this appointment.

One of the great attractions is travel and every 18 months or so a move takes place either inter-state, to the Northern Territory, Manus Island or to sea in a Carrier or Destroyer, resulting in new experiences and new friendships.

It is interesting to mention here that firstly shipboard life is in itself a rewarding experience and added to this is the pleasure of travel to Australian and foreign ports, and the enjoyment of the attractions they offer cannot be matched

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in civilian life. Secondly dental practice at Tarangan, apart from the anaesthetist's duties, is rather different: wives, families, white personnel from nearby, administrative, commercial and mission activities and natives bring variety to the common round of patients. Considerable satisfaction is gained from the importance of the contribution that is made to the health of this isolated area.

The working hours of a Naval Dental Officer are short in comparison with civilian practice, giving ample time for sporting, social, and other recreational pursuits, and this in itself does tend to ease the tension of an otherwise exacting profession. All in all it can be truthfully stated that the life is rewarding and satisfying, varied and interesting and the Naval Dentist finds himself an integral part of a worthy organisation whose traditions and way of life engender a pride, loyalty and a strong bond of fellowship, the value of which cannot be too highly emphasised.

To carry out all necessary treatments a selection of equipment and material must

be an important consideration. Naval ships are constantly being modernised and new vessels, too, are always on the shipways, and so it is with dental equipment and stores. Materials are the best quality that money can buy, equipment is modern and maintained in first class condition and any suggested improvements are always favourably considered. The Directorate of the Branch is fully aware how much confidence can be instilled in an apprehensive patient when he is introduced to an impressively fitted and freshly painted surgery gleaming with the "spit and polish" that has been traditionally associated with the Navy since "Nelson's Day."

Though the Branch is proud of its Conditions of Service and believes that a professional man could be happy under these conditions, there is at present a shortage of officers. This is indicative of the national situation and, indeed throughout the world. The dentist is in great demand due, no doubt, to increased public awareness of the importance of teeth preservation, higher living standards

and the impossible task of graduating sufficient dentists to treat the needs of the rapidly increasing world population.

One can readily see that as the dentist is in great demand it follows that the Dental Under-graduate rates an equal amount of attention. The Commonwealth Naval Board has seen fit, in an endeavour to overcome the deficiency of Dental Officers, to introduce a scheme whereby selected under-graduates may complete their course free from the financial burden that has always been such an encumbrance to so many students.

The under-graduates' books, instruments and fees are completely covered, and a substantial living allowance is paid as well.

A married student is granted extra allowances and even allocated a self-contained flat in one of the inner suburbs of Sydney if he so desires. In return for the above a five-year period of service is required, a small price to pay indeed.

To return to the Service itself the importance of auxiliary staff must not be overlooked. A recruit is trained in clerical and chair-side duties and if selected after three years may become eligible for a dental mechanic's course at Flinders Naval Depot followed by a further course at the Sydney Dental Hospital, on the completion of which he would be considered well trained by any standard.

In conclusion it must be stressed again that the treatment afforded to the patient is second to none. The Dental Officer, apart from his own skill and knowledge can call on bacteriological or pathological reports as an aid to diagnosis, and he has excellent hospital and specialist facilities always at his disposal.

Monthly List of Interesting Historical Dates

AUGUST

1st

1944 British offensive launched in Caumont Area.

1st-8th

1944 Japanese XVIII Army attacked U.S. Driniumor River line E. of Aitape, after initial break through suffered severe defeat.

3rd

1944 Rennes liberated, Northern France.

4th

1940 Italians invade British Somaliland.
1943 H.M.A.S. COGTAMUNDRA escorting S.S. MACUMBA attacked by aircraft off Thursday Island.

5th

1943 Catania captured by British Eighth Army.

6th

1945 Atomic bombs dropped on Japan at Hiroshima.

6th-7th

1943 Naval engagement off Vella Lavella.
1944 First air attack on Philippines since 1942.

Americans reach the Loire; Brittany peninsula cut off.

7th

1942 U.S. Marines landed Guadalcanal—Tulagi Area. H.M.A.S.'s AUSTRALIA, CANBERRA and HOBART, assisted U.S. Forces.

1943 Naval engagement off Vella Lavella.
1944 German counter-attack at Avranches—Northern France.

8th-9th

1942 Naval Battle off Savo Island.
1945 Soviet Russia declares war on Japan. Ratification by U.S.A. of the Charter of the U.N.O.

1945 Atomic bomb dropped on Nagasaki.

9th

1942 H.M.A.S. CANBERRA sank by torpedo after night action off Guadalcanal.

1944 All resistance ends on Guam Island.
1945 Russian forces cross the Manchurian and Korean borders.

10th

1943 Eighth Army and U.S. Forces near Bronte.

Consultation and Conference at Quebec between President Roosevelt, Mr. Churchill and their Chiefs of Staff.

1944 Le Mans liberated.

1945 Japanese offer to surrender broadcast from Tokyo.

11th

1945 Allied reply broadcast to Japan.

12th

1940 French Steamer NOTOU sunk by NARVIK, MANYO MARU, TOKYO MARU off E. Australian Coast.

1944 Bombardment southerly end of Wide Bay, by H.M.A.S. SWAN.
German retreat begins from Normandy.

13th

1943 Randazzo captured by British and U.S. Forces.

14th

1941 Mr. Churchill and President Roosevelt meet on board H.M.S. PRINCE OF WALES and U.S. Cruiser AUGUSTA. Atlantic Charter signed. Eight-point declaration of post-war aims.

1945 Japanese accept Allied terms.

15th

1943 U.S. and Canadian troops land on Kieka. Taormina captured by Eighth Army. Vella Lavella landing.

1944 Allied Forces land in the south of France between Nice and Marseilles.

1945 Japanese surrender.

16th

1940 H.M.A.S. STUART acts as S.O. of screening force in further bombardment of Bardia.

H.M.A.S. HOBART plays prominent part in the evacuation of troops from Somaliland.
British evacuate British Somaliland.

17th

1943 Messina captured by Eighth Army and all enemy resistance ended.

17th-18th

Heavy Fifth Air Force raids on Wewak.

18th

1945 Surrender at Bougainville signed in H.M.A.S. LITHGOW.

19th

1941 Berbera—H.M.A.S. HOBART.
1942 Dieppe. The reconnaissance in Force.
1944 Falaise liberated. German Seventh Army trapped in the "Falaise pocket."

20th

1944 CG Sixth Army terminated Biak Operation.

1945 Ratification of the Charter by the Soviet Union.

(Continued on page 25)

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R.A.N. School of Underwater Medicine

A new school in the Royal Australian Navy has now reached the planning stage — it is the School of Underwater Medicine. There are three main functions envisaged — research, clinical and teaching.

THE use of more and more complex equipment, service requirements for greater human endurance limits underwater and increasing numbers of divers being trained and employed, have combined to make an obvious need for specially trained medical personnel to deal with this relatively new field. Due to the enthusiasm of members of the Diving Section, the standard of diving in Australia is of a very high order, and like our swimmers in the Olympics, they do not sit on their laurels but are constantly striving to improve their art.

Research

Here it is intended to make diving safer and explore any practical problem that may be placed before it, e.g., the artificial or natural extension of physiological limits.

There are fascinating fields to roam in the realms of applied physiology, such conditions as nitrogen narcosis, oxygen poisoning and compression sickness (the "bends") coming immediately to mind as requiring a great deal of further research.

The successful completion of the diving task at Lake Eucumbene would not have been possible had it not been for the fusing of many years of diving experience with contact with the problems just mentioned.

Familiarisation with compressed air in dry chamber tests down to three hundred feet for some weeks prior to commencing the job proved useful but by no means provided the answer to nitrogen narcosis. Experience under actual working conditions

where factors such as cold, the pitch blackness of the surroundings with its accompanying sense of loneliness, and the water itself causing each movement to be quite an effort, all combined to produce a different situation.

The most successful diver was one with a phlegmatic temperament, high intelligence and an ability to concentrate under very trying conditions.

It is postulated that those who allowed consciousness of the unpleasant features of their surroundings to obtrude into the concentration which should have been directed wholly on to their work, were the ones who were affected

most by the nitrogen. Ability to dampen a panic situation by stopping and thinking it over undoubtedly improved their performance and it seems very probable that the adrenalin and nor-adrenalin which are pumped into the blood stream from the adrenal medulla in times of stress and emergency might play an important part in aggravating the effects of nitrogen. Adrenalin, for example, will increase cerebral blood flow and thus allow more nitrogen to submerge the neurones.

A great flood of nitrogen at times caused complete unconsciousness and in smaller concentration similarity to the effects of narcotics became quite noticeable. The longer a diver spent on the bottom the greater was he affected — some becoming hilarious and talkative, others performed actions of which they later had no recollection, while at times memory would play them false and entirely false reports would be made. Co-ordination was impaired and the divers found that they needed to concentrate very hard in order to perform an effective piece of work.

As with narcotics, as time went on, they became more and more used to working in these unusual conditions and their performance improved so that in the end all divers had very little trouble. It was not noticed that any became addicted to nitrogen but more and more commonly it was remarked how enjoyable was their "dip" — a definite euphoria.

Possibly all divers would have given similar performances if persisted with long

enough but it was decided to withdraw three who had shown very severe reactions such as unconsciousness whereby they endangered themselves and their stand-by diver.

Nitrogen narcosis was by far the biggest problem encountered at Lake Eucumbene, mainly because the others were offset by the excellent equipment put at our disposal, e.g., the specially imported "Constant" Constant Volume Dry Suits with separate neoprene sponge rubber undersuits. These suits were very effective against extreme cold and were modified in Australia to stop the leaks in the demand valve which occurred at extreme depths, and to provide a bypass which gave a constant stream of air close to the mouthpiece. This "bleed" aided dispersal of carbon dioxide and was an added safety factor should the mouthpiece fall out whilst the diver was unconscious.

Another piece of very handy equipment was the submersible decompression chamber, in which the diver could do his stops from the sixty foot level in comparative comfort and which was also used as a recompression chamber for a case of "bends" or potential "bends" requiring treatment.

Gaseous exchange at all depths using various types of diving equipment requires study in order to achieve the optimum — there are the ever-present possibilities of hypercarbia and hypoxia progressing to anoxia which have to be watched for and possibly eliminated by a redesign of equipment. Oxygen poisoning from which all suffer in varying degree when its partial pressure reaches toxic levels presents an intriguing picture and has been the subject of much research.

Clinical

The clinical aspect of the School of Underwater Medicine is equi-important, as apart from major accidents and their treatment, there are many cases of minor ailments, such as ear trouble — or aquotitis media — which cause considerable inconvenience and are deserving of a more thorough study.

Teaching

The School will become an authoritative source on all aspects of Underwater Medicine particularly appertaining to Australian conditions and as such must have an exhaustive and up to date set of records.

Service medical officers, sick berth attendants, and the

(Continued overleaf)



At the controls of the Recompression Chamber.

R.A.N. FOR INTER-NATIONAL SURVEY OF INDIAN OCEAN

The Royal Australian Navy is to play a prominent part in an international survey of the Indian Ocean to begin next year.

The Minister for the Navy, Senator Gorton, has announced that both the Navy's oceanographic research frigates, *DIAMANTINA* and *GASCOYNE*, would take part in

the project, which was backed by UNESCO. Although the Indian Ocean covered a sixth of the earth's surface, it was one of the world's least explored areas.

Recent Indian Ocean surveys by C.S.I.R.O. scientists in *H.M.A.S. DIAMANTINA* have provided important preliminary information for the forthcoming concentrated research programme. A group of Australian scientists will sail to

Honolulu later this month aboard *H.M.A.S. GASCOYNE* for a meeting with experts from the other nations taking part in the Indian Ocean survey. Oceanographic ships from Japan, Russia and America will also be at Honolulu. The scientists will study each other's oceanographic research methods to ensure a common standard of scientific assessment during the two-year survey beginning next year.

During her passage to and from Honolulu, *H.M.A.S. GASCOYNE* will be carrying out oceanographic research. She will investigate some of the sources of sea water that flows around the Australian coastline.

Senator Gorton said the Royal Australian Navy was proud to be able to contribute to next year's Indian Ocean survey. The research could bring great material benefits, including improved fishery resources and better weather forecasting.

During the scientific research, the Australian frigates will continue to play their dual role as R.A.N. training ships.

(Continued from page 17)

divers themselves can all benefit from a teaching programme, the whole purpose being to make diving safer by spreading the knowledge already in our possession.

Other aspects of Underwater Medicine include a study of dangerous marine life and a determination of the most effective and safe form of artificial resuscitation for the apparently drowned.

Such is the programme planned for the School of Underwater Medicine and it becomes immediately apparent that a lot of hard work lies ahead of those responsible for its birth as a lusty infant.

WARDMASTERS

A Vital Link in the Naval Medical Branch

THE commissioned officers of the Medical Branch who are not qualified doctors are the Wardmasters; they are primarily medical administrators, and occupy a position roughly equivalent to that of secretary-manager in a public hospital. Wardmasters are promoted (initially in the rank of Sub-lieutenant) from Sick Berth Chief Petty Officers of the prescribed seniority, who have passed a professional examination and a general educational test, and are recommended as being suitable. They have necessarily served in all ratings of the sick berth branch, from recruit to C.P.O., and hold one of the specialist qualifications such as X-ray, dispensing, laboratory work, operating theatre technique, advanced nursing, physiotherapy, and several others. In addition to their own specialty their service experience, and the requirements of the professional examination, ensure that they have an intimate knowledge of general nursing and the care of patients, first aid, and all medical administration subjects such as ward management, storekeeping, catering, documentation, etc. They also need a thorough knowledge of all Naval regulations and procedures that may have a bearing on the work of the Medical Branch; and to know something of Federal and State laws, Repatriation, Compensation and like matters, that are likely to concern either patients or staff. They must know about firefighting, building maintenance, and cleaning methods; and familiarity with accountancy, office management, and work-study technique does not come amiss. The Wardmaster is right who claims, albeit

tactitiously, to be a member of all branches of the Service rolled into one.

Wardmaster officers serve the majority of their time in Naval Hospitals, but may also be found in shore establishments with a large medical commitment, such as Air Stations, or on certain administrative staffs. They can serve at sea only in hospital ships, of which there is at present none in commission in the R.A.N. Wardmasters are promoted by seniority and selection to the ranks of Lieutenant and Lieutenant-commander and are eligible to attain that of Wardmaster Commander.

The duties of the Wardmaster are many and varied. In a Naval Hospital there are usually two, and each must be able to undertake the work of every possible functionary other than a medical officer. As Secretary to the Medical Officer in Charge he handles all correspondence, accompanies him on "rounds," and acts as general factotum; as Medical Store Officer he accounts for and maintains not only all strictly medical stores, but also hospital buildings, furniture, bedding and other supplies; as Catering Officer he handles all victualling arrangements and accounts and supervises cooking and special diets, assisted if necessary by a dietician or one of the Nursing Sisters; as Divisional Officer he supervises and arranges the work of the sick berth staff, as the Matron does that of the Nursing Sisters, and also sees to their Service records and welfare. In general it may be said that he deals with all non-professional matters that require the attention of an officer.

In a Base Hospital, particularly if attached to a Training Establishment, one of the Wardmasters has charge of staff training, in addition to his administrative duties. This includes the initial continuous training of recruits up to the stage of qualification as Sick Berth Attendants, and the less intensive but more advanced training of higher rates preparing for promotion examinations. Although the Wardmaster may not do much teaching himself, he is responsible for arranging the classes, taken by senior ratings or medical officers as appropriate to the subject. He also organises the examinations, himself setting the written papers for the lowest grades, and invigilating the papers sent from the Medical Directorate for the more advanced candidates; he arranges for a medical officer to conduct the practical and oral tests.

At establishments other than a hospital, the Wardmaster's work is similar in nature, although more restricted in scope. At the R.A.N. Air Station one Wardmaster is appointed for duty with the School of Aviation Medicine, where he operates the decompression chamber and assists in the training of aircrew and medical officers in the medical aspects of flying. All Wardmasters at some time attend, in company with medical officers, a course of instruction in the medical aspects of Atomic, Biological, and Chemical warfare; their particular concern with this subject is the problem of supply and administration in the treatment of mass casualties. A Wardmaster's conference is held periodically, to discuss current problems of administration and documentation in the medical service.

Most of the administrative and training functions of the Wardmaster can if necessary

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be undertaken by senior non-commissioned ratings, who indeed perform these duties in ships and small establishments. The position of Divisional Officer, however, cannot be filled by anyone below wardroom

rank. The Divisional Officer keeps the Service records of all the men in his division, and guides them in relation to all service matters such as promotion, drafting, leave, discipline, etc. He may discipline

them himself in minor matters, but must assist and defend them when called to account before higher authority. He is the rating's friend and advisor, both on Service affairs and on any personal problem in which his help is sought, whether or not it has any direct bearing on work.

In ships and small establishments where there are not enough sick berth staff to constitute a separate division, an officer of another branch, or occasionally a medical officer, may perform this function; but in a hospital or training establishment the Divisional Officer will invariably be a Wardmaster. The latter is ideally qualified to act as a go-between: he has been through the mill himself and so can appreciate the rating's point of view; yet, having been carefully selected for his position, he enjoys the confidence of his superiors. It can fairly be said, that the Wardmaster is a vital link in the Naval Medical Service.

HONOUR FOR R.A.N. MIDSHIPMAN

The Minister for the Navy, Senator Gorton, has sent his congratulations to Midshipman Edward Stubington, of Canberra, who won the Queen's telescope as the best divisional midshipman at the Britannia Naval College.

Senator Gorton has also sent congratulations to the other twenty Australian midshipmen who have passed their final examinations at Dartmouth. They graduated from the Royal Australian Naval College at the end of 1959, and have been completing their basic officer training in the United Kingdom. They will now return to Australia as Acting Sub-Lieutenants.

THE NAVY

IN recent years, the tremendous increase in the speed, altitude and range of modern naval air-craft have widened the variations of the external environment to a degree where air crew have now become completely dependent on specialised equipment for survival. Responsibility for the design and adoption of such equipment, for instruction as to its use by air crew, and advice on its maintenance by ground crew, rests basically with the Naval Medical Branch. The importance of education of Naval Medical Officers in such specialties as Underwater Medicine and Aviation Medicine can be readily understood, but of possibly even greater importance to a modern fleet air arm is the proper education of members of general duties and technical branches.

The key to efficiency lies with the specialist medical officer who devotes his energies and abilities not only to medical care, but to the supervision and rendering of advice on the stress of high performance flight.

Modern study of these problems in the Royal Australian Navy began in 1949 when the Royal Australian Naval School of Air Medicine was established in H.M.A.S. ALBATROSS, the Royal Australian Naval Air Station at Nowra, New South Wales, to investigate those problems concerned with the maintenance of efficiency of Naval Aircrew during flight and their safety and survival in emergencies, and to instruct personnel of the naval medical branch in Aviation Medicine and other supporting sciences.

The Royal Australian Naval School of Air Medicine, the first of its kind to be established in the Southern Hemisphere, enjoys reciprocal facilities with the other technical training schools of the Fleet

H.M.A.S. Albatross — Home of the

R.A.N. School of Air Medicine

Air Arm, and those provided by the Operational and training squadrons based at Nowra.

The Officer in Charge of the School is also the Senior Medical Officer of the Air Station, and the instructional staff is drawn from specialist officers and ratings of the medical branch and technical branches.

The school contains a large library, lecture room and display centre, night vision training room, and cinema, and a special sound-proof room fitted with up to date apparatus for the accurate testing of hearing acuity.

This is important because of the possible damaging effects of the high intensity noise levels of modern aircraft engines, and of gunfire. Displayed in the School are components of oxygen systems used in current naval aircraft, items of safety equipment and protective flying clothing, and devices, equipment and aids to survival on land, on the sea and in the air.

The School has a high altitude low pressure chamber in which the actual conditions of high altitude flight can be simulated. In this chamber all naval aircrew are required to undergo indoctrination in oxygen pressure breathing at altitudes over 40,000 feet, and experience the effects of lack of oxygen at altitude. The effects of explosive and rapid decompressions are also demonstrated.

These tests are carried out under the direct supervision

of a medical officer trained and experienced in Aviation Medicine. Aircrew are also instructed in all the problems of high speed flight and emergency escape from highspeed aircraft. In co-operation with the safety equipment section, practical instruction in the methods of escape underwater from ditched aircraft is given in a ditching pool at the Air Station.

The instruction of aircrew in survival in any environment is an important function of the School, and practical survival exercises are held regularly, the medical staff also taking an active part in accident prevention programmes.

Not only must aircrew be fully indoctrinated in the techniques and equipment for man's survival in a hostile environment, but so also must the technical branches responsible for the servicing and maintenance of that equipment. Courses are held not only for these, but also for the ratings of the sick berth branch in the sub specialisation of Aviation Medicine, and for Medical Officers of both the permanent service and the reserve.

The School of Air Medicine is primarily concerned with instructional training and secondarily with research into current problems in Naval Aviation Medicine. However, there has been little change in the model and equipment of human beings for thousands of years. No matter what protective devices are provided, no matter how much training a

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man has had, physical and mental fitness are pre-requisites for both air crew and ground crew if their job is to be done properly. Therefore the care of all personnel both in health and in sickness is of paramount importance and this again is the responsibility of the medical branch.

All forms of sport are available and encouraged, but full facilities for the practise of both preventive medicine and therapeutic medicine and surgery are provided in a well equipped Sick Quarters, staffed by medical officers, wardmaster officers, and sick berth ratings trained in such sub-specialisations as Laboratory work, Operating room attendant, Dispensing, Hygiene, Advanced Nursing, X-ray technician, Aviation Medicine and Massage. The Sick Quarters contains specialised departments and auxiliary equipment for the routine medical examinations of both air crew and of ground crew, modern laboratory, X-ray department, pharmacy, general medical and surgical wards, isolation and resuscitation wards equipped with a fully automatic iron lung, and a large operating wing with two air-

conditioned modern operating theatres, and separate sterilising and anaesthetic rooms. Modern ambulances equipped with three channel radio are at instant readiness at all times, and all medical staff are trained in rescue techniques from crashed aircraft on the ground, and in rescue by dry and wet winching from helicopter aircraft.

Both the young doctor and the sick berth rating who have specialised in naval aviation medicine can indeed look forward to a life of challenge, one which will involve both drudgery and glamour, excitement and routine, good fellowship, advancement, the practice of clinical medicine, and the opportunity to work in a highly specialised field.

King Charles II, in his preamble to the Naval Regulations said "It is upon the Navy, under the good Providence of God, that the safety, honour and welfare of this Realm do chiefly depend." More than ever now does the Naval Medical Branch assume with pride its increasing responsibility in the guardianship of that "safety, honour and welfare of this Realm."

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The Naval Hospital, Manus Island

H.M.A.S. TARANGAU, the R.A.N. Base at Lombrun in the Admiralty Islands, is actually situated on Los Negros: the identity of this island, however, is to all intents and purposes incorporated in that of its sister island Manus, from which it is separated only by a narrow and tortuous channel. The hospital attached to H.M.A.S. TARANGAU is therefore referred to officially as Naval Hospital Manus Island, or N.H.M.I. for short.

In this South Pacific setting the presence of a modern, well equipped hospital is of inestimable comfort to the thinly spread European population of Manus and the other islands of the group; for, although the Navy does not undertake the normal medical care of civilians, the facilities of the Naval Medical Branch are always made available in emergency. The Civil Administration headquarters at Lorengau, on Manus itself, has a native hospital with a small European wing, but surgical facilities are very limited, and emergency operations can be done more safely, and in much greater comfort, in the air-conditioned operating theatre of the Naval Hospital.

The hospital is built of timber and fibro-cement, in two sections connected by a covered passage. The two wards look out across a vista of palm trees to Seeadler Harbour and the Pacific. In the same block are domestic offices, medical officer's consulting room, medical store and dispensary, and the laboratory. The other wing is occupied by the X-ray department, operating theatre suite, and dental surgery. The X-ray unit is small but efficient, and all but the most specialised examinations can be done with

it. The operating theatre is as spacious and well equipped as any in a mainland hospital, and is fully air-conditioned. The dental surgery and laboratory are adequate for any treatment likely to be required and for the repair and manufacture of dentures; a dental X-ray plant is included. The Medical Officer's house adjoins the hospital, and shares its pleasant outlook.

The hospital, as part of the Naval Depot, is supplied with mains electricity and running water, and is connected, through the Depot telephone system, with the Naval Radio Station, which provides communication with the Civil Administration at Lorengau, with the other islands, and with Australia.

A separate Native Hospital is located near the native labour compound and the barracks of the Papua and New Guinea Division of the R.A.N., and provides for treatment of P.N.G. ratings, their families, and indentured native labour: treatment is also given to native members of the Pacific Islands Regiment, who have a camp near the Depot. The Native Hospital consists of wards and treatment room only, examinations and surgical operations being carried out at the main hospital.

The Medical staff comprises a Medical Officer, of the rank of Surgeon Lieutenant Commander, a Dental Officer, and a civilian Nursing Sister; assisted by three ratings of the Sick-berth branch, holding the specialist qualifications of radiographer, dispenser, and operating-theatre technician. There are also a number of native sick-berth attendants of

the P.N.G. division. The dental officer assists the medical officer in emergency, and is trained to give anaesthetics under his supervision. The medical officer, in addition to his hospital duties, has public health responsibilities in relation to the Naval Depot, where he supervises anti-malarial activities, chlorination of the water supply, and hygiene in general. He gives medical attention not only to serving Naval personnel and employees, but also to their dependants, and under specified conditions to employees of other government agencies such as the Department of Civil Aviation. He may give emergency treatment to patients of the civilian doctor at Lorengau, whose facilities may not be suitable for what is required. The Nursing Sister runs a child welfare clinic for the families who live on the Base.

The medical officer appointed to H.M.A.S. TARANGAU is usually a young doctor serving a Short-service commission in the R.A.N., but who has had previous surgical experience in civil life or in a mainland Naval Hospital. The appointment offers a range of experience which is equally valuable on return to civilian status or in the course of a subsequent career in the Navy: practical experience of tropical medicine and hygiene is combined with responsibility for all aspects of clinical medicine from midwifery to emergency surgery. Although there is only one medical officer, the doctor in Lorengau is available for consultation, and advice is instantly obtainable by radio from the Navy Medical Directorate. Arrangements can be made at short notice for evacuation of seriously ill patients by air, with the co-operation of the R.A.A.F. Once or twice a year patients in urgent need of specialised attention have to be

flown out to Sydney or Melbourne: and not long ago an anaesthetist was flown from Flinders Naval Hospital, and special instruments from Balmoral Naval Hospital, to assist the resident medical officer to remove a foreign object from

a native child's lung. In this way the R.A.N., with the help of the R.A.A.F. and the civil airlines, brings the medical facilities of modern civilisation within the reach of all who may need them in this Pacific outpost.



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AT RIGHT:

These members of the R.A.N. Papuan - New Guinea Division recently arrived in Sydney as crew of MRL252 and returned in MRL-251. While in Sydney the men were issued with special warm clothing.



HISTORICAL DATES -- continued

- 21st**
- 1943 Kiska occupied by U.S. and Canadian Forces.
- 22nd**
- 1944 French enter Toulon. Finally cleared 27th August.
- 23rd**
- 1940 H.M.A.S.'s SYDNEY, STUART and WATERHEN take part in bombardment of Gulf of Bomba and Bardia.
- 23rd-24th**
- 1942 Naval Battle of Eastern Solomons.
- 1944 French capture Marseilles. Americans reach Grenoble.
- Roumania granted an Armistice, declares war on Germany 25th August.
- 1945 Ratification of the Charter by Great Britain.
- 24th**
- 1945 Ratification of the Charter by China.
- 25th**
- 1941 H.M.A.S.'s YARRA and KANIMBLA take part in seizure of enemy shipping and landing at Bandar Shapur.
- 1942 Japanese landed at Milne Bay.
- 26th**
- 1942 Japanese repulsed at Milne Bay by 7th and 18th Australian Brigades.
- Battle for Milne Bay. On 26th and 27th, Japanese Naval units entered Bay and

effected landings by night. R.A.N. continued running ships in by day. During this period S.S. ANSHUN sunk by Japanese shell-fire at wharf.

(To be continued in the next issue)

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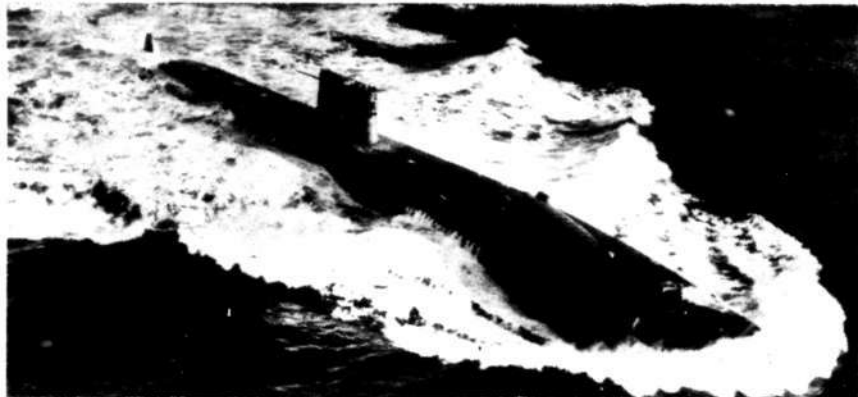


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THE ABC OF THE NEW WARFARE

THE first three letters of the Alphabet symbolise the challenge the Medical Services face from modern methods of waging war. Atomic, Biological and Chemical Warfare were unheard of when the R.A.N., and its Medical Branch, were founded in 1911. The First World War brought Chemical warfare, in a primitive form, and the end of the Second World War saw the first use of the Atomic bomb from which all forms of Nuclear and Radiological warfare have developed. Biological warfare, on the other hand, is a post-war product which so far has not been, and it is to be hoped never will be, used in anger.

Atomic, Biological and Chemical weapons are of particular importance to the Medical branch because the two latter are solely anti-personnel agencies, and, while the former is principally a destructive force, it has an overwhelming casualty-producing effect as well; moreover, a variety of purely anti-personnel weapons have been, or can be, developed from it. They all have in common an insidiousness which is unique amongst causes of battle injury, due to the inability of human senses to detect them until after the damage is done.

The fighting man thus depends greatly upon his medical and scientific colleagues for methods of detection and protection, as well as treatment when injured. Precautions that may be required against any one of these hazards are often equally effective against one or both of the others; it is therefore convenient to group them under the generic title "ABC" and treat them as a single subject.

Training in the military aspects of ABC warfare is given

to all personnel of the Navy, including the Sick-berth branch, at various levels during their service, and a simple exposition of the medical effects of these weapons is incorporated. Medical officers, however, are given an intensive course, the majority of which deals with the medical aspects in detail. Courses for medical officers are given twice yearly in Sydney, and this training is extended to officers of all three Services. Medical officers in the Citizen Forces are included, not only for their greater effectiveness when mobilised, but also as a means of disseminating this important information throughout the medical profession. Dental officers also attend the courses, because in action their assistance is required more in a medical capacity than in connection with their own specialty; wardmaster officers attend occasionally, as their administrative function is intimately concerned in the organisation for handling mass casualties.

The R.A.N.'s "ABC" School is established in spacious and commodious buildings in Balmain Naval Depot in Sydney, overlooking Middle Harbour. As well as lecture rooms, cinema, and special demonstration rooms, there are facilities for storage and maintenance of respirators, radia instruments, and other special equipment. Routine training and operational instruments are supplemented by the most modern electronic apparatus for measuring radioactivity; and special training aids, developed by the staff of the school, are used to simplify the teaching of this complicated subject. Radio-active sources for calibrating instruments

and practical training are stored in a special vault, and open ground is available at North Head for field exercises.

Officers staffing the school have had special training in all aspects of the subject, with the Royal Navy and at Government experimental establishments overseas, and have attended all atomic bomb tests held in Australia. Non-commissioned instructors are senior ratings who have had practical experience and undergone a special training course. During the medical ABC courses the school is visited by external lecturers; medical officers specialising in this division of military medicine, and scientists from the Defence Standards Laboratories who are engaged in research into these and connected problems. The latest information is received regularly from establishments in the U.K., U.S.A. and elsewhere, and close liaison is maintained with all research and experimental organisations in Australia who are working in this field. The training provided by the school is thus as up-to-the-minute as it can be.

The Navy has its own particular problems, and some advantages, in relation to Atomic, Biological and Chemical attack on its ships, but, since it also has shore bases and aircraft, a wide view of the subject must be taken. The medical hazards, in any case, are to a large extent common, not only to each of the armed forces, but also to the civilian population in a time of total war. The R.A.N. is particularly well situated to make an overall contribution to National Defence in providing ABC training to the Medical Services.

NAVY FINDS ITS PIONEERS

More than one hundred and seventy "pioneer" sailors of the Royal Australian Navy have been discovered, in the Navy's search for men who were in the R.A.N., when it was established half a century ago.

The Minister for the Navy, Senator Gorton, said that the Navy had heard from old sailors in all parts of Australia, and from one overseas.

Two months ago the Navy began a nation-wide search for sailors who were in the R.A.N. when it was created on 10th July, 1911, so that the pioneers could receive recognition during this year's Jubilee celebrations. There were 370 officers and men in the permanent naval forces on 10th July, 1911. In addition, there were some 1,150 Australian and New Zealand members of the Australian Naval Forces who were recruited for service in Royal Navy ships serving in Australian waters between 1905 and 1910.

Senator Gorton said there had been an enthusiastic response from the veterans. The search had revealed sixty R.A.N. pioneers in New South Wales, fifty-five in Victoria, twenty-nine in Queensland, fourteen in South Australia, seven in Western Australia, five in Tasmania and one in the United States.

The R.A.N. pioneer now living in the United States is Mr. William S. Long of California. He was one of the young Navy's first engineering artificers, and his examination paper set the pattern for many future tests. He served in the original torpedo boat destroyer, H.M.A.S. YARRA, and was sent to the United Kingdom to join the crew of the

first H.M.A.S. AUSTRALIA in 1913. His letter proudly reports that his family is maintaining its Naval traditions, and that his two sons are serving in the United States Navy, one as a commander and the other, a lieutenant.

The spirit of the old-timers is typified by a letter from Mr. R. W. Brunton, of Mackay, Queensland. Mr. Brunton joined the Naval Forces in 1906, five years before the official creation of the R.A.N., and served his country in both world wars. His letter states: "I am now aged seventy-five and am prepared for any further service."

PORTLAND SEA CADET UNIT

A busy year for T.S. Henty

T.S. HENTY, the Portland Sea Cadet Unit, which has been awarded the custody of the Sea Cadet Corps Colour for 1961, has had a busy year. The following are a few examples of the activities of the unit during the twelve months:

Whaler was sailed to Lady Julia Percy Island, a distance of 20 miles, on December 17th, and returned after spending the night on the island. The trip was made in a fresh S.W. wind with moderate to high swell. She was accompanied by a harbour tug and the experiment was valuable, both from instructional point of view and the actual test on the boat's structure.

November 19th was the Official Opening of the New Port and the Unit took its part at lining the streets for the arrival of His Excellency the Governor of Victoria. A Guard was provided for His Excellency's arrival at the "Star Cinema" for the showing of "Sink the Bismarck". The Unit's model bridge was erected in the foyer of the cinema for three nights during the showing, with a guard of one P.O. and four cadets. This was admired by Civic Authorities and townsmen, and the whole Unit were "shouted" to the show by the management.

A Detachment of six cadets travelled from Melbourne in QUIBERON, from whose bridge the Harbour Opening Ceremony took place. Mooring parties were provided for this ship, and also U.S.S. STATEN ISLAND, Commander Larsen, U.S.N., who showed his appreciation by opening his ship to us for the five days he remained with us.

Mooring parties supplied to H.M.A.S. ANZAC on October 15th, the cadets inspecting the ship on the 16th.

On October 22nd a Detachment proceeded to Hamilton and marched in that town's "Yalunga" festival parade. A Guard was formed for the Lord Mayor, and also at the "Coronation" of the "Yalunga" Queen.

On October 23rd the Unit attended the annual Trafalgar service at St. Stephen Church. The Unit paraded the flags of 40 shipping companies to the altar, and down the church after the ceremony.

On December 19th, the Cadets' "break-up" party was held in the Parish Hall. This took the form of a dance and was attended by Committee Members, Parents, Sea Rangers and the Ladies' Pipe Band. About 150 attended, including two P.O's from T.S. BENDIGO, and four serving members, ex HENTY cadets, Disting, P., Bailey, B., White, R., and Nepean, G.: Cadet Leading Seaman Bennet, G., was presented with the Commanding Officer's trophy for "Cadet of the Year". Cadet O/D Eaton, J., won the award for the best model craft built by a cadet during the year, and Cadet O/D Wilson, D., took 2nd Prize. Eaton's model was a 12 inch Crash Boat, powered by batteries, with working lights and steering gear. A fine effort for a 14-year-old.

Japan Meeting Recalls Coral Sea Battle

Two Australian warships spent the Queen's Birthday week-end in Japan.

The ships, H.M.A.S. VENDETTA, senior ship of the 10th Destroyer Squadron, and H.M.A.S. QUEENBOROUGH, leader of the 1st Frigate Squadron, held special ceremonies to mark the Royal occasion.

The Japanese visit has renewed a wartime friendship for an Australian sailor and an American marine. The friendship began in the Battle of the Coral Sea when an American sergeant-pilot from the United States carrier LEXINGTON was shot down by the Japanese and rescued by the Australian ship, ARUNTA. Aboard the ARUNTA, the wounded pilot was looked after by an Australian stoker. In the Japanese city of Iwakuni, the former stoker, now Chief Petty Officer Sutton, received a surprise handshake from an American officer. It was Major Fitzgerald, of the United States Marine Corps, a wartime sergeant-pilot who had immediately recognised his Australian friend of nineteen years ago.

Chief Petty Officer Sutton, who comes from Hastings, Victoria, is now serving in H.M.A.S. VENDETTA.

The two Australian warships are on the final stage of their Japanese visit, which has taken them to Hakata, Iwakuni, Kobe, Maizuru, Kakodate and Tokyo.

Entertainment for the Australian sailors ranged from scenic bus tours to midnight cormorant fishing in Japanese sampans. In return, the Australian ships were open to the public and staged parties for Japanese children.

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Five R.A.N. Ships For New Zealand Exercises

One of the biggest squadrons of Royal Australian Naval ships ever to visit New Zealand will stage anti-submarine exercises while crossing the Tasman Sea later this year.

The Minister for the Navy, Senator Gorton, said recently that the Australian force would comprise a total of five warships, and would be accompanied by two Royal Navy submarines based in Sydney. The ships would be in New Zealand at the end of November and early December, and the visit would further strengthen the close ties between the Royal Australian Navy and the Royal New Zealand Navy.

The Australian task group will include the two new frigates, YARRA and PARRA-MATTA, which will be making their first overseas visit and

participating in their first international exercise. Other ships will be the Daring Class destroyer, VOYAGER, the Battle Class destroyer, ANZAC, the "Q" Class anti-submarine frigate, QUEENBOROUGH, and the submarines, TRUMP and TAPIR.

Senator Gorton said anti-submarine exercises were the main purpose of the New Zealand visit.



A "T" Class Submarine.

land visit. The exercises would begin in the Tasman Sea during the passage to New Zealand. Two New Zealand warships, the cruiser, ROYALIST, and the new frigate, OTAGO, and the Royal Navy destroyer, H.M.S. CAPRICE, would join the manoeuvres.

While in New Zealand, the anti-submarine training programme will take the Australian warships to Auckland, Lyttelton, New Plymouth, Picton, Timaru, Wellington and Bay of Islands.

Ship's Repair Staff have undertaken work for no less than 138 ships, entailing over a quarter of a million man hours.

During some of the intervals when the Fleet is away from Malta, H.M.S. AUSONIA has herself proceeded on cruises either alone or in company with other ships and has visited ports and anchorages in Italy, France, Spain and Greece, steaming 12,481 miles. She has just recently returned from La Spezia and Naples.

The ship, whose present Commanding Officer is Captain J. G. B. Morrow, C.V.O., D.S.C., R.N., is at present undergoing a routine refit in Bailey's Malta Yard. An official reception is being held on board to celebrate the 40th anniversary of the ship's launch.

Another Birthday

40th BIRTHDAY OF H.M.S. AUSONIA

H.M.S. AUSONIA celebrated her 40th birthday in March. She was built on the Tyne by Messrs. Armstrong Whitworth and Company Ltd. and was launched on March 22, 1921. The ship made her maiden voyage from Liverpool to Quebec and Montreal on June 22, 1922, and was then transferred to the London and Southampton Canadian Service until the Second World War.

Requisitioned by the Admiralty, she was first commissioned under the White Ensign at Newcastle-on-Tyne on November 7, 1939, after conversion to an Armed Merchant Cruiser. In this capacity, she was employed in the Atlantic until 1941. Her first Command-

ing Officer in Naval Service was Captain C. T. M. Pizey (now Admiral Sir Mark Pizey). She was awarded the Battle Honour, "Atlantic 1939-41."

In May, 1942, she was converted to a Heavy Repair Ship. In 1944, the Admiralty acquired her as a permanent unit of the Royal Navy and she commissioned for service in the East Indies. After the war, she returned home and was placed in Reserve.

After a refit at Devonport Dockyard, H.M.S. AUSONIA commissioned in September, 1958, for her present duties as the Repair Ship of the Mediterranean Fleet, under the command of Captain T. W. Best, R.N. Since that date, the

SOLACE TO THE ILL

The band from H.M.A.S. MELBOURNE recently visited the Manila Hospital and gave a concert for the patients. The various numbers were announced by a sister from the hospital.



BLOOD DONORS

Officers and men of the R.A.N. have earned an enviable reputation by their willingness to donate blood. Gallons of their blood have been given to Blood Banks in Australia and the Far East.



NAVY AND C.S.I.R.O. INVESTIGATE FISH MYSTERY

C.S.I.R.O. scientists aboard a Royal Australian Navy frigate are investigating a fish mystery off the north west coast of Australia. The scientists are trying to find the reason for a surprising lack of fish productivity in an area of ocean between Onslow and Broome.

Senator Gorton, said that the investigation into factors limiting fish production in this area was one of the main reasons for a research cruise at present being undertaken by H.M.A.S. DIAMANTINA.

The oceanographic survey will last forty-two days, and when the research and training frigate returns to Fremantle at the end of August she will have sailed six-and-a-half thousand miles on the project.

During previous surveys off the north-west of Australia, scientists were puzzled by a sudden drop in fish productivity in the area between Broome and Onslow. One theory was that the plankton on which fish lived was lacking in iron content. The scientists will collect samples of the plankton and, after analysis, will feed the plankton with iron to see if this causes the fish food to reproduce more prolifically.

Six C.S.I.R.O. experts are embarked in H.M.A.S. DIAMANTINA, which is one of the two Royal Australian Navy frigates equipped with special floating laboratories for oceanographic research. The Navy uses the scientific cruises to conduct seamanship training.

R.A.N. TRAINS MALAYAN RATINGS

Australian warships are visiting Malaya to help train ratings of the Royal Malaysian Naval Reserve.

The Minister for the Navy, Senator Gorton, said recently that two Australian ships were at present undertaking a three-week training programme for Naval reserves in Malaya. It was the first time the Australian ships, VENDETTA and QUIBERON, had given ship-board training to the Malaysians.

Exercises for the Malayan ratings include refuelling at sea, towing, seaboard drill, and gunnery, torpedo and anti-submarine mortar firing.

Both Australian warships visited Penang, and QUI-

BERON also called at other Malayan ports, including Lumut, Port Swettenham and Malacca. VENDETTA and QUIBERON are Australia's current Naval contribution to the British Commonwealth Strategic Reserve.

Senator Gorton said the Royal Australian Navy was very pleased to give further assistance with the development of the Royal Malaysian Navy. The R.A.N. had already provided several officers for the young Navy, and the Captain of the Royal Malaysian Navy, Captain W. R. Dovers, D.S.C., was also an Australian Naval Officer. Malaya had invited Australia to provide the naval officers to guide the early years of her Navy.

BIG RESPONSIBILITIES FOR NAVAL RESERVES

Officers and ratings of the Royal Australian Naval Reserve will form sixty per cent. of the crews to bring four new minesweepers to Australia next year.

The Minister for the Navy, Senator Gorton, said that more than 60 reserves would be sent to the United Kingdom next year to collect the first four of six "Ton" class minesweepers ordered for the Royal Australian Navy. He said the first-lieutenants of the four ships would be reserve officers, and the majority of the ships' companies would also be reserves. Permanent naval officers would be in command of each vessel.

Senator Gorton said this was the biggest peace-time commitment for reserves in Australia, and further challenges lay ahead. There was no doubt that the reserves were ready and willing to meet the challenge.

Despite the interruption to civilian careers and interference to home life, there had been a tremendous response to the call for reserves to man the minesweepers in England. Only 64 officers and men were required, but nearly five hundred had volunteered. There were 134 volunteers from Victoria, 107 from Western Australia, New South Wales (82), Queensland (79), South Australia (57) and Tasmania (32).

The four officers selected to serve as first-lieutenants will go to England in the first half of next year for special minesweeping and pre-commissioning training. The rest of the officers and men will be flown to Britain later in the year, and are expected to have the minesweepers back in Australia by Christmas, 1962.

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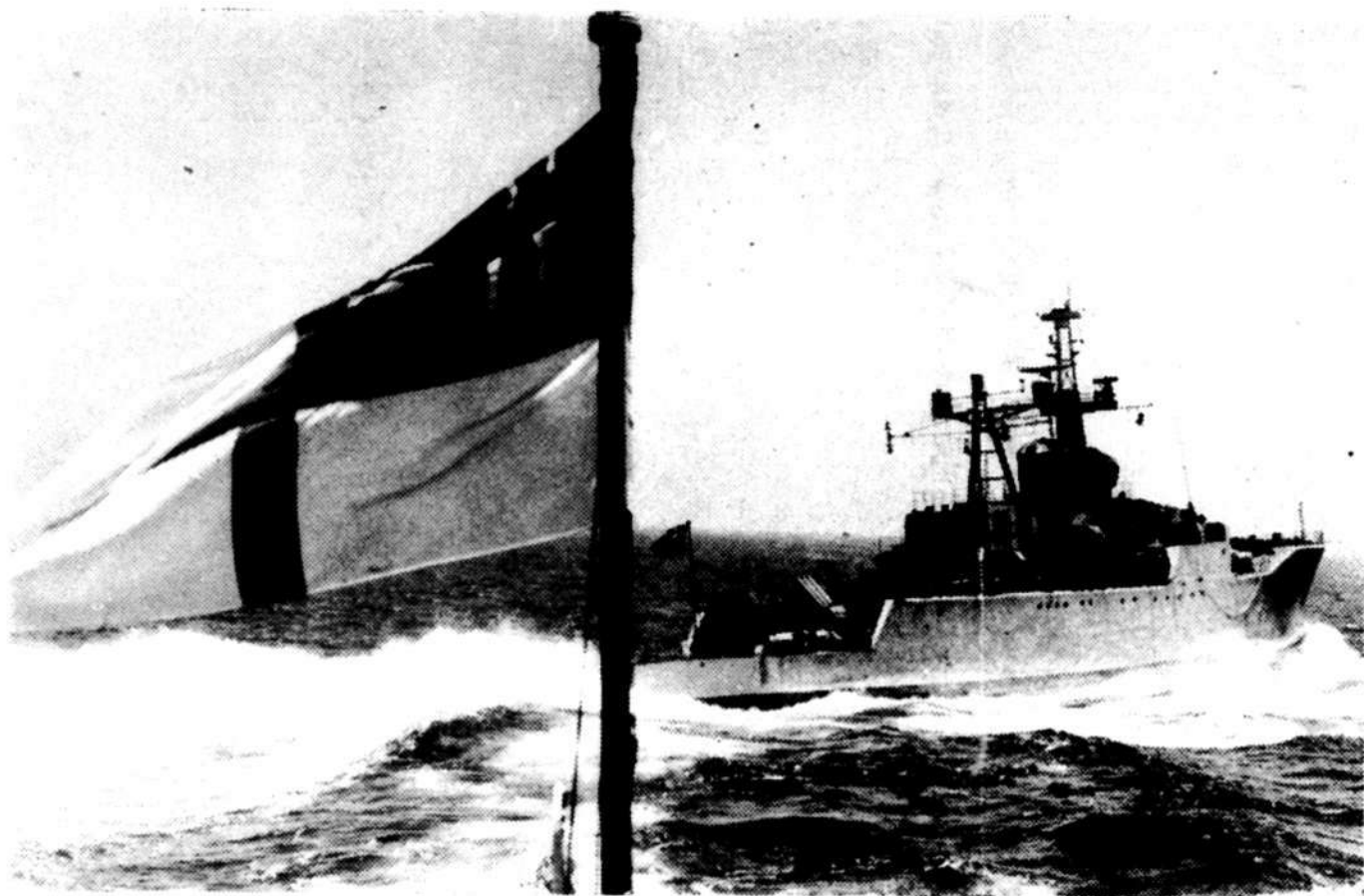
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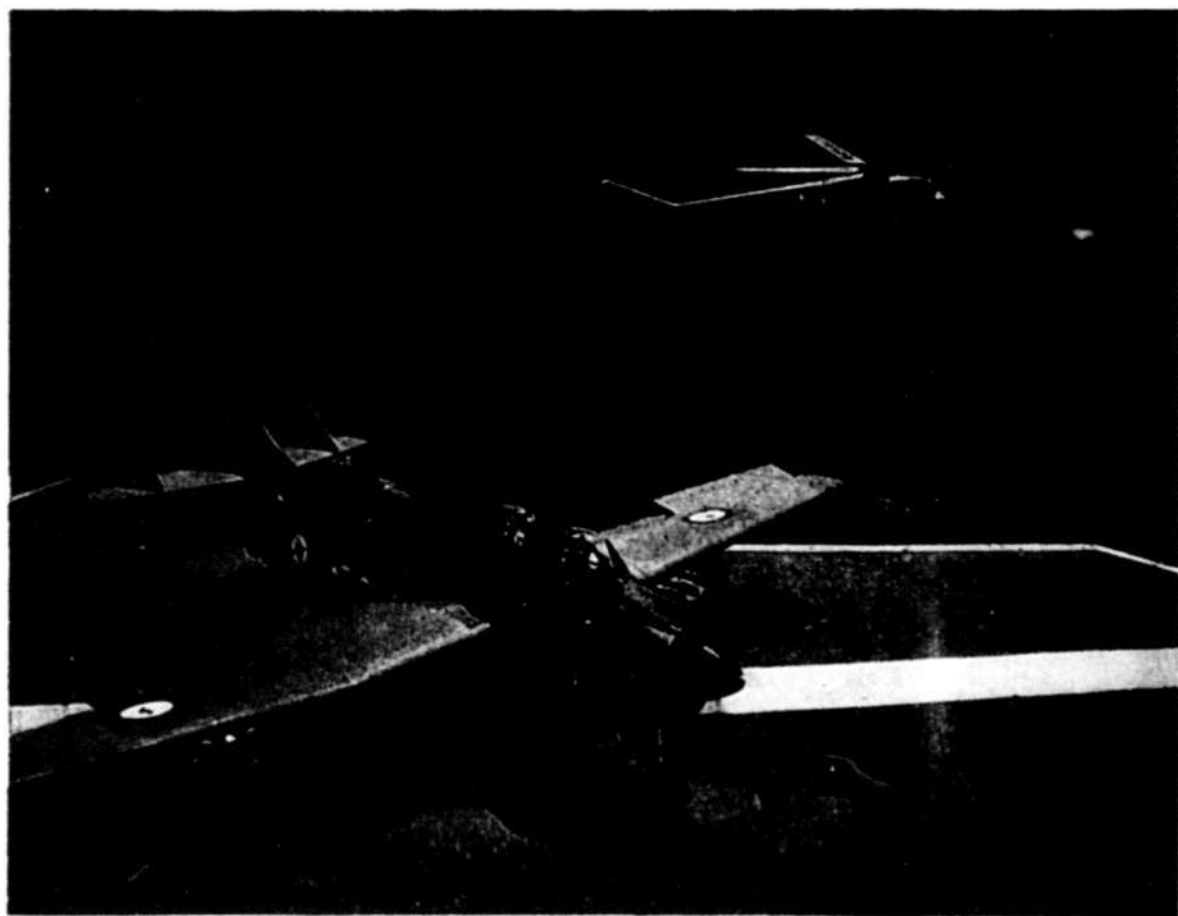
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Navy

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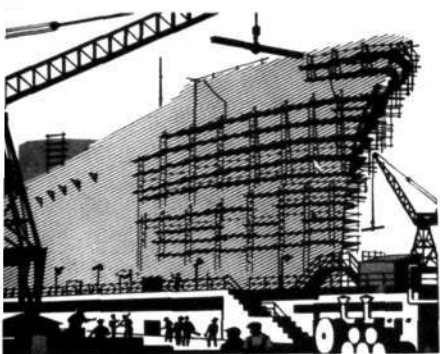
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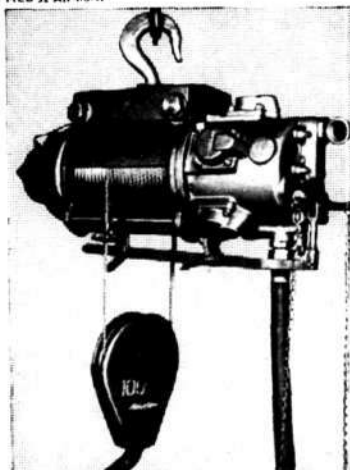


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YOUR NAVY TODAY AND TOMORROW

By

The Minister for the Navy,
Senator the Honourable

J. G. Gorton

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THE annual Naval celebrations in New South Wales have even greater significance this year because 1961 is a milestone in the history of the Royal Australian Navy.

Our Navy is marking its Jubilee this year, and the Naval open days and displays in New South Wales during October are part of the Service's fiftieth anniversary celebrations, "Red, White and Blue," a tribute to the Navy, is the theme of this year's Waratah Festival, which as usual is staged simultaneously with the R.A.N.'s annual Navy Week celebrations in Sydney.

We are proud to show you something of our Navy, and we hope that you have shared in this pride with an inside glimpse into the work of the R.A.N.

During this Jubilee Year, we have made special efforts throughout Australia to make Australians more aware of the role of their Navy. Ships have been open to the public in many States, there have been open days at Naval establishments, and special displays and demonstrations have been staged. The Navy has made a half hour film called "Background of Tradition" which traces the history of the R.A.N. and gives a picture of the Service today. This film is being distributed throughout Australia by 20th Century Fox.

The Navy is also co-operating with the Navy League of Australia in staging a series of seminars at which leading citizens are being given an insight

to modern methods of Naval warfare.

In war and peace, the Royal Australian Navy has given fifty years of distinguished service to Australia. Australia's dependence on the sea is as great today as it has ever been, and the complexities of modern sea warfare present the R.A.N. with a tremendous challenge in the second half of its first century.

Looking to the future, the Royal Australian Navy is keeping pace with the times. 1961 is significant not only as a milestone but in deciding the future shape of the Australian Navy.

The recently announced Naval Programme revealed that the R.A.N. was entering the "missile" age, and was ordering two United States' guided missile destroyers. Final

September-October, 1961



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decisions are also being made this year on the new approach to anti-submarine warfare, with WESTLAND WESSEX anti-submarine helicopters to replace fixed-wing aircraft on the carrier, H.M.A.S. MELBOURNE, in 1963. Anti-submarine strength has been further increased this year with two new frigates, PARRAMATTA and YARRA, officially joining the R.A.N. Two more of the frigates, which incorporate the most advanced equipment for detecting and destroying submarines, are at present under construction. Later they will be fitted with SEACAT air defence missiles. Work is proceeding this year on a flotilla of minesweepers, the first of which will be delivered next year. Also, 1961 sees the re-designing of training programmes to meet the

complexities of the technological age.

These developments reflect the changing pattern of weapons and tactics, with missiles replacing the conventional gun. The sophisticated, modern submarine calls for versatile and highly mobile "seekers and killers," and helicopters have emerged as the most efficient weapon to supplement anti-submarine escorts. Mines, while not a new weapon, are a threat to Australia's twelve-thousand miles of coastline, so the Navy is obtaining modern "Ton" Class "Sweepers" and "Seekers."

Entering the second half of its first century, the Royal Australian Navy is changing course with the times to honour a fifty-year-old responsibility—the defence of Australia's sea communications.

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THE NAVY

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September-October, 1961

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BATTLE OF THE NILE

Master's Medal

The medal reproduced here by courtesy of Mr. Kenneth C. Bruff Macdonnell, of Sydney, grandson of Mr. Bruff, Master of one of Nelson's ships, "Orion," at the Battle of the Nile, has come down to Mr. Macdonnell as a family legacy.

"Orion" carried 74 guns with a complement of 500 men and was commanded by Captain Sir James Saumarez, of Norman descent but born in the Island of Guernsey. A distinguished naval officer, he was a member of Nelson's Band of Brothers.

A commemorative victory medal in gold to Admirals and Captains engaged in naval actions was not exceptional, but the gift after the



Battle of the Nile of gold medals to Admirals and Captains, silver to Lieutenants and Officers ranking with them, copper-gilt to inferior officers and copper-bronze to the men by a private individual, Mr. Alexander Davison, an intimate friend of Nelson's, was exceptional. Mr. Davison was, in this case, agent for sale of the prizes. The device is remarkable in another way; the engraver is said to have made the mistake, on the reverse side, of showing the French Fleet at anchor with the British Fleet advancing to the attack and the sun setting in the East. The figure supporting Nelson's profile on the face of the medal is that of Hope.

This page is sponsored, in support of the Navy League of Australia, by

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THE NAVY

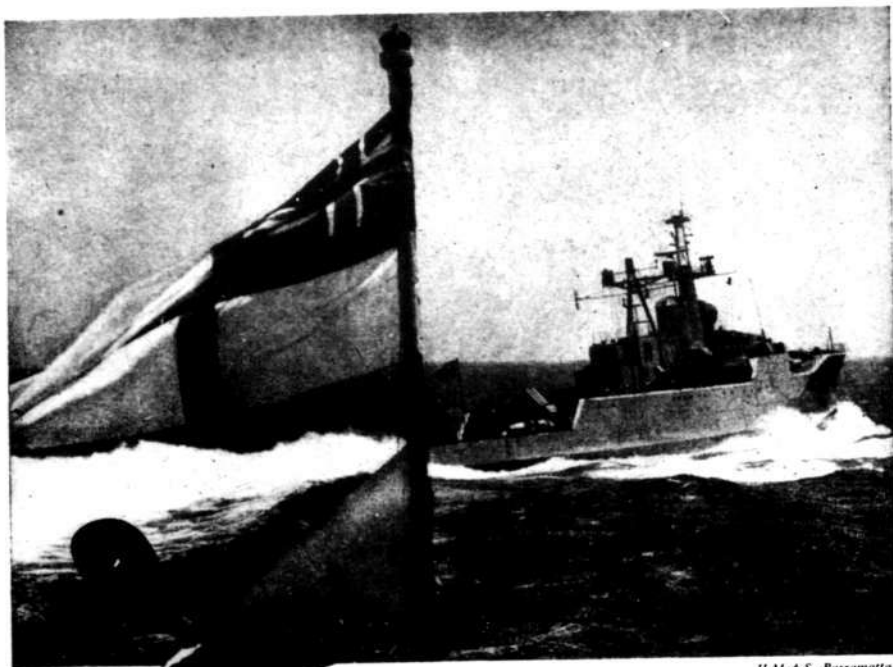
H.M.A.S. VAMPIRE



H.M.A.S. VAMPIRE sailed for the Far East on the 20th September. She is a Daring Class destroyer (sister ships, VOYAGER and VENETTA). All three were built in Australia and are the largest and most complicated destroyers to be constructed here. They have a displacement tonnage of 2,800 tons standard and 3,600 tons when fully loaded, a length of 390 feet, breadth of 43 feet and a draught of 12 feet mean and 17 feet max. Their armament consists of guns (6 4.5-inch in twin turrets, 6 40 mm. Bofors A.A.), 5 21-in. torpedo tubes and three barrelled depth charge mortars for anti-submarine weapons. The ships are powerfully equipped for both offensive and defensive purposes and have a speed of over 30 knots.

September-October, 1961

7



H.M.A.S. Parramatta

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NICKEL SILVER—Marine instruments and fittings, decorative trim.

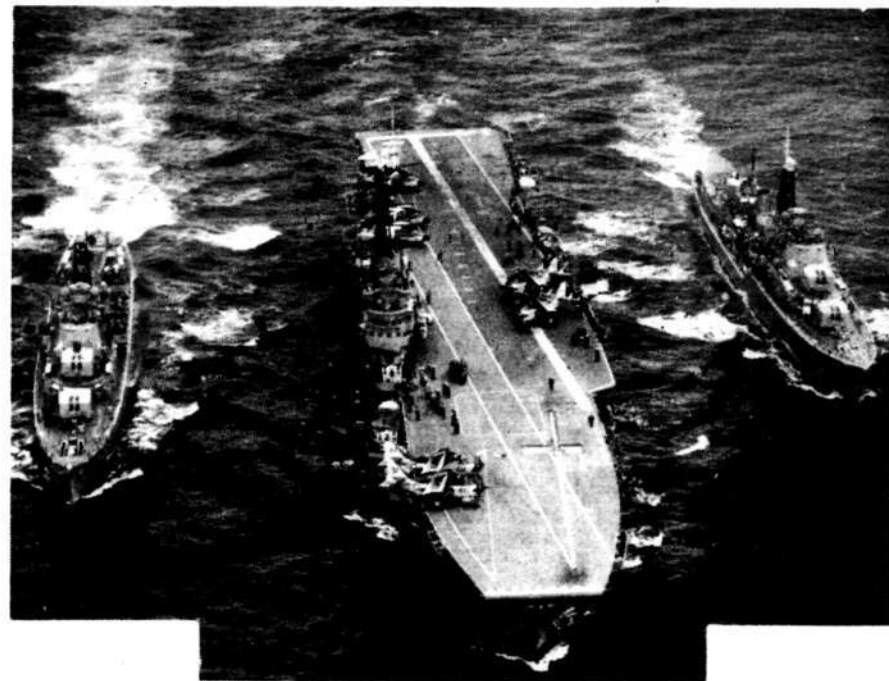
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The Challenge of a Naval Career

Are you good enough to join the Navy? This is the attitude of the Royal Australian Navy towards young men who are seeking to enter the Senior Service.

THE natural appeal of an interesting job, together with improvements in pay, conditions and opportunities, has made service in the R.A.N. an attractive proposition, but it is not easy to qualify for these benefits. The Navy is interested in quality not quantity, its standards of entry are high and the young man who applies to join the service of to-day can consider it something of an achievement if he passes the selection tests and is accepted.

The R.A.N. is gearing its manpower for a new era of complex ships and weapons.

The guided missile ships of the future, with their masses of intricate electronic equipment, are going to require higher standards from all members of their crews.

In addition to raising entry standards, the Royal Australian Navy has been adjusting its training programmes to meet the challenge of the technological age. The course at the Naval College has been extended to put more emphasis on scientific subjects, and a Junior Recruit School has been established in Western Australia to produce sailors of

higher educational and professional standards. At the Apprentices' School at H.M.A.S. Nirimba, near Sydney, the Navy is training the men whose technical skills will keep the fighting ships and weapons at peak efficiency.

Reflecting the popularity of the Service as a career was the number of candidates for this year's entrance examination for the Royal Australian Naval College. 543 boys from all parts of Australia sat for the qualifying examination, which is the most for seven years. The 150 lads who entered as Junior Recruits in the last intake were carefully selected from over 600 applicants.

There are five ways for youths and men to enter the Royal Australian Navy. Depending on age and qualifications, they could enter the Service through —

- (1) The Royal Australian Naval College at Jervis Bay (H.M.A.S. CRESWELL).
- (2) The Apprentices' School at Quaker's Hill, near Sydney (H.M.A.S. Nirimba).



The United States destroyer CHARLES F. ADAMS. It has been announced that the Royal Australian Navy is to acquire two ships of this type from the United States.

September-October, 1961

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- (3) The Junior Recruits Training Establishment at Fremantle (H.M.A.S. LEEUWIN).
- (4) The Recruit School at Flinders Naval Depot (H.M.A.S. CERBERUS).
- (5) The Junior Musicians' School at Flinders Naval Depot (H.M.A.S. CERBERUS).

Air Crew

With the introduction of anti-submarine helicopters, the Navy is also resuming recruiting for pilots and observers. These aircrew officers, entering the service between the ages of 17 and 20, will be granted short service commissions with opportunity for permanent commissions. They will begin their careers with special courses at the Naval College.

Ratings are also required for the Air Arm, serving as Naval

Airmen and Naval Airmen Mechanics. They will enter the R.A.N. through the Recruit School at Flinders Naval Depot.

Royal Australian Naval College

This is one of the most significant years in the history of the college; a history that goes back to within two years of the birth of the Navy itself. The Navy's Jubilee Year coincides with the new training pattern that opens a fresh chapter both for the R.A.N. and the College. Changes in the course are required by the increasing complexity of naval weapons and equipment. The course at the College has been extended by eight months so that the cadets will reach higher professional and academic standards. This means that boys in the "normal" entry (aged 14½-16½) will have

three years and eight months of study, and "special" entries (students who have already reached Matriculation standard) will undertake one year and eight months at the college. To introduce them to life in the Fleet, and incidentally to provide a break in what would otherwise be a long spell of concentrated academic study, the Cadets will spend a year at sea as midshipmen.

As active members of a ship's company they will gain first-hand experience with the Fleet, after which midshipmen selected to become seamen or supply officers will go to the Britannia Royal Naval College at Dartmouth where they will study for a further two years. The midshipmen specialising as electrical and engineering officers will take a degree course at the Royal Navy Engineering College, which is recognised as an extension college of London University.

At completion of this training in the United Kingdom, the young officers are well on their way in a career that for some will culminate with the wearing of an admiral's gold braid. Aircrew officers will undertake an eight month introductory course at the College before beginning their specialised training.

Apprentices' School

This is the training ground for the skilled artisans so essential in a modern Navy... the shipwrights, electricians, engine-room and ordnance artificers and boilermakers.

Five years of training ends with the rank of Petty Officer, and the satisfaction of being a highly skilled, fully qualified tradesman. Boys become navy apprentices between the ages of 15-17 and spend the first four years at the school. The final year of training is at sea.

The Apprentices' Establishment was set up five years ago in answer to the challenge of increasingly complex mechanical developments. The Navy saw it was necessary to produce a specially trained type of artificer, with a sound educational standard. It decided that a Navy trained apprentice could not only be given his basic training as an Artificer but also be taught specialised Naval equipment and given normal training in discipline and other Naval matters. These men will also, in the future, be a potential source of officers in the engineering and electrical specialisations.

Junior Recruit Training Establishment

The boys entering this school at Fremantle (15½-16½) are given educational and naval training that will enable them to make the most of their innate ability. The establishment is run on similar lines to a boarding school, with the emphasis on school room studies. At the end of twelve months at the school the boys have a background that the Navy hopes will make them senior rates and, in some cases, officers of the future. On completion of their training at LEEUWIN the junior recruits are drafted to Flinders Naval Depot or H.M.A.S. WATSON in which establishments they are given a specialist qualification such as engineering or radar plotter, to fit them for service in a seagoing ship.

Junior Musicians' School

Boys aged between 15-17 receive comprehensive musical training at this school at Flinders Naval Depot. They spend up to three and a half years in basic training before graduating as Musician First Class, achieving a standard equal to the top grades of the

Australian Musical Board. They then go on to serve with one of the Royal Australian Navy's four bands, one of which is normally at sea on board the flagship, H.M.A.S. MELBOURNE. The junior musicians enlist for nine years, and have opportunities for advancement to Leading Musician and Petty Officer Musician.

Recruit School, Flinders Naval Depot

This is where all sailors start their careers apart from those who enter the service through one of the specialised basic training schools. The recruits, aged between 17-26, undertake an eight week introductory course, and then embark on the technical training in whatever branch of the service they will specialise (including the Fleet Air Arm), before going to sea in the Fleet.

W.R.A.N.S.

For the girls, of course, there is the Women's Royal Australian Naval Service, but this, too, is now a very popular career. If you are keen to join, it would be advisable to put your name on the waiting list.

Wrans serve as radio operators, radar plotters, sick-berth attendants, cooks, stewards, stores assistants and drivers.

Girls can join the W.R.A.N.S. at seventeen enlisting for four or six years. They are released if they wish to marry.

If you are interested in a Naval career, the Royal Australian Navy will be happy to hear from you. Do not be discouraged by the increased selectivity, but rather do your best to attain the necessary standards. If you succeed in entering the R.A.N. the Service will be glad to have you and you will have good cause to be proud of your achievement.

NUTTALL LATHES

Some of the 76 NUTTALL All Geared Head, CENTRE LATHES at the R.A.N. Apprentice Training Establishment, "H.M.A.S. Nirimba", Quakers Hill, N.S.W.



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H.M.A.S. ALBATROSS

The Royal Australian Navy Air Station at Nowra

"Open Day" at H.M.A.S. ALBATROSS, the Fleet Air Arm's shore base, gives the opportunity to the public to see the Fleet Air Arm in action in the air and the activities required to keep these aircraft flying both ashore and on board the aircraft carrier H.M.A.S. MELBOURNE.

WHAT TO SEE:

Flying Display:

The most spectacular events of the day will be in the flying display. The fast moving display will show all aircraft in use by the Navy to-day, from the slow and simple Auster, flying at 45 miles per hour, to the complicated electronic machine that is the 600 m.p.h. jet fighter.

In addition to the seven different types of fixed wing aircraft owned by the R.A.N., there is the ubiquitous helicopter to give a demonstration of its exceptional manoeuvrability and the many and unusual tasks these aircraft can perform. These Sycamores give a preview of the large numbers of helicopters which will fill the surrounding skies in 1963, when the Fleet Air Arm re-equips with anti-submarine helicopters.

Static Display:

Visitors can have a close look at some of the aircraft flying in the display, and some of the equipment they carry and the equipment used to maintain them.

As well as complete aircraft, there are sectioned jet and turbo-propeller engines on display. The radar used by Naval aircraft is on show and typical armament loads demonstrate the punch carried by the Fleet Air Arm Aircraft.

A perspex model of the aircraft carrier H.M.A.S. MELBOURNE will enable visitors to see some of the complexity of aircraft operations in a modern aircraft carrier.

To ensure that aircrew will survive in the event of an emergency, aircraft are fitted with parachutes, some with ejection seats, and all Naval aircraft carry dinghies to keep aircrew afloat in the sea. This equipment is on display.

In this Jubilee Year, the R.A.N. rightly looks to its history and traditions built up in the last fifty years. These fifty years are illustrated in the exhibit by the R.A.N. School of Photography. Also shown are some aspects of Naval life not readily accessible to visitors and a preview of future equipment.

Essential to the efficient operation of aircraft are well trained aircraft maintenance personnel. The Fleet Air Arm ensures that its men are capable by training its own airframes, engines, ordnance and electrical maintenance ratings in the Schools of Aircraft Maintenance on the Station. Visitors can see some features of these schools.

Even in this age of modern machines, the weather can upset the most carefully laid plans of war. To keep the aviators and the Fleet aware of the changing weather, the R.A.N. trains its own Meteorological Observers at the Air Station. This school displays its equipment, which is used to ensure that the Fleet has a trained rating in each ship able to interpret the weather forecasts skilfully.

To provide relaxation for visitors, the massed Bands of the Royal Australian Navy will play during the afternoon and give a marching display. These Bands are called upon frequently for ceremonies throughout Australia and have just completed a highly successful tour of Queensland.

During the afternoon, refreshments and afternoon tea are available from stalls run by the Torchbearers for Legacy. Proceeds from this will, of course, be donated to the local Legacy funds.

M.M.A.S. ALBATROSS

H.M.A.S. ALBATROSS, the R.A.N. Air Station at Nowra, was first established as a R.A.A.F. Base in 1942 for the training of torpedo bomber aircrews. Later in the war it was used for aircraft of the Royal Navy.

After a period of disuse, the R.A.N.'s Fleet Air Arm commenced flying at Nowra in June, 1949. From this time on, there has been increasing activity until the present time, when,

with all Squadrons ashore, it is the busiest airfield in Australia.

The arrival of helicopters in 1953, Jet Trainers in 1954, and a large number of jet fighters and turbo-propeller aircraft in 1956, made big demands on the training schools and airfield facilities.

The modern naval aircraft is a complex structure embodying a gas turbine engine, electronic equipment to locate the enemy, a weapon system to destroy him and the special equipment needed to fly from an aircraft carrier.

The men who maintain the aircraft ashore and afloat are specialists in their various trades—engine mechanics, radio mechanics, ordnance mechanics, safety equipment ratings to mention but a few. It is the job of the engineer officers and ratings of the Fleet Air Arm to make sure that Navy's aircraft are ready to fly and fight when needed.

The Navy trains its own men. At H.M.A.S. ALBATROSS there are Schools of Aircraft Maintenance in Airframes, Engines Ordnance and Electrical instructing trainees in all aspects of aircraft maintenance from elementary procedures for the newly-enlisted Air Mechanic to advanced theory and practice for the senior Aircraft Artificers.

The standards of aircraft maintenance in the Royal Australian Navy are such that aircraft are available in the highest state of airworthiness and fighting efficiency at all times.

Ratings of the Fleet Air Arm Electrical Branch are trained to service all the electronics on aircraft and, as there is little on modern aircraft that is not connected with electronics in some form or other, their job is one of continuing interest and variety. When ashore the Electrical Mechanic (Air) and Radio Electrical Mechanic (Air) have added responsibilities and interests, as they look after the ground communications and radar installations, domestic and airfield electrical installations, cinema and sound reproduction equipment, and electrical installations on all types of vehicles. The Electrical Branch will, undoubtedly, be called upon to use all their skill in servicing and maintenance of the new generation of rotating wing aircraft and its sophisticated electronics.

To provide adequate facilities for aircraft operation, a new Control Tower has been built, the runways re-surfaced and modern all-weather radar and radio aids have been installed.

The flying activities of the station are varied and complex. The "working up" of

operational squadrons for the aircraft carrier H.M.A.S. MELBOURNE, the training and conversion to different aircraft of pilots and observers, helicopter training of Navy and Army pilots, provision of aircraft for Naval and Army exercises are but some of the tasks.

As finance is available, so living quarters and amenities on the station have been improved. In the last few years, a new canteen with quiet room, billiard room and bar, two ratings accommodation blocks and two squash courts have been built.

The station looks forward with confidence to 1963, when the arrival of anti-submarine helicopters will pose new and difficult problems.

PROGRAMME OF EVENTS

12.30 p.m. R.A.N. Air Station, Nowra, opens to visitors.

2.15 p.m. Flying Display begins.

The exact form of the flying display is dependent on the weather conditions at the time and will include:

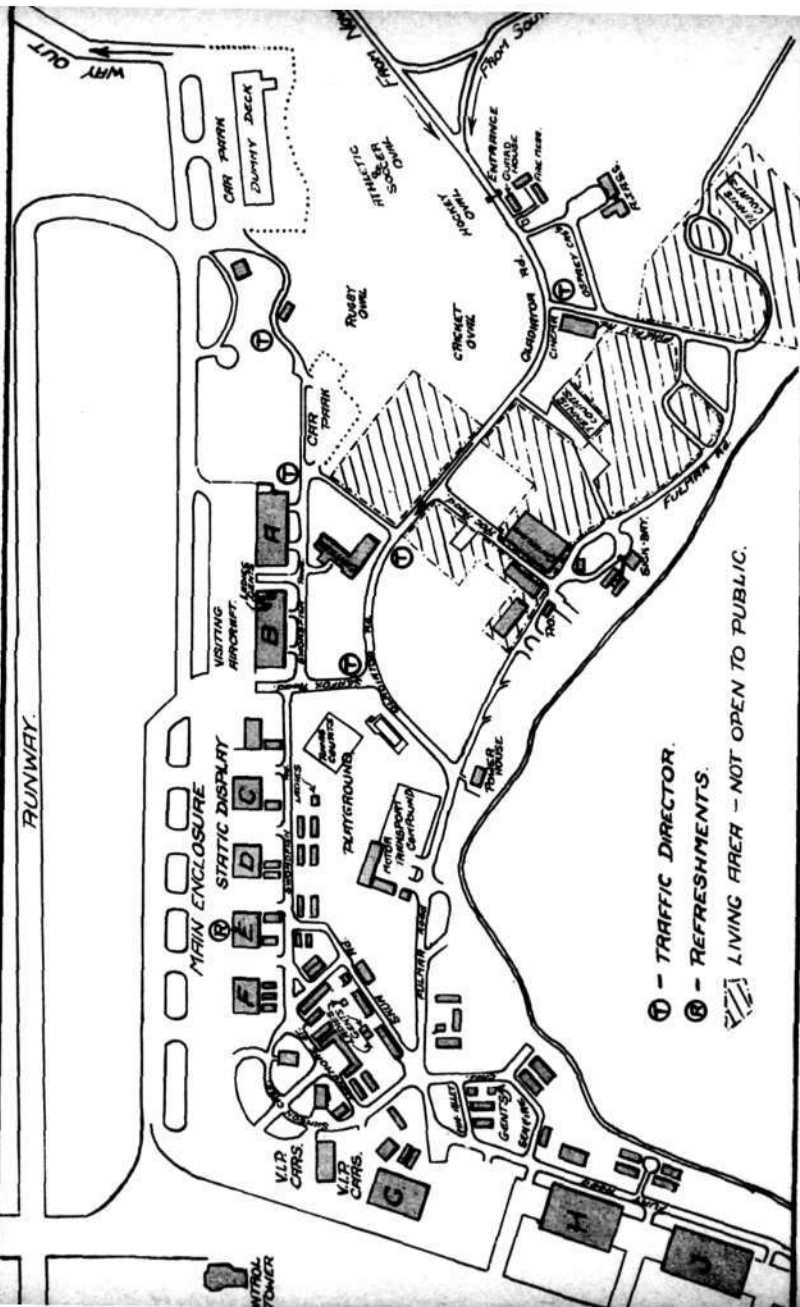
- Helicopter demonstrations.
- Aircraft target towing.
- Sea Fury aerobatics.
- Carrier demonstration by 4 Sea Venoms.
- Gannet display sequence.
- Glider display.
- Light aircraft display.
- Sea Venom aerobatics in formation.
- Gannet bombing.
- Helicopter rescue demonstration.

A detailed programme will be handed out as visitors arrive, giving the form of the flying display.

3.45 p.m. Ceremony of "Beat Retreat" by Combined Bands.

5.30 p.m. R.A.N. Air Station, Nowra, closed to visitors.

A STATIC DISPLAY OF AIRCRAFT AND EQUIPMENT WILL BE OPEN FOR INSPECTION THROUGHOUT THE DAY.



SEE YOUR NAVY AT WORK

H.M.A.S. WATSON'S
"OPEN DAY"
2nd OCTOBER, 1961

The first major function during the 1961 Navy Week in Sydney will be at H.M.A.S. WATSON, when this establishment will be open for public inspection from 1.30 p.m. to 5.00 p.m. on Monday, 2nd October.

HOW TO GET THERE:

H.M.A.S. WATSON is located at South Head with an Army establishment adjoining. The entrance gates are in Cliff Street, Watson's Bay. Buses from Central Railway (Eddy Avenue), Bridge Street, corner of Park and Elizabeth Streets, and Kings Cross terminate at Watson's Bay, approximately 300 yards from the entrance gates.

Visitors arriving by private car should drive through the entrance gates. They will then be directed along Watson Drive to a car park.

WHAT TO SEE

H.M.A.S. WATSON is the home of the Torpedo Anti-Submarine School, the Navigation Direction School, the East Australian Naval Band and an Advanced Cookery School.

Throughout the afternoon men from the two first-mentioned Schools will demonstrate for the benefit of visitors, the tasks for which they are trained.

TORPEDO ANTI-SUBMARINE DISPLAYS AND DEMONSTRATIONS

1. Within the School there will be static displays of Torpedo Anti-Submarine Equipment. Anti-Submarine attack

teams will show visitors how submerged submarines are detected and the sequence of events leading up to attacks by anti-submarine mortars.

2. Perhaps the most spectacular events will be the anti-submarine mortar firings and the diving demonstrations by Naval clearance divers.

3. Visitors will see at first hand how the mortars are fired in exactly the same way as in anti-submarine ships of the Royal Australian Navy.

4. Naval clearance divers will demonstrate in Lady Bay how they enter the water and are retrieved by a fast-moving boat so that they may carry out their mission in enemy waters and make good their escape as quickly as possible.

NAVIGATION DIRECTION DISPLAYS:

In the Action Information Training Centre and Radar Block all available radar sets will be operating. Here the visitor may witness how ships and aircraft are located by radar and their movements plotted, so that the Captain of a ship can see immediately the disposition of friendly and enemy forces and make his plan for attack.

BAND MARCHING DISPLAY:

Throughout the afternoon the combined Naval Bands of H.M. Australian Fleet, the East Australian Area and H.M.A.S. ALBATROSS will play incidental music on the Parade Ground immediately in front of the Amenities Building. As a

finale they will give a marching display at 4.45 p.m. on the Parade Ground.

REFRESHMENTS:

Around the establishment visitors will find refreshment stalls to cater for their immediate requirements and Afternoon Tea may be obtained in the Amenities Building at 3.30 p.m.

RATINGS' ACCOMMODATION AND AMENITIES:

The lower floor of the northern Junior Ratings' Accommodation Block will be open so that visitors may see the comfortable living conditions in H.M.A.S. WATSON.

An inspection of the first floor of the Amenities Building will show how pleasantly ratings may spend their off duty hours with provision for wet and dry canteens, billiard and reading rooms, and television. On the ground floor of this building is a modern galley and first-class dining hall, with a seating capacity of 400.

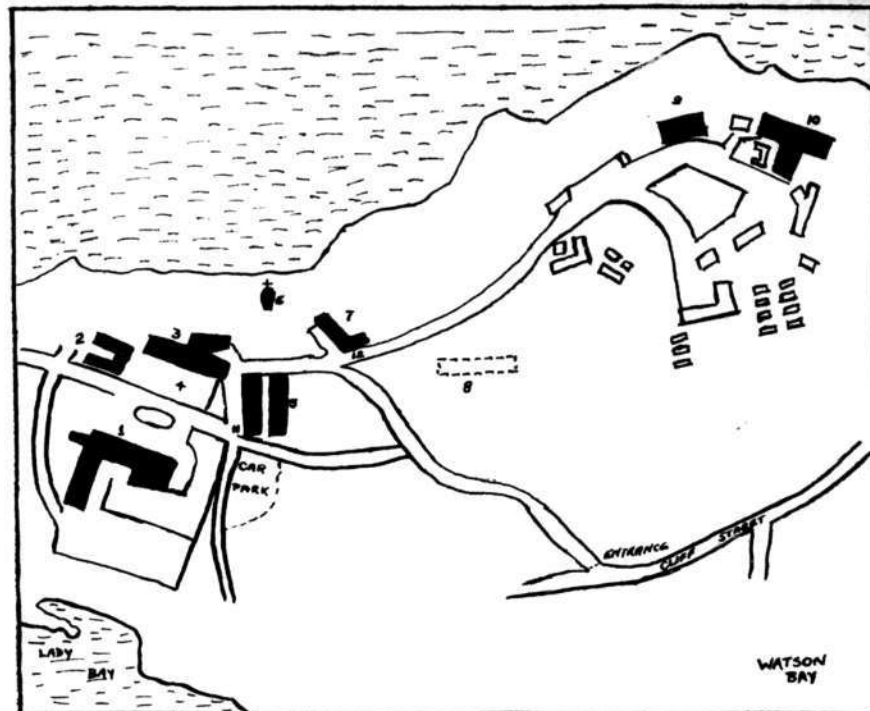
SHORT HISTORY OF H.M.A.S. WATSON:

The establishment first commenced in the early years of the Second World War, when the need arose for a school in which to train operators of Radar, which had recently come into service in the R.A.N. The establishment was enlarged considerably in 1944, and in 1945 it was officially commissioned as H.M.A.S. WATSON.

In the meantime, navigation training had commenced at WATSON, and the two types of training were combined under the title of Navigation Direction School.

The Torpedo Anti-Submarine School, which has been located at Rushcutter Bay, moved into its fine new building at WATSON in 1956 and,

THE NAVY



following this, new accommodation buildings, dining hall galley and amenities buildings for all ratings, plus a new Administration building, have been completed.

The new chapel will also be open for inspection during the afternoon.

LOCATION OF INSTALLATIONS

- | | |
|--|--|
| 1. Torpedo Anti-sub. School. | 7. Administration Building. |
| 2. Chiefs and Petty Officers' Accommodation. | 8. New Wardroom (under construction). |
| 3. Amenities. | 9. Action Information Training Centre. |
| 4. Parade Ground. | 10. Radar Block. |
| 5. Junior Ratings' Accommodation. | 11. First Aid Post. |
| 6. Chapel. | 12. Lost Children. |

PROGRAMME OF DISPLAYS

ANTI-SUBMARINE ATTACK DEMONSTRATIONS:

1.45 p.m., 2.15 p.m., 2.45 p.m., 3.15 p.m., 3.45 p.m., 4.15 p.m. Teams will show how attacks on submarines are made, using under-water detecting devices. The demonstration will take place in the T.A.S. School.

ANTI-SUBMARINE MORTAR FIRINGS:

2.00 p.m., 2.45 p.m., 3.30 p.m., 4.15 p.m.

These firings will simulate attacks on enemy submarines and will take place at the rear of the T.A.S. School.

CLEARANCE DIVING DEMONSTRATIONS:

2.15 p.m., 3.00 p.m., 3.45 p.m., 4.30 p.m.

Clearance divers will simulate action in clearing an enemy beach-head of obstructions. This will take place in Lady Bay at the rear of the T.A.S. School.

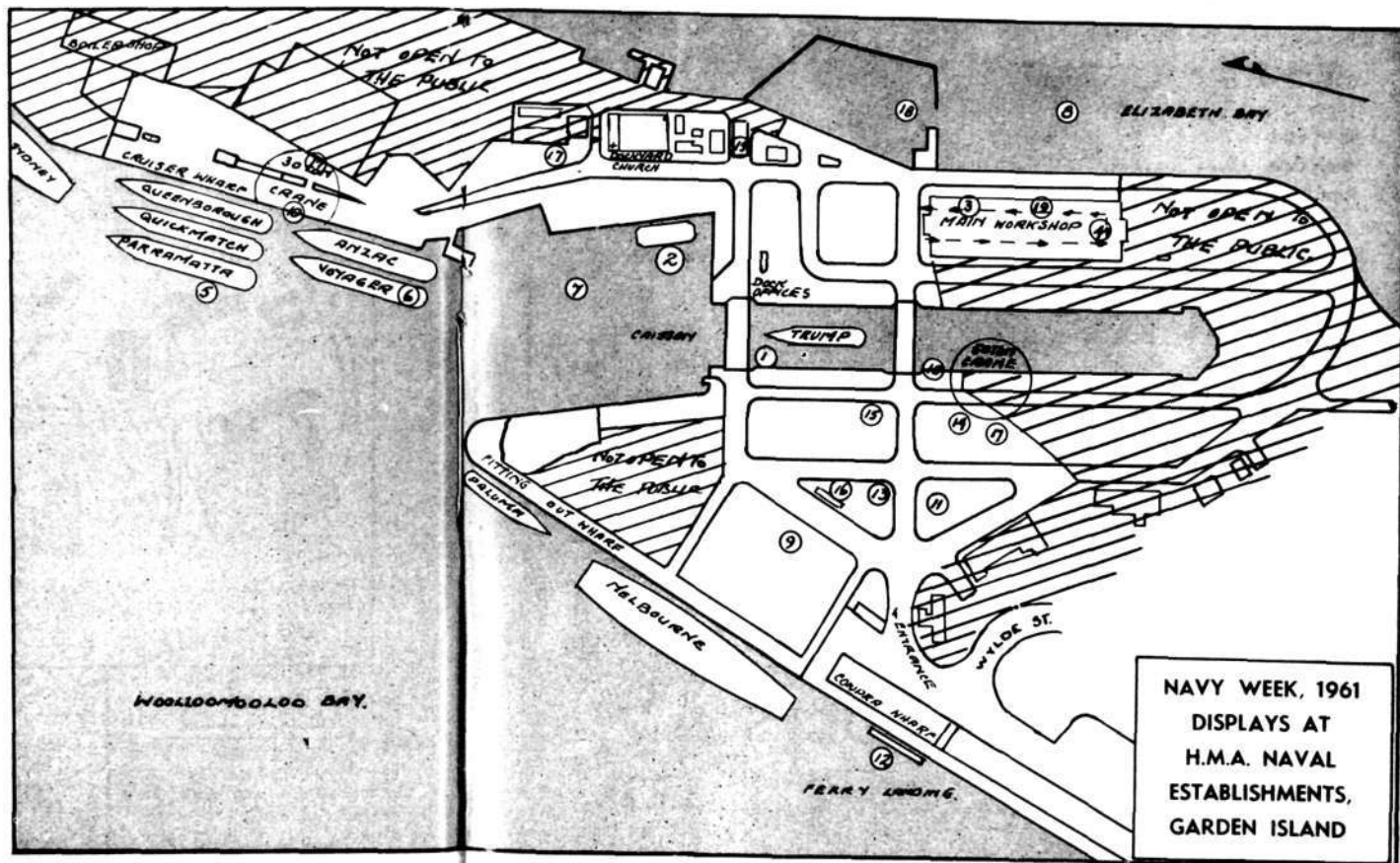
BAND MARCHING:

4.45 p.m. on the Parade Ground.

NAVY WEEK IN SYDNEY — DISPLAY AT GARDEN ISLAND, OCTOBER 7

Programme of Events

- P.M.
- 1.30 Dockyard gates to be opened.
 - 2.00 Dockyard and H.M.A. Ships open to visitors, Crane Rides begin. (10)
 - 2.00 Helicopter display and diving display in Woolloomooloo Bay. (7)
 - 2.15 Submarine, Diving and Surfacing. (1)
 - 2.15 Display of Mines likely to be found on beaches. (16)
 - 2.25 H.M.A.S. PARRAMATTA fires A S Mortars. (5)
 - 2.30 H.M.A.S. VOYAGER fires Torpedo. (6)
 - 2.30 Fire fighting display. (9)
 - 2.30 Helicopter display in Woolloomooloo Bay. (7)
 - 2.50 Frogmen drop and pick-up drill south of South East Pound. (8)
 - 3.00 Flypast and attack on ships.
 - 3.15 H.M.A.S. PARRAMATTA fires A S Mortars. (5)
 - 3.20 H.M.A.S. VOYAGER fires Torpedo. (6)
 - 3.30 Submarine, diving and surfacing. (1)
 - 3.30 Helicopter display. (7)
 - 3.45 Diving display in South East Pound. (18)
 - 3.46 Display of Mines and other weapons likely to be found on beaches. (16)
 - 3.50 Fire fighting display. (9)
 - 4.00 Helicopter display in Woolloomooloo Bay. (7)
 - 4.05 H.M.A.S. PARRAMATTA fires A S Mortars. (5)
 - 4.10 H.M.A.S. VOYAGER fires Torpedo. (6)
 - 4.10 Frogmen attack from Submarine. (1)
 - 4.30 Fire fighting display. (9)
 - 4.45 Helicopter display. (7)
 - 4.50 Submarine, diving and surfacing. (1)
 - 5.00 Display of Mines and other weapons likely to be found on beaches. (16)
 - 5.00 H.M.A. Ships closed to visitors.
 - 5.30 Ceremonial Sunset by Combined Navy Bands. (11)
 - 6.00 Dockyard closed to visitors.



NAVY WEEK, 1961
DISPLAYS AT
H.M.A. NAVAL
ESTABLISHMENTS,
GARDEN ISLAND

A SHORT HISTORY OF H.M.A. DOCKYARD CHURCH, GARDEN ISLAND

The first known Church service to be held in the present Church was a Thanksgiving Service for peace on the termination of the South African War. This would make the date of the present Church

about 1902. Much can be said of this unusual Church (see brochure inside entrance door of Church). The Church unique of its kind, and I doubt whether you would find another church in Australia,

not on the ground level, yet having an outside entrance. The history of the Royal Australian Navy can be traced by looking at the stained glass windows, which depict many gallant ships.

Location of Displays and Amenities at Garden Island

1. Submarine diving and surfacing — outer Captain Cook Dock.
2. Floating Dock.
3. Main Workshop.
4. Apprentices' Display.
5. H.M.A.S. PARRAMATTA fires anti-submarine mortars.
6. H.M.A.S. VOYAGER fires torpedoes.
7. Helicopter and diving display.
8. Frogmen drop and pick up drill.
9. Fire fighting display.
10. Crane rides.
11. Ceremonial Sunset and combined bands.
12. Ferry landing.
13. Lost children.
14. Ladies' rest room.
15. First aid.
16. Display of mines and other weapons likely to be found on beaches.
17. Ladies' toilets.
18. Frogmen South East Pound.
19. Film screening.

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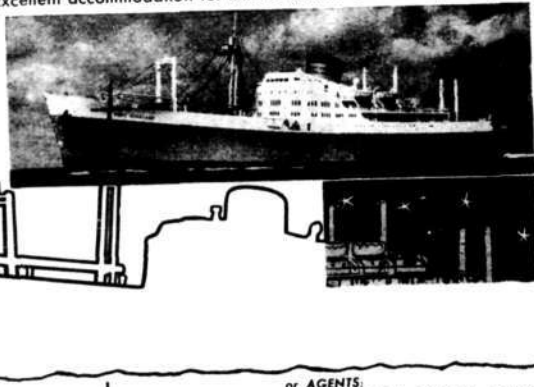
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Operation "Deep Dive"

The routine life may now seem somewhat tame for a group of Royal Australian Navy divers who have just completed a special assignment in the Snowy Mountains.

THEY have spent three months tackling one of the most difficult diving jobs ever attempted. It involved making the deepest working dive in the Southern Hemisphere, and operating in the freezing water of the Lake Eucumbene Dam. The divers faced the constant hazard of nitrogen narcosis, a kind of underwater "intoxication" brought about by the great depths. To avoid "diver's bends," they had to spend hours dangling from their safety lines, being staged gradually back to the surface.

The Navy divers have successfully completed their hazardous assignment, and are back at the Navy's Diving School at H.M.A.S. RUSHCUTTER in Sydney. The Navy gained a considerable amount of valuable experience from the deep diving project, and is now confident of tackling diving tasks down to 280 feet.

The Navy sent the diving team to Eucumbene on a special request from the Snowy Mountains Authority. The Authority was concerned about a leakage in a temporary sealing device at the entrance to the Lake Eucumbene diversion tunnel. The only practical method of checking the trouble was to send down divers, and the only people capable of such a job were the R.A.N.'s highly trained "clearance" divers.

A specially selected team of eight of the Navy's most experienced divers immediately began conditioning for the deep diving task. They

normally worked at little more than one-hundred feet, and the Snowy assignment called for diving to two-hundred-and-sixty feet, so the training concentrated on adjusting the divers to deep water conditions. They were put through a series of gradually deeper dives in the compression chamber at H.M.A.S. RUSHCUTTER until they became accustomed to the maximum depth.

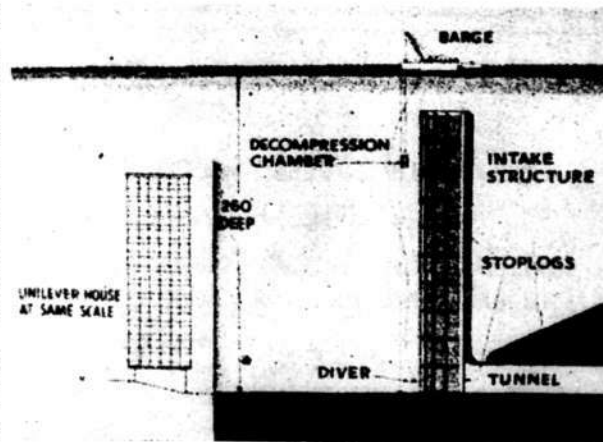
Dismantling a Tower

Within a couple of weeks they were on the job at Lake Eucumbene, working from a pontoon placed over the diversion tunnel's intake tower. The tower itself rose 230 feet from the lake bed, which put its top thirty feet below the surface. To get to the temporary sealing device the divers first had

to dismantle one side of the tower, which comprised a series of "trash racks."

Using a floating crane, the divers set about removing the twenty 3½-ton trash racks. Dismantling one side of the intake structure was largely a safety measure insisted upon by the Navy's diving expert in charge of the project, Commander M. S. Batterham, of Melbourne. The divers could have gone straight down the centre of the tower, rather like being lowered down a tall factory chimney, but the restricted area could have severely hampered them in an emergency.

Removal of the "trash racks" was a frustrating and time-consuming task. The racks near the surface came away readily, but the ones at greater depths had become



September-October, 1961

stuck fast in the tower frame. This called for the divers' demolition skill. With small explosive charges they released the racks without damaging them or the tower.

Obstinate racks were not the only problem. At the greater

depths the divers began to be affected by nitrogen narcosis. A diver would go down to attach the crane to the next rack, and return to the surface sublimely confident that his task was complete. Unsuccessful hoisting by the crane

would call for another diver to investigate. His report was that the first diver had not attached the lifting chains correctly. Still more hauling without effect. A third diver would return to report that both previous men had been under an illusion! The underwater "intoxication" had caused them to have lapses of memory in the middle of the job, leaving it only partially completed.

The final frustration came when after three divers had eventually prepared the rack for lifting, the crane cable broke and the divers were back where they started!

However, the battle of the racks was finally won, and the divers were able to concentrate on checking and helping to repair the leaking sealing device at the entrance to the diversion tunnel. The temporary sealing device comprised twenty-eight five-ton "stop-logs," which also had to be removed in the course of the project.

Water "Intoxication"

Diving suits were imported from France for the job and special breathing apparatus was produced in Australia to meet the specific requirements of the R.A.N. divers. The suits were designed to cope with pressure and temperature, and also permitted constant voice communication with the surface, which was a major safety factor. While working at great depths, the divers were under orders to keep talking. At the first sign of an irrational comment — the tell-tale sign of nitrogen narcosis — the divers were brought to a higher level, where they quickly recovered.

If prompt action is taken, there is no lasting effect from the narcosis. But if left to his own devices the affected diver

THE NAVY

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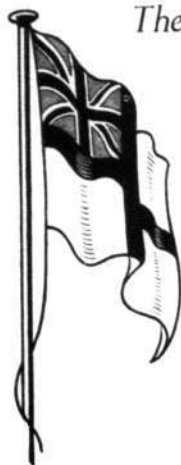
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THE NAVY

can endanger his own life while lost in a "dream world." Commander Batterham quotes the case of the diver who thought a passing fish could make better use of his diving helmet, and set about preparing to put the thought into action.

To fend against the bitter cold, the divers at first tried wearing several sets of "winter woolies." But finally they settled on two diving suits, wearing the conventional sponge rubber suit under the new French outfits.

Special underwater floodlights were essential when working at the lake bed. Even with the powerful lights, visibility was only a matter of inches.

For a few minutes at the maximum depth, a diver had to spend long periods being decompressed. For about a quarter of an hour at 260 feet, it took an hour and a half to

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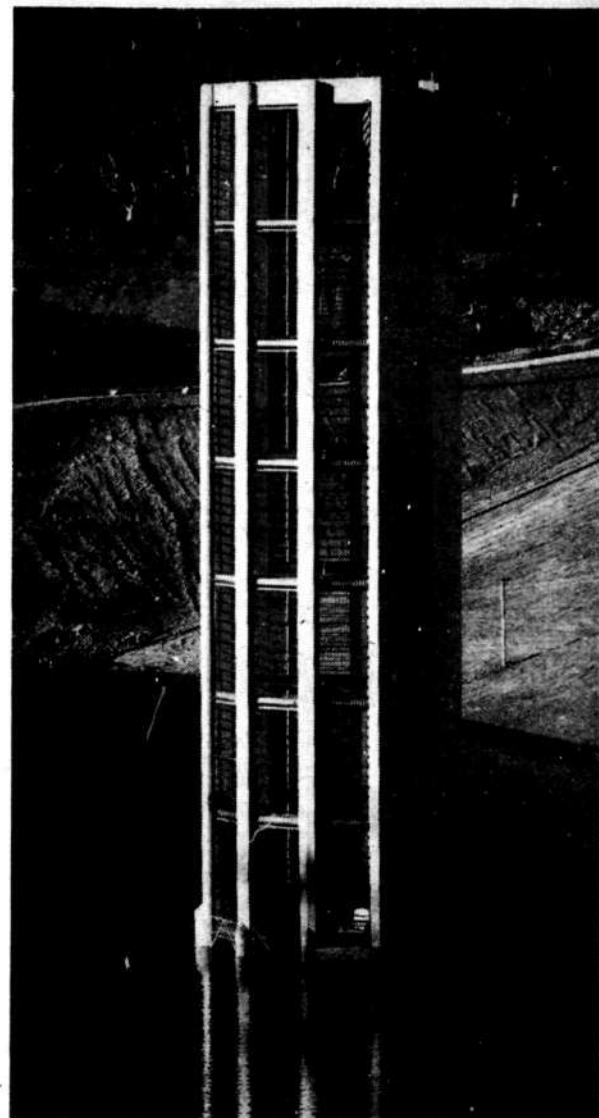
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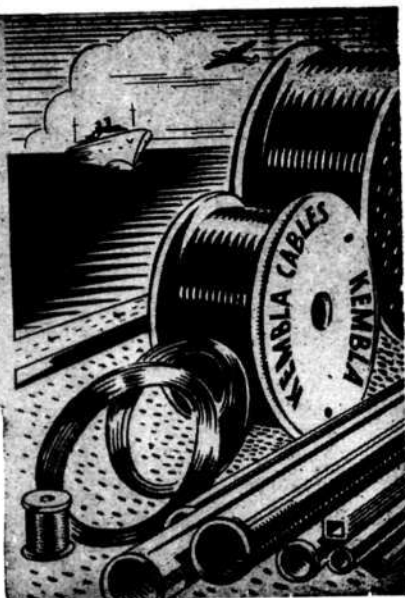
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be "staged" back to the surface. This was where the Navy diving experts gained experience in a new method for speeding ascent. Pure oxygen was fed to the diver

through his air hose, and this greatly reduced decompression time. For a quarter of an hour at the lake bed, a diver could be decompressed in thirty-six minutes.

While being eased gently back to the surface, the diver hung to his control rope, rather like a giant spider dangling from a web. This was the most monotonous aspect of the job. The senior officer of the diving team, Lieutenant R. M. Titecombe, said the divers tried to keep their minds occupied. He made a practice of counting the spots in the water!

To assist with the decompression of divers working at the maximum depth, the Navy transported its submersible decompression chamber to the site. This served as an underwater "elevator," bringing the divers rapidly back to the surface and decompressing them in comparative comfort. However, this device could not be used when the trash racks and stop logs were being removed, because the only available crane was required for lifting.

The Team

The strain of the deep diving meant that a man could live only once in twenty-four hours. On the surface between dives there was plenty to keep him busy. When a diver was down, another stood by for emergencies. Others controlled the air hose, kept recordings as the diver decompressed, and listened for signs of nitrogen narcosis. On one occasion when the services of the emergency diver were required, he reached eighty feet in eleven seconds.

With the leakage isolated and eliminated, the divers replaced the twenty-eight stop logs and twenty trash racks and the task was finally completed.

In the latter stages, the weather had added considerably to the divers' problems. With the approach of winter, the water temperature fell a further ten degrees and daily frosts froze the decking of the pontoon. Natural increase raised the level of Lake Eucumbene by ten feet, so that at the end the divers were working at near 270 feet.

The Diver's Role

In Sydney, the divers are now back to their daily routine training for their highly specialised defensive and offensive roles. The "clearance" diver, in his defensive role, is trained to clear minefields and remove explosive devices placed beneath ships. In his offensive role, he is capable of underwater attacks on enemy ships and commando-type raids on shore installations.

The divers, while trained for war, are frequently called upon to apply their skills in peace time. Last year they worked in shark-infested waters off the Queensland coast to recover a crashed airliner.

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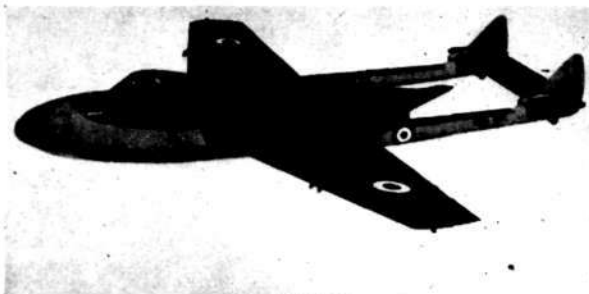
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THE NAVY



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A Special Service for Sea Cadets and to commemorate Trafalgar Day will be held in the Dockyard Church at 10.45 a.m. on 22nd October.



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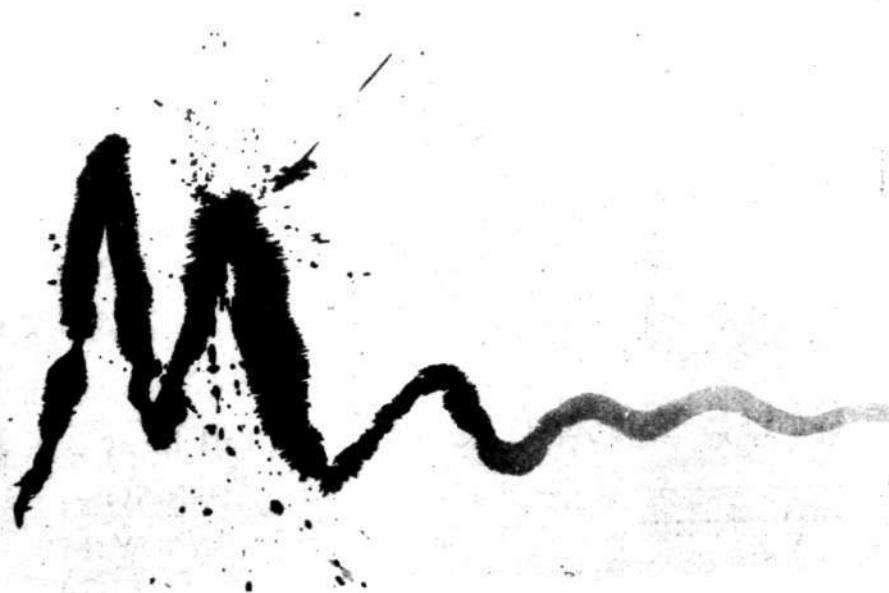
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R.A.N. SHIPS 24 TIMES

In twelve months, ships of the Royal Australian Navy have steamed the equivalent of twenty-four times around the world, while Naval aircraft have logged a total of fourteen months flying time.

The Minister for the Navy, Senator Gorton, released the figures recently in a review of Naval activity during the past financial year.

He said R.A.N. ships had steamed just over 600-thousand

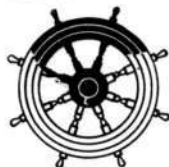
miles during the year, equal to twenty-four times around the world. They had visited thirty-five ports in Australia and thirty-three overseas ports, mostly in South East Asia. An average of seventeen ships had been in commission during the year, and they had been engaged in operational activities, duty with the British Commonwealth Strategic Reserve, training, oceanography and surveying.

Navy pilots of the Fleet Air Arm logged ten-thousand flying hours during the year, equal to a total of fourteen months in the air.

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The carrier pilots created a record during MELBOURNE'S 5 month Asian cruise this year. They flew 1-thousand-3-hundred-and-fifty sorties involving 1-thousand-7-hundred deck landings.

R.A.N. ships and aircraft took part in Exercise JET 61, the biggest Commonwealth Maritime Exercise staged in South East Asia, and in "Pony Express", SEATO'S most extensive manoeuvre.

Senator Gorton said the cur-

rent financial year would see the Royal Australian Navy adjusting and preparing for new equipment and tactics. Final preparations would be made for the introduction of helicopters in the anti-submarine role.

Crews for six new minesweepers would begin training, and before the end of the financial year the carrier, H.M.A.S. SYDNEY, would be ready for her new task as a fast troop transport.

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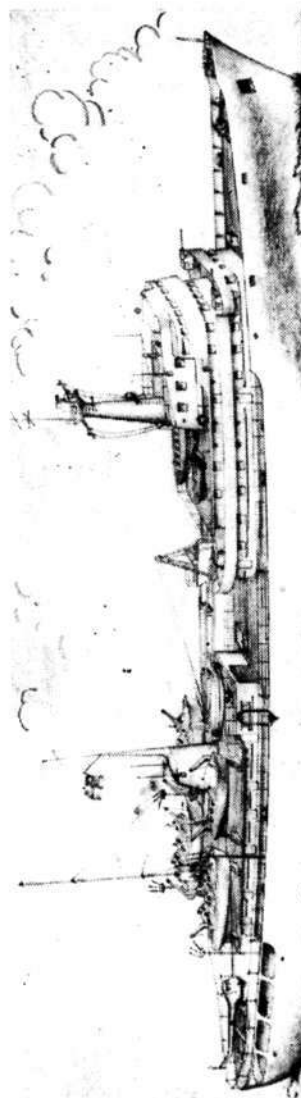
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She is one of the three sub-
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The submarines are based in
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his friends call him "Lucky"...



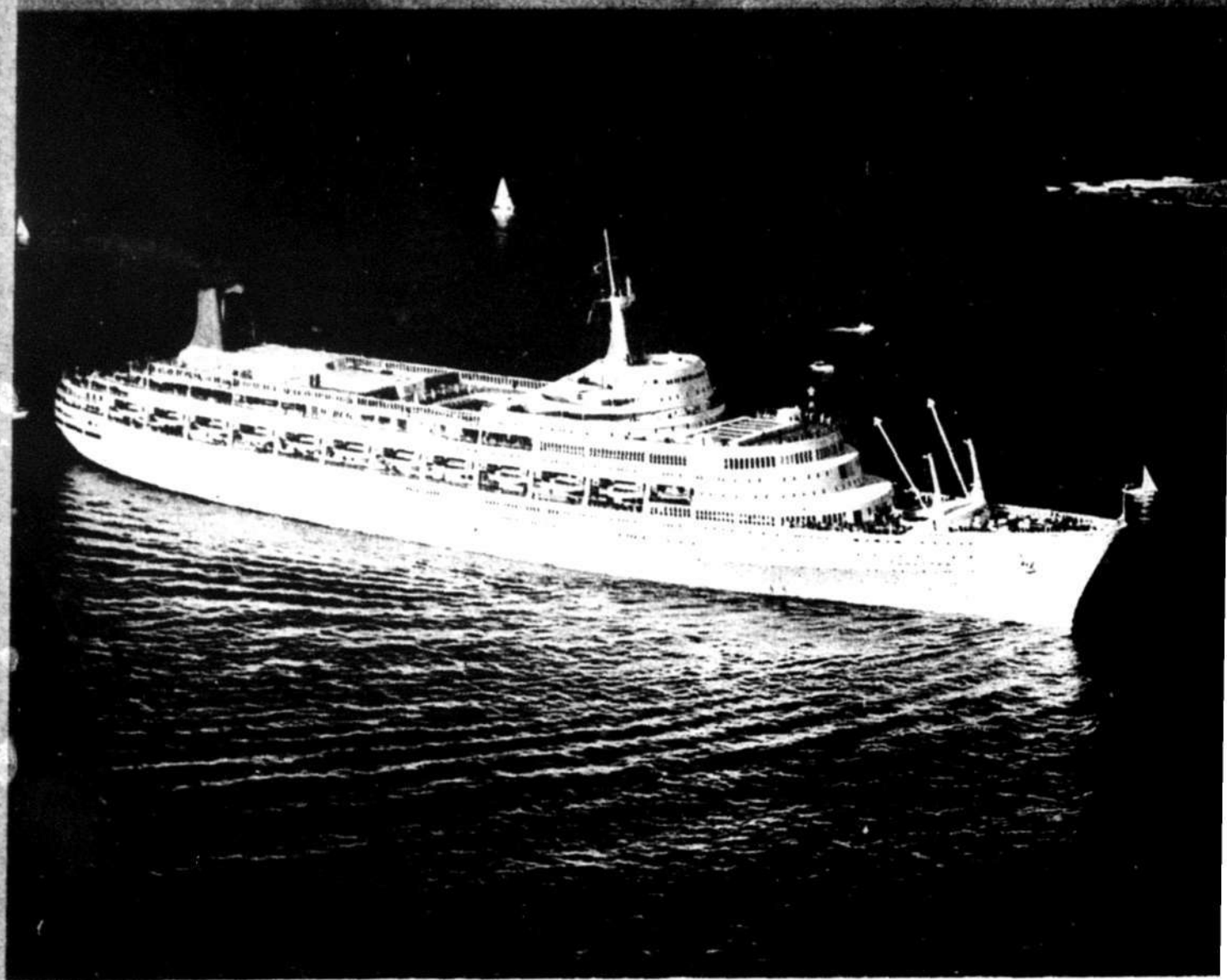
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