are taught subjects including harmony, orchestration, the history of music and conducting. Many musicians, as a result of this experience, are able to take rewarding employment in the world of music when they leave the service.

Since the end of World War II Royal Marines have taken part in almost every campaign, including those in Malaya, Korea, Cyprus, Borneo and Aden. Currently, Royal Marines Commandos and landingcraft crews are involved in Northern Ireland alongside the Army. 41 Commando Royal Marines was for a time part of the United Nations Peace-Keeping Force in Cyprus in 1974. As a result of its work the unit was awarded the Wilkinson Sword, which is annually presented to the ship or unit adjudged to have made the most valuable contribution towards establishing good and friendly relations with the inhabitants of any territory within or outside the United Kingdom. 40 Commando Royal Marines has been awarded the Sword twice, for community work in Sarawak in 1966 and in Belfast in 1972.

The strength of the Royal Marines lies in their adaptability and in the high professional standards achieved during their thorough and demanding training. The Corps knows that the efficiency of the whole always depends upon the quality and character of each individual officer, warrant officer, non-commissioned officer and marine, and prides itself on the excellent relationships that exist between ranks.

The Royal Family and the Corps

When King George VI died, the Corps lost a much loved Captain-General, a title he assumed in 1948 before which he had been Colonel-in-Chief. The new Queen's husband had been a professional naval officer for many years prior to the accession in 1952. It therefore seemed highly appropriate that His Royal Highness the Duke of Edinburgh should become the new Captain-General, which he did in 1953. Since then Prince Phillip has shown tremendous interest in the Royal Marines and is by now as well versed as any in the Corps of which he is head. The Royal Marines owe him a great debt for his inspiration and guidance over the last 24 years.

HM Royal Yacht *Britannia* always embarks a Royal Marines band from Eastney Barracks, Portsmouth, whenever Her Majesty or members of her family are aboard. This is perhaps the most personal service that the Corps renders Her Majesty and one which, since Queen Victoria, successive sovereigns have been pleased to accept.

HRH the Prince of Wales has served as a naval pilot in 848 Naval Air Squadron and as such he has been embarked in Commando and assault ships of the Fleet, landing Royal Marines Commandos on exercises in Canada and elsewhere. He thus has an intimate knowledge of the modern techniques of the Marines' amphibious role. For this modern role the Corps is much indebted to his great uncle, Admiral of the Fleet the Earl Mountbatten of Burma, who as Chief of Combined Operations in World War II did much to ensure that Royal Marines were included in the Commandos. Later, as First Sea Lord and then as Chief of Defence Staff, Lord Mountbatten guided the Corps into its latest amphibious role, landing by helicopter from Commando and assault ships. After ceasing active service in the Royal Navy in 1965, Lord Mountbatten was appointed Life Colonel Commandant Royal Marines, a rare honour for one who has not actually served in the Corps.

The Royal Marines look forward to many further years of loyal service to Her Majesty and with the Duke of

The Royal Fleet Auxiliary Service

The Royal Fleet Auxiliary Service, usually known as the RFA, is the branch of the RN Supply and Transport Service which provides a logistic support force for the Navy in the form of ships that carry and provide to the fleet at sea its requirements of fuel, food, ammunition and stores of all kinds; in addition it carries out other support tasks for the armed services. The ships are painted grey but they are not warships nor are they manned by naval personnel. They carry their own distinctive blue ensign with a vertical anchor in gold in the fly. Nearly all their officers and petty officers and a proportion of the ratings are career service personnel who remain with the RFA throughout their sea-going careers. The remainder are drawn from the Merchant Navy and all are on MN pay and conditions.

RFAs normally form part of naval task groups and accompany the warships on their normal peacetime deployment and whenever emergencies occur. The present-day RFA comprises 34 ships, half of which are tankers and the remainder stores support ships, store carriers, logistic landing ships and a helicopter training ship.

Tankers are of two main categories: fleet tankers and freighting tankers. A fleet tanker can carry four or five different grades of oil required by warships and naval aircraft, and can issue them simultaneously. She can refuel up to three other ships at a time, one either side at a distance of between 80 and 150 feet with the third steaming astern. The receiving ships come up and take position on the tanker but in the case of an aircraft carrier or other large ship the tanker will take station. A line is then fired across and with this the hoses are hauled over, to be coupled into the receiving ship's system. As the ships steam along, rolling in the seaway, the distance between them is continually changing and automatic tension winches pay out or take up the slack in the hoses as necessary. There are six large fleet tankers *(Olwen* and *Tide* classes) and five smaller ships of the *Rover* class. There are five freighting tankers, the *Leaf* class, and a larger ship *Dewdale,* which collect oil from refineries and transport it to naval fuel depots. They also carry fuel to replenish fleet tankers. This allows the latter to remain longer in company with the naval force of which they form part.

Store carriers transport cargo for the forces from one place to another. There are three of these, *Hebe* and *Bacchus,* which carry general cargo for all three services, and the *Empire Gull,* which is used for carrying Army vehicles.

Stores support ships are in effect sea-going warehouses which carry ammunition, food, stores and other commodities required by the Navy. There are seven of these, three of the *Ness* class and two each of the *Resurgent* and *Resource* classes. These ships can replenish two ships under way simultaneously, one either side, using a technique somewhat similar to the fleet tankers'. In addition, by using helicopters, they can supply stores to other ships steaming considerable distances away by a procedure known as vertical replenishment. Stores support ships will carry as many as 40,000 different items for re-supply to the warships and up to 60 loads an hour can be passed across. The stores organisation on board these ships is looked after by civilian staff of the Royal Naval Supply and Transport Service.

The logistic ships are used to carry troops, and their vehicles and equipment ; they are military 'car ferries' and have bow and stern doors through which tanks and lorries can be driven on board and off. With their shallow draught these ships can, if necessary, be 'beached' to enable unloading to take place direct over the beaches. These six ships are named after knights of the Round Table of King Arthur.

The main function of the helicopter ship RFA *Engadine is* to enable naval helicopter pilots to become proficient at deck landing in all winds and weather, by night as well as day. This ship is particularly interesting because in addition to her RFA crew, the aviation side

of things is looked after by RN officers and men so she is truly a 'mixed' ship—but very efficient.

In addition to *Engadine,* all the newer ships—over half of the fleet—have flight-decks and refuelling equipment for helicopters. Some ships also have hangars and helicopter-maintenance facilities which are used by Royal Navy helicopters as required.

Underway replenishment is an art which has steadily developed with improved gear and methods. The procedure was given considerable impetus during World War II, when the Royal Navy deployed in force to the Pacific in 1944/45, and later during the Korean War, when warships had to operate at long distances from their main support bases. Transfer of bulk ammunition and other heavy cargo in large quantities continued to develop in the decade following World War II, and in the sixties, after the bringing into service of a number of purpose-designed stores support ships. At the present time development of equipment is going on to improve the safety of loads in transit, especially in rough weather ; for it is no use transferring costly and sophisticated equipment if it gets damaged in the process !

In addition to supporting our own warships, the RFA is well used to replenishing, with both fuel and stores, the warships of Commonwealth and Allied navies and they carry the necessary gear for this purpose.

Although underway replenishment is a routine task to warships and RFAs, it is a job demanding precision and skill. Picture two, or three, ships steaming close together in heavy weather at quite fast speeds. A false move could bring disaster. Then imagine this being done in blackout conditions, while the ships are closed up under simulated attack !

The officers and men of the RFA not only have to be trained like the rest of the Merchant Navy in basic ship handling, operation and maintenance. They must also become skilled in working with warships and helicopters, in evolutions such as underway replenishment and tactical manoeuvring and, when they are in the logistic landing ships, they have to work with the Army too.. So it is a demanding job requiring a high level of skill and proficiency. The keynote is training and, like the Navy, with whom it trains, the RFA puts a good deal of emphasis on this.

The RFA has a cadet entry scheme for boys aged from 164 years who wish to make the sea their career as deck and engineer officers. It also takes in more mature officers who have served with other companies. In addition it has radio, electrical and purser officers. With the advanced electronic equipment fitted in RFAs, radio officers get a considerably more intensive experience than their counterparts in merchant ships. Electrical officers, too, look after the wide range of electrics in RFAs, while the pursers are responsible for catering, accounts, and other administrative work on board. All officers are given courses to enable them to learn their various jobs and develop their skills.

The RFA is a service with high standards. It provides a job of wide variety and it is full of interest. Its proud boast is that the initials stand for 'Ready for Anything'.

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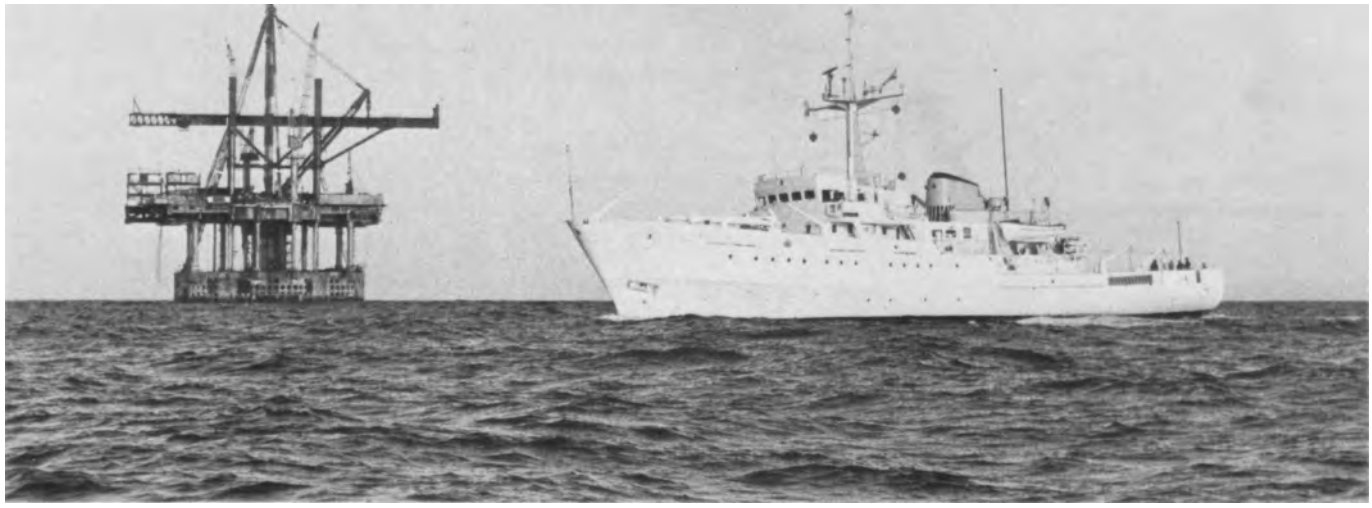
FACING PAGE: *HMS* Ark Royal *being serviced by two RFA ships : on the starboard side* (left of the picture) *by a Tide class fleet tanker; on the port side by RFA* Lyness, *a Ness class store support ship.* THIS PAGE (top): *RFA* Regent, a *fleet replenishment ship.* (centre): *RFA* Green Rover, *a small fieet tanker.* (bottom): *RFA* Sir Bedivere, *a landing ship logistic. She is attended by the Dog class tug,* Spaniel, *towing a fuel lighter. A hovercraft is standing by* Bedivere's *open bow doors.*



The Hydrographic Service

One of the oldest and smallest departments of the Ministry of Defence (Navy) is that of the Hydrographer of the Navy. Established on 12 August 1795, the Hydrographic Department is responsible for producing and updating the nautical charts and navigational publications not only for the Royal Navy, but also for all other Government departments, as well as for the Merchant Navy, fishermen, yachtsmen, and all those who are concerned with the exploitation of the sea bed.

The present Hydrographer of the Navy—Rear-Admiral D. W. Haslam, OBE, FRICS—is the 21st holder of the office and he is head of a branch with almost 1,000 civilian and naval staff at Taunton, and only slightly fewer in the 13 HM Surveying Ships. The 3,500 individual charts, which make up a homogeneous world-wide series, and the navigational publications which the department produces are available throughout the world.

To understand how this sizeable business has grown, one must go back a long way. Ever since man first went to sea, mariners have kept careful records in order to profit from their experiences and to be able to return safely. Early charts of British waters were privately produced copies of charts made by the Dutchman Waghenair, but in the late 17th century various maritime bodies, such as Trinity House, persuaded Charles II to appoint Captain Greenville Collins to conduct a systematic survey of the coastline. After 10 years, his results were published in *Great Britain's Coasting Pilot,* which was very accurate indeed considering the equipment and time available. In 1751, the Admiralty appointed a civilian surveyor, Murdoch Mackenzie, to make charts of the west coasts of Britain and Ireland to add to his earlier works in the Orkneys. Captain Cook's first hydrographic survey enabled the British forces to navigate parts of the St Lawrence river which the French regarded as unnavigable, and led to the capture of Quebec in 1759. Captain Cook then carried out detailed surveys off Newfoundland before his more famous voyages to the Pacific.

No Government money, however, was spent in publishing the results of these surveys. Charts of varying accuracy were sold by private booksellers who catered chiefly for merchant ships. Captains of men-of-war had to buy what they could afford, and many were forced to use very inadequate versions, which usually made up in artistry what they lacked in accuracy, with illustrations of cherubs, whales and animals.

Complaints from HM Fleet about the need for a hydrographic department had begun in 1740 at least, and it is probable that George III had planned to appoint Captain Cook as the first Hydrographer of the Navy had he returned from his fatal Pacific voyage. In the early Napoleonic Wars, losses of British warships by shipwreck because of inadequate charts were greater than those inflicted by the enemy, and Alexander Dalrymple was eventually appointed as the first Hydrographer of the Navy. He was then aged 59 and already hydrographer to the East India Company in 1795. The only civilian to hold the post, he set out to sort the mass of unpublished data, with a salary for himself and his staff of only £650 a year.

Although Dalrymple succeeded in cataloguing and co-ordinating a prodigious amount of data, he refused to use captured French data until this was published by the French Hydrographic Office. A Charting Committee, set up in 1808 to advise on the selection of charts needed by the Navy, recommended the issue of folios of selected charts to each warship, and when Dalrymple disagreed, he was asked by the Admiralty to retire and died three weeks later—it was said of a broken heart.

Captain Hurd, who had been on the Charting Committee, was then appointed and, within a year, had issued the first 113 chart folios to the Fleet. He was a tireless organiser and, despite the reduction of the Fleet after the Napoleonic wars, he got approval to man special warships with surveying officers. By 1820, there were 12 Surveying Ships with surveying specialists in command. When Hurd died in office in 1824, he had laid the firm foundations for the present pre-eminence of the department in the international hydrographic field.

For the next 90 years the Navy's surveying ships—then, as now, with hulls painted white and with buff-painted funnels and unarmed—literally surveyed the world. Wherever British trade could be developed, naval survey ships went to find the safest routes. Few other countries had the ability or knowledge, and everywhere British surveying ships and their crews were welcomed. The result was that many coastal charts—in China, Japan, Australasia, the Americas, Africa, the Pacific and the Caribbean—to this day have traces of their incredible efforts.

Throughout this *pax Britannica* era, however, the draught of ships remained fairly constant; the method of sounding remained the traditional one of using a lead weight on a marked line. With so much of the ocean to be explored, waters regarded as only slightly deeper than the deepest vessel expected to use the area were not fully investigated. The time and effort needed to lower a hand lead-line in deep water were considerable but, although each cast of the lead only gave the depth of the few inches of the sea bed actually struck by the lead, the experience of the surveyors enabled them to locate a much larger number of hidden pinnacles than the law of averages would suggest.

The requirement to lay submarine telephone cables across the oceans led to the development of deep-sea sounding machines; HMS *Challenger's* four-year circumnavigation of the world from 1873 to 1877, under the guidance of the Royal Society, paved the way for much further

co-operative civilian scientific work. By the outbreak of World War I, the introduction of submarines had led to new needs for better delineation of the sea-bed topography, but it was not until the late 1930s that the surveying scene was dramatically changed by the introduction of the echo-sounding machine. This equipment displays on a paper trace a continuous profile of the sea bed beneath the track of a ship. Sound transmitted from the ship's keel is reflected from the sea bed and received back in the ship. As the approximate speed of sound in water is known, by measuring the time taken for the double journey the depth can be calculated.

The position of the ship as it progressed along its track could still be fixed accurately only by means of sextant angles between marks at accurately positioned points ashore or between beacons fixed in shallow water. Such work was thus confined to good weather and to daylight hours, but the increased accuracy of depth was sufficient to keep pace with the gradual increase of draught of both merchant and naval ships, which in 1953 was still little more than it had been in 1853.

The development of radar and electronic distance-measuring equipment during World War II led to the second major improvement in marine navigation and hydrographic activities. Radar first became available for navigational use about 25 years ago, but it was not until 1957 that the Two Range Decca equipment was fitted to five British survey ships. This consisted of a master station carried in the ship which controlled two ` slave' stations ashore at suitably selected positions and the system enabled the ship's position to be accurately and continuously plotted when up to 120 miles from the land and regardless of visibility or daylight hours.

The foundations of the present surveying fleet had been laid shortly after World War II, when four frigate hulls were converted and commissioned as HM Survey Ships *Dampier, Dalrymple, Owen* and *Cook*. HMS *Vidal—the* first HM ship specifically designed and built as a surveying ship—was commissioned in 1954, when four Survey Ships and five surveying motor launches were employed in UK waters and three survey ships were employed overseas. The first of a new class of inshore survey craft, HMS *Echo,* was commissioned in 1958, and her two sister ships—HMS *Egeria* and HMS *Enterprise—in* 1959; all three are still giving excellent service together, as the Inshore Survey Squadron, based in Chatham.

The four ships of the *Dampier* class and the four pre-war converted minesweepers were all nearing the end of their useful life by the 1960s. Three purpose-built ocean survey ships were laid down in 1964, when orders were also placed for four coastal survey vessels and for the conversion of two inshore minesweepers to replace the last of the two wartime surveying motor launches. This massive and timely replacement of the surveying fleet was partly due to the impending introduction of the powerful deep-diving nuclear submarines and partly tc the anticipated increase in draught of the world's mercantile fleet.

So long as ships remained of roughly the same draught and kept to their traditional routes, the risk of stranding on uncharted dangers was acceptably small. However, by the 1950s the maximum draughts of ships had increased from about 13 metres to over 26 metres ; whilst today concrete oil- and gas-production platforms have to be towed to their off-shore sites with draughts of over 95 metres. It is quite unacceptable to to these through waters which have never been comprehensively surveyed, but less than a quarter of the world's continental shelf has been surveyed by modern echo-sounders. The hydrographic services of the world have to ensure the safety of such platforms and of the 50C or so vessels of over 100,000 dwt which now carry bulk cargoes of petroleum and other products, close to most coasts of the world. HM Surveying Ships can no longer meet this responsibility alone, but 47 maritime countries now belong to the International Hydrographic Organisation, a co-ordinating body established in 1922 to encourage the interchange of navigational and surveying data between nations. Not all the 47 countries can carry out their own hydrographic surveys or print their own charts. There are still many former Commonwealth countries who, rely upon the Hydrographic Department to undertake their hydrographic tasks. The need for this work to continue was acknowledged in October 1976 when part of the cost of HM Surveying Fleet in the year 1977/78 was met from UK overseas aid funds, whilst its importance to the national energy programme was recognised by a contribution from the Department of Energy.

Work in support of trade must also continue. Of the 14,000 wrecks lying in UK coastal waters, the exact position of some 11,000 is uncertain and the least depth of more than 12,500 is unknown. In 1976, over 100 new wrecks were found, including one rising more than 90 feet from the sea bed close to the route taken earlier in the year by the first concrete production platform to leave the Clyde. Since the large VLCCs are known to operate with less than the height of a tall man between their keels and the charted sea bed, every bump and hollow, rock and wreck, down to a depth of 90 feet must be located and heighted accurately. Sonar—or horizontal sound transmission—is now available to search between the lines followed by each surveying ship as it methodically covers its area—like a man mowing a lawn in parallel lines.

This painstaking work—carried out for more than 5,000 hours per year by each ship—may appear boring or dull, but the knowledge that every new danger found may save some ship from stranding motivates both the specialist surveyors and general service ratings serving in HM Surveying Ships.

The same sense of dedication to accuracy is felt ashore, where the 1,000 staff are devoted to transforming the mass of data received into a homogeneous format of most value to the various users. Apart from the work of HM Surveying Ships, some 2,500 foreign new charts and new editions are received annually. Every document is indexed and examined for significant alterations. Details of urgent changes are signalled immediately to ships at sea through the Admiralty's Radio Navigational Warning series—now linked to an international system. Important changes of less urgency are included in the Admiralty series of Notices to Mariners which are issued weekly. Every correction on the stock of some 1,500,000 copies of charts is made by hand, so that every chart, when sold, is corrected to the day of issue. Orders are received from all over the world and every attempt is made to dispatch each order within 24 hours of receipt. Such is the dedication of the whole staff—from the youngest sailor in the furthest deployed survey ship to the newest draughtsman at Taunton—that the proud boast may be earned now, as it could in the last century, that every mariner 'can put his trust in God and the Admiralty chart.'

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FACING PAGE: *HMS* Fox *passing a partly completed offshore oil installation in the Frigg Field in the North Sea. The coastal survey ship was on her way to survey an oil rig tow-out route.* RIGHT: *Lowering a temperature/depth/salinity probe from HMS* Hecate.

The Women's Royal Naval Service

This year, as well as the Queen's Silver Jubilee, the Women's Services celebrate their Diamond Anniversary.

The Women's Royal Naval Service was formed in 1917 to replace men required for active service. Under the directorship of Dame Katharine Furse and in the two years before it was disbanded, it grew to approximately 7,000, the women in the service having proved, to the satisfaction of the Navy, their ability not only to carry out domestic and clerical duties, but such work as boats' crew and wireless telegraphist.

In 1919 the service was completely disbanded, although many of the women who had served kept in touch through the Association of Wrens, and from time to time raised the question of the formation of Women's Services' Reserves. A voluntary training course for women officers was held in 1937, when a proposal was considered that there should be a united women's service to serve the three services, but in 1938 the Board of Admiralty decided that there was a need for women to assist the Navy, as a separate corps, organised on a civilian basis.

In April 1939, it was announced that the King had given permission for the formation of a corps to be known as the Women's Royal Naval Service, to replace naval officers and men on certain duties in time of war. A total force of about 1,500 was envisaged, to be employed on the duties conventionally applicable to women. Mrs Laughton Mathews, later Dame Vera Laughton Mathews, who had served as a WRNS officer in the 1917-19 period, was chosen as Director, and took up her duties in April 1939.

Until the outbreak of war, recruiting was for WRNS officers and ratings who could live in their own homes and were required to attend a prescribed number of weekly drills at the home ports of Chatham, Portsmouth and Devonport, and also Rosyth. On 3 September 1939, there were some 1,000 such Wrens employed as communicators, writers, motor transport drivers, cooks and stewards. There were also a small number of officers-in-charge and prospective cypher officers.

Permission was then obtained, for which the Director had pressed, to recruit officers and ratings to serve in widely scattered areas throughout the United Kingdom. The demand for mobile WRNS officers and ratings was immediate and continuous. 1941 and 1942 were years of great expansion, both in number of personnel and diversity of duties. Highly skilled categories concerned with the maintenance of aircraft, weapons and small craft were introduced to serve the needs of the growing Fleet Air Arm and Combined Operations, all a very far cry from the duties conventionally undertaken by women.

In January 1941, the first WRNS overseas draft, consisting of 20 chief Wren wireless telegraphist operators and one second officer, sailed for Singapore. In the same year service for WRNS officers and ratings opened in Washington with the British Admiralty Delegation, and in Gibraltar. Tragedy overtook the first WRNS draft to Gibraltar as a small merchant vessel, SS *Aguila*, carrying 12 cypher officers and 10 chief Wren W/T operators and a nursing sister of the QARNNS, was torpedoed and the entire draft lost. Replacement volunteers were immediately forthcoming and sailed for Gibraltar the following month. Many other members of the service lost their lives at sea, and as the result of enemy action in the United Kingdom.

Early 1942 saw the first of many drafts to Alexandria and subsequently WRNS units throughout the Middle East and Far Eastern areas. In 1943 and 1944 the series of great conferences between the heads of Allied nations took place, at which WRNS officers served with distinction. Cypher officers had the enviable privilege, together with the WRNS coder ratings, of being the first women to serve afloat in large troop-carrying ships. In 1944, the peak

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THIS PAGE: *A Wren air mechanic towing a Wessex helicopter at RNAS Culdrose in Cornwall. Some Wren air mechanics qualify as tractor drivers.*

FACING PAGE (top): *Wren* radar *plotters at a shore-establishment. WRNS officers and ratings are playing an increasingly important part in the wide field of communications.* (bottom): *HRH The Princess Anne, Chief Commandant WRNS at RNAS Yeovilton during a visit in 1976.*

expansion was reached with a total force of 74,620, with 90 rating categories and 50 officer branches.

At the end of the war, the WRNS rapidly reduced in number, but the Navy could not return at once to a peacetime basis and WRNS officers and ratings were still needed. Many volunteered for periods of extended service, and small numbers continued to be recruited on short-term engagements. Dame Jocelyn Woollcombe, who succeeded Dame Vera Laughton Mathews as Director at the end of 1946, guided the transition of the WRNS from a wartime basis, through the demobilisation period, to a permanent status.

On 1 February 1949 the Women's Royal Naval Service—first created to meet the Navy's need in wartime—became an integral and permanent part of the Naval Service. The permanent establishment of the WRNS today is some 270 officers and 2,700 ratings.

Applicants, who must be between 17 and 28 years of age, attend a selection board, which includes an aptitude test and medical examination, and an interview with a WRNS careers officer to discuss the various categories available and those for which they are most suitable. If selected, they attend a four weeks' basic training course, at present at HMS *Dauntless*, the WRNS New Entry Training Establishment near Reading. This includes a two-week probationary period during which the recruit may terminate her service. However, all being well, she enrols on a nine-year notice engagement which requires her to serve a minimum of three years from her 18th birthday or the completion of her specialist training, whichever is the later. Thereafter she has the option of leaving the service having given 18 months' notice or, in due course, of extending her engagement to complete 14 years' and, subsequently, 22 years' service in order to qualify for a pension. All members of the WRNS may take their discharge as a result of marriage. However, many decide to stay in for a time, particularly if their husbands are in the Navy.

On satisfactory completion of the basic training a Wren goes on to her specialist training at a naval school before taking up a job in a complement billet. WRNS ratings help to maintain and repair naval aircraft, drive service vehicles, plan and plot naval, air and sea exercises, prepare meteorological information and evaluate the accuracy of weapon practice. They cook, issue stores, assist the dental surgeons, operate telephone switchboards, help staff communications centres and do much of the Navy's clerical and accounting work.

There are three ways of becoming a WRNS officer. Selection is from ratings already serving, provided they have a minimum of five passes at '0' level in the GCE (or equivalent) with English Language as one subject. Cadet entry is open to those aged ½½½½ who have obtained at least five passes in GCE, including English Language, two of which must be at 'A' level, and who have the qualities expected of a potential officer. Direct entry is available to those who have a university degree or suitable civilian qualifications and experience. All candidates attend the Admiralty Interview Board at Gosport. The age limits for promotion are between 20 and 29 years.

Candidates who are accepted for the Officers' Training Course go to the Britannia Royal Naval College at Dartmouth for a 13½ weeks' course. On satisfactory completion they are promoted to probationary third officer and enter a seven-year short-service commission, which has an optional break-point at five years. Officers may apply to transfer to permanent commissions.

All officers are trained in both administrative and specialist duties in order to widen the scope of their employment. The specialisations open to WRNS officers are in the secretarial, personnel selection, communications, catering, photographic interpretation, instructional and technical fields.

WRNS officers and ratings serve in most naval and Royal Marine establishments in the United Kingdom, and serve abroad in Malta, Gibraltar, Naples, Portugal, Hong Kong, Oslo and Belgium. Individual officers are in appointments in Paris and the United States of America, whilst individual ratings are serving in Holland, New Zealand, New Delhi, Canada and Peking.

Although the services are exempt from the Sex Discrimination Act, many steps towards closer integration within the Royal Navy are taking place. For example, responsibility for the recruiting, selection and appointment of officers, hitherto controlled by the Director WRNS, has now been passed to the same naval authorities as for the men. Director WRNS has assumed an additional task as the Assistant Director General Naval Personal Services and has been advising on the Navy's future housing policy. The recruiting and drafting of WRNS ratings have also been taken on by the men but, conversely, many naval ratings, mainly in the secretarial branch, find that their ` drafty' is now a first officer WRNS. As RN and WRNS personnel often now attend the same basic and higher training courses they become increasingly interchangeable and job opportunity for the WRNS has widened.

The WRNS Officers' Training Course, which had been at the Royal Naval College, Greenwich, since 1939, moved to the Britannia Royal Naval College, Dartmouth, in September 1976 and the second course of officer cadets has just passed out as probationary third officers. Their course is now designed to give greater weight to the role and organisation of the Royal Navy, the study of British and international affairs and the development of powers of leadership. The aim is to help prepare WRNS officers for greater variety of employment and closer integration within the Royal Navy.

WRNS new-entry training, carried out at HMS *Dauntless* since 1946, will transfer to the West Country in 1980 and the training of all new-entry naval and WRNS ratings will then be carried out in the same place, namely at HMS *Raleigh* in Torpoint.

This year, for the first time, members of the WRNS will become subject to the Naval Discipline Act, thereby accepting commitment with equal opportunity.

Although celebrating its 60th anniversary the Women's Royal Naval Service is proud of its young and modern image and it was with great delight that the news of the appointment in 1974 of Princess Anne as Chief Commandant was received. The post had remained vacant since the tragic death of Princess Marina in 1968.

The service has come a long way since its formation but remembers with pride the standards, traditions, and the spirit of those early Wrens which have made the Women's Royal Naval Service what it is today, an increasingly integrated part of the Royal Navy.

The Royal Naval Reserve

The Royal Naval Reserve has a proud tradition dating from 1859. It was then that a Reserve Force was first established by Act of Parliament for men of the Mercantile Marine. Twelve years later, the RN Artillery Volunteers, consisting of yachtsmen, members of rowing clubs and men with nautical connections, were raised. They were expected to make themselves proficient in gunnery—but sea training was not compulsory.

After 20 years, the Artillery Volunteers were disbanded because it was felt that their training was not concerned enough with the sea to make it of real value. Then in 1903, the gap was filled by the birth of the Royal Naval Volunteer Reserve (RNVR).

At the outbreak of World War I, the Admiralty, thanks to the training provided in the RNVR, was able to call on a keen well-trained body of volunteers who served with great distinction throughout the Navy. By the end of the war this force totalled 70,000 officers and ratings, and between them they won thousands of honours, including several Victoria Crosses.

In 1936, the RN Supplementary Reserve was formed of yachtsmen and 'other gentlemen of nautical experience' who had no peace-time commitments but who volunteered to be commissioned in the Royal Navy in the event of war. When Word War II broke out the Admiralty had a large body of volunteers to call on and at one time there were over 40,000 officers in the Naval Service holding RNVR commissions.

Reservists served during World War II, in all types of ships from aircraft carriers to coastal craft and in naval shore establishments throughout the world. Officers commanded destroyers, frigates and submarines, and most of the commanding officers of Coastal Forces were RNVR officers, while Reserve ratings served as seamen, electricians, engineers, signalmen, and wireless operators. Once again they fought with distinction, winning further honours and decorations for service with the Royal Navy and the Fleet Air Arm.

In recognition of the way officers of the Reserve had answered every call made on them, King George VI, in 1951, approved the abolition of the wavy stripes on their uniform. Up to that time the gold braid on their cuffs was sewn on in waves with the curl a distinctive square shape. This feature caused the RNVR to to be known as 'The Wavy Navy'. Now the only distinguishing mark between the reservist and his brother officer in the Royal Navy is a small golden `R' in the curl of the top stripe on each sleeve.

As a part of the move towards closer integration with the Royal Navy, the modern Naval Reserve, which is an amalgamation of the former RNR and RNVR, underwent a fundamental review in 1974/75. As a result the RNR came under the command and control of the Commander-in-Chief Naval Home Command, and on 1 January 1976 the Women's Royal Naval Reserve was fully integrated with the Royal Naval Reserve. The RNR today is trained for many roles. There are 440 professional merchant navy officers who hold RNR commissions, and who would provide essential knowledge of naval operations

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ABOVE: *Barbara and Dennis, two of the 5,000 people in the United Kingdom who may be said to be leading double lives. She is a trainee legal executive; he is an agricultural mechanic. Both are also reservists serving with the Sussex division of the RNR. Barbara plays an important part in communications on shore; Dennis goes to sea in the Division's minesweeper.* FACING PAGE (top): *The RNR's own fleet—the 10th Mine Countermeasures Squadron which frequently takes part in NATO exercises in the Mediterranean and the seas of Northern Europe.* (below): *A Bofors' gun crew aboard a RNR mine countermeasures ship.*

and warfare to the merchant fleet in an emergency. In addition there are 4,950 volunteer reservists, whose jobs may have no connection with the sea, but from them are formed the complete crews of mine-sweepers and minehunters from ordinary seaman to captain (incidentally the only navy in the world so to do). The volunteers provide the major part of naval expertise in Naval Control of Shipping and also supplement the regular officer and ratings required to man shore naval headquarters in war. RNR officers and ratings are to be found in the Operations Branch, including Communications, Degaussing (that is rendering safe ships from the threat of magnetic mines), Intelligence, the Instructor Branch and in the Engineering and Supply Branches. 180 doctors and 40 dentists in civilian practice hold reserve commissions as well as 50 medical branch ratings. There are 35 RNR chaplains of all faiths. The RNR Postal Branch of 40 officers and 400 ratings would provide postal and courier services in war. To add to the list there are RNR officers trained in secretarial duties, languages and public relations.

There are 11 Sea Training Centres, 11 Communication Training Centres and 6 Headquarters Units throughout the United Kingdom and a further Headquarters Unit in Gibraltar. Each centre has one or two training nights each week when reservists are given instruction according to their specialisation. On several occasions during the year there are training weekends to give an opportunity for more prolonged training. Most reservists also carry out 14 days' continuous training either at sea or in RN establishments ashore. 140 Officers and 700 Ratings in the Women's Royal Naval Reserve have the same training and do the same jobs as their male counterparts, with the exception that there are no WRNR serving at sea.

In addition to an annual bounty of between £20 and £50 (depending on the amount of time given up to the Reserve), officers and ratings are paid at the same rates as the RN equivalents whenever they are under training.

Ships operated by the 10th Mine Countermeasures Squadron are present in the review lines today. The RNR postal branch have set up Fleet Mail Offices at HMS *Vernon* and the Naval Base Main Gate to provide the fleet with mail during the review. They have also produced and have on sale the official RN commemorative philatelic covers.

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Insignia of Officers and Ratings in the Royal Navy

HMS VICTORY

PORTSMOUTH

HMS *Victory*, Lord Nelson's flagship at the Battle of Trafalgar, and the Portsmouth Royal Naval Museum, are adjacent to each other inside the Naval Base at Portsmouth, within easy walking distance from the Main Gate of the Base.

Because of her age and historic significance, the ship is unique as the world's most outstanding example of ship restoration. This work was initiated in 1922 by the Society for Nautical Research who were instrumental in restoring the vessel to the appearance she bore at the Battle of Trafalgar in 1805.

The Museum is complementary to the ship for it contains in the Victory Collection those relics of Nelson and Trafalgar which cannot be conveniently displayed on board. It has a huge panoramic display of the battle—a gift to the nation by the late W. L. Wyllie, RA, many personal relics of Nelson, his family and his associates, and a wonderful collection of ships' models and figureheads as well as exhibits relating to the French Revolutionary Wars. The Nelson-McCarthy Collection, the generous gift of Mrs J. G. McCarthy, CBE, is housed in a Georgian building adjacent to the Victory Collection. This consists of prints, paintings, ceramics, medallions, letters and miniatures, all commemorative of Nelson and his times.

Nearly half a million people visit the ship annually. In July and August, a period of queuing may be necessary. The ship is open every day of the year with the exception of Christmas Day and the infrequent occasions when the ship is used for official purposes. The Museum is closed on Christmas Day, Boxing Day and New Year's Day.

Admission to HMS Victory, *as the Flagship of the Commander-in-Chief Naval Home Command, is free.*

Opening Times

Summer	1 March – 31 October	
	Monday – Saturday	1030 – 1730
	Sunday	1300 – 1700
Winter	1 November – end of February	
	Monday – Saturday	1030 – 1630
	Sunday	1300 – 1630

Admission Charges (Museum only)

Adults	10p
Senior Citizens, Organised Student Parties and Children under 16	5p
Service Personnel in Uniform	Free

HMS VICTORY SOUVENIR AND GIFT SHOP

The Souvenir Shop close to HMS *Victory* is well worth a visit. It is situated in the colonnade of No. 9 Store, an ancient dockyard building which is part of the Naval Museum. The woodwork, made from old ships' timbers, and the beautiful original brickwork recreate the atmosphere of Lord Nelson's days.

The wide range of souvenirs include tankards, plates and trays in pottery, glass and copper; prints and etchings in black and white and in colour; and engravings on copper and stainless steel. There is also a large selection of books, postcards and colour slides.

Adjoining the shop is a Buffet and there is also a small souvenir shop on board HMS *Victory*. Those who cannot visit the shop can obtain HMS *Victory* Souvenirs by mail-order. A colour brochure is available on application to:

Lt.-Cdr. W. E. Pearce, MVO, RN, Rtd
Business Manager, HMS Victory,
Portsmouth, Hants PO1 3PZ
Tel. Portsmouth 26682

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OFFICIAL SOUVENIR PROGRAMME