CHAPTER 3

THE ROYAL NAVY

THE ROYAL NAVY has never failed to capture the imagination of the British peoples in both peace and war. Even in an age of atomic warfare it has yet to be proved that command of the sea is not essential to our survival as a free nation. The Navy appears as something of a paradox, for although tradition and well-tried methods are its very life-blood, yet freshness of outlook and versatility are two of the main characteristics of the Senior Service. The development of high explosives brought into being armoured vessels and high-velocity weapons ; the threat from the air brought the aircraft-carrier ; and the technicalities of radar are of the very essence of modern naval science and warfare. All these indications of a modern approach to ancient duties, and an attitude which is tolerant in normal times but terribly aggressive in attack, have gained for the Navy an unrivalled admiration. This is reflected in the recruiting figures ; although, in common with the other Services, the Navy is affected by the shortage of recruits which follows any major war, she can still rely confidently on the longer continuous service engagements. Consequently the Admiralty has been able to plan its future education and training more confidently than the other two fighting services, and the modifications of normal training to meet the needs of the smaller national service element have been fewer and less radical.

During the recent war naval education continued to function smoothly even with the swollen demands made upon it by entirely new technical developments; this is indicative of the fundamental role it plays in producing competent officers and men, all with specialist qualifications. Space in ships is severely limited, and admits of no passengers in a ship's company ; each man has a specific contribution to make to the efficiency of the ship as a fighting machine. This fact and the insistence that education, like all other activities, shall be directly linked with practical requirements, are fundamental to a complete appreciation of the scope of the Navy's educational organisation. It is evident,

moreover, that the progress of scientific development during the war is making training in underlying theory more necessary than ever before. In this sphere of fundamental knowledge education in the Royal Navy comes into its own by means of the Instructor Branch, which as always is primarily concerned with teaching officers and ratings the theoretical basis of their professional work. It will, therefore, be more convenient to consider the various ships and establishments in which Instructor Officers serve than to attempt any rigid classification of education as technical or general.

The Royal Naval College, Dartmouth, the public school of the Navy, is rightly famous as the establishment which produces naval officers of the future. Cadets had originally received their early training in ships specially manned for the purpose, but in 1903 it became desirable to broaden the curriculum by including general subjects and activities which could only be made available in a shore establishment located close to good sailing water. Dartmouth is now providing its cadets with a liberal education as well as professional training. Under the supervision of a headmaster, civilian masters of graduate status teach science, mathematics, modern languages, history and English side by side with their naval colleagues, who deal with the customs and technicalities of the sea. Classics have no place in the curriculum at Dartmouth, and the time usually spent on this branch of knowledge in a normal public school is devoted to seamanship, navigation and engineering. The responsibility for these three subjects rests with the officers of the Executive, Instructor and Engineering branches respectively. A notable departure from the days when naval cadets received little more than a narrow professional training afloat is the encouragement now given to individual study, and the better students in their last year at the college are allowed to develop their choice of the humanities or the sciences. Incentive to study is provided by gain of seniority on passing out, and arrangements have also been made with several universities for the grant of exemption from their entrance examinations to those cadets who pass well in the final Dartmouth examination.

The Royal Navy has developed a form of discipline which has no exact counterpart in the other two Services. The

relationship of the officer to the rating has stood the test of time and two major wars have modified it but little. A ship's company is in many ways a unique community. A soldier and airman can leave barracks after duty hours, seek fresh company, and enjoy the benefits of a change from the exigencies of the service routine. The sailor on board has no such relief, and is thrown into close relationship with his fellows in conditions where living space is necessarily limited. In these circumstances privacy is much sought after, and morale can suffer unless each man learns tolerance and recognises the rights of his messmates. A code of discipline to suit this community is not the creation of a day, nor is its maintenance the task of a novice untutored in the art of leadership. The Navy recognises these facts in the training it gives to its future officers : Dartmouth teaches not only mathematics, languages or science, but self-reliance, initiative, and the management of men. Under a system of " Houses " run by executive officers, the cadets are taught to live as members of a well-regulated society, each in his turn assuming a measure of authority and responsibility, and all learning to obey loyally the commands of these leaders. Thus naval discipline and procedure are instilled throughout the training, so that the cadet on reaching the Training Cruiser is already well versed in the traditions and customs of the Service he has joined. Here, in company with the Special Entry cadets who have served for one term only at Dartmouth after entering directly from the public or secondary schools, he receives further training in professional and technical subjects. Instructor Officers are borne in the cruiser to continue the instruction in theoretical and practical navigation, applied mathematics, and elementary ship construction. At the end of eight months comes promotion to midshipman and service for 16 months in the sea-going ships of the Fleet, where again instruction in navigation continues under Instructor Officers.

The Royal Naval College at Greenwich provides instruction at a higher level, in all branches of theoretical and scientific study bearing on their professions, for officers and some civilian specialists of the Admiralty. The work is mainly of an advanced standard in gunnery, navigation, engineering, physics and electrical engineering, and naval architecture ; although the

bias is definitely scientific—as it must be to meet the requirements of the Navy—a general education and war course is provided for junior officers on their return from their time at sea as midshipmen. This course (with no examination), besides revising and supplementing the mathematical and scientific knowledge of the young officer, aims at broadening his mental outlook and teaches clarity of thought and expression. The staff of the college consists of Instructor Officers and civilian lecturers. Navigation, naval architecture, mathematics, applied mechanics, science, history and languages are the main branches of study, each being the responsibility of a professor appointed by the Admiralty. The Dean (a senior Instructor Officer) is also Director of Studies and chairman of the board which plans the courses for the various categories of officer.

All Engineer Officers of the Royal Navy receive their basic professional training at the Royal Naval Engineering College, Manadon, lately removed from Keyham, near Devonport. The specialised nature of the course limits the amount of general education, but economics, English, and languages have their place in a curriculum mainly devoted to mathematics, science, and engineering theory and practice. These studies and the related practical work done in the workshops take two years, and later, after a period at sea, a further specialist course of one year is given in marine, air or armament engineering according to the specialisation of the officer.

At Manadon the staff consists in the main of Engineer and Instructor Officers, but a few civilian specialists are also employed. Here, as well as in other technical establishments, Instructor Officers on the staff alternate their tours of duty ashore with service afloat, thus ensuring that continuity and experience in the Fleet are closely related to the theoretical instruction given ashore. The tutorial system of instruction is adopted at the college and the standard reached is that of a Bachelor of Science (Engineering) degree with additional practical engineering to include production and repair planning.

At the three establishments and in the Training Cruiser just described the Navy trains the majority of its permanent officers. To qualify at all stages candidates must have a high level of intellectual ability and be competent in the practical work

which forms part of every course. The curricula are comprehensive but mainly scientific and technical, and the young man who attends either Greenwich or Manadon receives an education which compares favourably with a university degree course. The same high standards of training are also provided for the younger men selected from the lower deck as possible officers ; up to twenty-five per cent of officers in the Royal Navy may come from this source. Candidates for the Executive, the Engineering and the Supply branches, and for the Royal Marines, are given special facilities in the Upper Yardmens' College at Exbury, H.M.S. *Hawke*, to acquire the educational, cultural and professional standards necessary for the acting rank of Sub-Lieutenant prior to joining the main stream of young officers at the Royal Naval College, Greenwich. In H.M.S. *Hawke*, Instructor Officers provide the instruction in navigation, mathematics, science, English, history, geography and current affairs.

From its earliest days the Navy has been keen to attract to its service boys of about sixteen years of age. Few will question the wisdom of this plan, for history has amply justified it, and present-day trends suggest that the need for a long and thorough training is still paramount. Although, during the war, recruitment under this scheme was reduced, the number of boys entering the boys' training establishments has again increased with the arrival of peace. Two such establishments train entrants to the seaman and communication branches : H.M.S. *Ganges* at Shotley, and H.M.S. *St. Vincent* at Gosforth. For their first year the boys remain ashore, becoming accustomed to the ways of the Navy and doing both school and professional training. During this time their progress is watched very carefully, and the brighter ones are encouraged to work for early advancement in the Service. All boys are taught to handle boats and swim ; there are ample facilities for games, and a graded course of physical training leads to a balanced physical development. It is also through these activities that qualities of leadership are developed.

Every boy in the Navy looks forward to his first day at sea in a warship. This opportunity comes after ten months in the training establishment, and during this second phase further

instruction is given for the advanced class boy in the technical duties peculiar to each branch. This is done in the Boys Training Destroyer Flotilla ; and at the age of eighteen years the young ordinary seaman takes his place with the other ratings in the normal units of the Fleet. From now on he serves as a seaman for periods of seven or twelve years, after which he may re-engage for a pension earned after twenty-two years of total service. If proficient he will eventually gain promotion to Petty Officer, and may rise to commissioned rank. Throughout his service he finds that the greatest guarantee of success is his own ability and industry. The Navy jealously maintains its standards where promotion is concerned, and through a system of examinations it ensures that the candidate for the higher ratings is qualified educationally and professionally for the rank he hopes to gain.

Boy musicians and buglers are entered at the age of 14 to the Royal Naval School of Music. Here, in addition to a comprehensive musical training, they continue their general education and eventually go to sea in Royal Marine bands. The organisation follows very closely that of a good secondary modern school. Normally each musician is taught to play two instruments, and special aptitude is rewarded by promotion to non-commissioned rank. Advancement to Bandmaster is naturally more difficult to achieve, but is open to those who show outstanding ability. The general education provided at the school is very thorough, and has been approved by the Ministry of Education as suitable for boys up to the age of fifteen years.

Artificer Apprentices are selected by competitive examination approaching the school certificate in standard. A number already possess this certificate on entry, but the remainder usually reach an equivalent standard early in the courses. A sixteen-month basic course (on the lines of that provided by a good technical college) is given to all apprentices in H.M.S. *Fisgard* at Devonport prior to their selection for specialist trades. Instruction in theoretical subjects is closely related to the basic practical training given in the factory attached to the establishment. The final trade training, to complete a course of four years' duration, is given for Engine-room, Ordnance and

Shipwright apprentices in H.M.S. *Caledonia* ; for Aircraft apprentices at Arbroath ; and for the Electrical apprentices in H.M.S. *Collingwood.* At these establishments practical training and theoretical instruction proceed side by side and cover all aspects of the machinery and equipment for which the apprentices later become responsible. Large numbers of Instructor Officers are included in the staffs of these establishments and undertake most of the theoretical and also a large part of the actual technical instruction. Their work in technical instruction continues to expand, because it is recognised that in this connection their experience in teaching and knowledge of instructional method is often of more value than the greater experience of the specialist officer of the particular department concerned.

Preparation for the many specialised branches of the Royal Navy is the task of a host of technical establishments where courses varying widely in length and content are given to selected officers and ratings. It is not proposed to describe in detail the form of training provided, but developments in aviation, in radar and in weapons, in ships, submarines and carriers during and since the war have caused a startling increase in the number and variety of these courses. Specialist officers or ratings are responsible for the practical application of the theory, which is taught by officers of the Instructor Branch. Each, however, must understand the work of the other, and as the standards required by the students are, in some cases, extremely high, instructors tend to specialise in one particular aspect of the work. In all cases—whether in gunnery, torpedo and anti-submarine warfare, navigation, or naval aviation—the educational instruction is carefully planned and graded to assist the technical work with which it is associated. It is significant that the officers engaged in these establishments are also employed from time to time in writing the standard technical manuals issued by the Admiralty.

So far in this brief survey attention has been confined to a description of the educational organisation in training institutions ashore. It was in the colleges and schools that the modern form of naval education began, and in these establishments its scope can still best be appreciated ; but the survey

would be far from complete without a mention of the education scheme which operates in ships afloat.

In ships at sea Instructor Officers take their places alongside the rest of the officers, and are not only responsible for all educational work but are also an integral part of the fighting organisation of the ship, usually being engaged with the plotting arrangements by which the command is kept apprised of the dispositions of all ships and squadrons operating in action. The majority of Instructor Officers are also qualified in meteorology, and though in aircraft-carriers an additional Instructor Officer is borne for full-time meteorological duties, in other ships meteorology is yet another side-line of this officer. Aboard ship, conditions for formal education of any kind are difficult. Only in the larger vessels is it possible to set aside a space for a classroom, and even this accommodation may have to serve as information room, library, handicraft shop, or even as a temporary chapel. The Instructor Officer, however, is accustomed to such situations, though in the Training Cruiser and in the Training Battleship Squadron (in which the adult entries of the Seaman branch receive their initial sea training) the school accommodation is more permanent. Except in carriers, one or two Instructor Officers are included in the complement of a big ship. In the case of destroyers, one only can be spared for each flotilla. Normally such an officer's day will be fully occupied with the instruction of midshipmen ; with the boys, whose schooling, until they are rated, is a compulsory part of their ship training ; and with arranging other educational activities. Nevertheless a very substational amount of instruction takes place after working hours, and even before the war this was looked upon as the normal run of things. Every encouragement is given to ratings to make use of the facilities provided by their Instructor Officers to prepare for examinations necessary for advancement, to improve their general education, or to take up some dog-watch hobby. Instruction in current affairs is part of the general education provided for the ship's company, and is compulsory so far as circumstances permit. To assist Instructor Officers, especially in the sphere of further education, suitably qualified national service ratings are entered in the Royal Navy. Their duties are

various. They may, according to their knowledge and ability, help in the preparation of ratings for the more elementary Service education tests, give instruction in languages and other theoretical subjects, develop skill in some section of handicraft or art, and see that information rooms are kept attractive and up to date.

The range of subjects which the Instructor Officer may be called upon to cover is clearly very wide, ranging from art to mechanics. Moreover he must be ready to act as scientific adviser to his commanding officer. The fact should not be lost sight of, however, that the community life of a ship with its art of living together is in itself truly educational in character, without the formal "subjects" attributed to education by civilian custom. The lessons in the art of living learned during the course of a " shake-down " cruise by all members of a ship's company cannot but be of the greatest value in after life. Furthermore, the sailor sees the world and often plays an important part in current events. He becomes the handy man *par excellence*, and in the life of our island home the experienced sailor is generally recognised with affection as the epitome of alert informed manhood, crowned with the saving grace of humour.

In shore stations the organisation of education, other than service training, is naturally very much easier. Space, so scarce a commodity in a ship, is usually ample ashore, and the Navy, like the other Services, can call upon the assistance of the civilian authorities. Lectures on a variety of topics, classes in foreign languages, music, and handicrafts, are some of the activities which can be found more frequently on shore, although they are popular at sea. Amateur dramatics, too, have always found a place in the life of the Navy, and with the object of improving the standards of production and acting, play-readings are encouraged ; on the home station a drama festival, with a final contest on a London stage, has induced many hundreds of men and women to occupy their leisure hours in the thrills of production and acting. Though no such record as that of an East Indiaman in 1607, that *Hamlet* was " acted abord me . . . to keep my people from idleness and unlawful games or sleep," is available for one of His Majesty's ships,

there is little doubt that play-acting was indulged in in the Fleet at an early date.

Nowadays it is rightly recognised that English language and literature have a vital part to play in education, even in education so predominantly technical as that required by the Royal Navy. So too the varied hobbies, from model aeroplanes to " tiddly work " with Turks' heads and multi-coloured rugs, dear to the heart of most sailors, all take their place in that wider education of to-day. Where an Instructor Officer is not borne, as in some of the smaller ships, one of the ship's officers acts as Education Officer to supervise voluntary study. A volunteer from the ship's company undertakes the duties of Acting Schoolmaster (for which he receives a small allowance) and assists ratings to prepare for their advancement by examinations or other work. In such conditions the Forces Correspondence Courses are a necessary facility, and steady enrolments indicate the value the sailor attaches to this scheme. The range of subjects is sufficiently extensive to meet most of his requirements, whether they be derived from purely personal interests or from a desire to enhance his prospects of promotion. Of special interest are the correspondence courses conducted by Instructor Officers at the Electrical School, for the benefit of those officers and ratings at sea who wish to take the Intermediate and Final grades of the City and Guilds Electrical Engineering and Telecommunications Examinations. By these courses a very high percentage of men keen for advancement achieve this qualification, which is recognised both in and out of the Service. Private study of all kinds is encouraged; for this purpose an excellent library system provides reference libraries in all ships, and each home port or foreign station base has a loan reference library of over six thousand volumes. Films, tools and handicraft material, electric gramophone players and records are supplied on quite a generous scale, and the Instructor Officer or Acting Schoolmaster is always ready to provide or improvise the facilities the sailor needs in order to improve his standard of general education. Selective recruitment in the first place means that the recruits who join the Service have reached a reasonable level of intellectual attainment, and if they can assimilate the specialist knowledge connected with the

duties they have to perform, the Naval education service then points and encourages them on the way to further advancement.

In addition to the provision of opportunities for further education for officers and ratings throughout the period of their Service engagements, special care is taken to see that towards the end of their service courses are available for them to improve their prospects of civilian employment. At Portsmouth, Devonport and Chatham there are Educational and Vocational Training Centres at which the more popular courses, such as wood-work, metal-work and boot-repairing, are held. Other courses have been instituted as appropriate, such as electrical conversion courses, which enable a rating's technical skill acquired in the Service to be adapted to suit civilian requirements. For the more theoretical subjects such as accountancy, selection can be made from a large variety of correspondence courses, at very small cost to the officer or rating concerned.

It had long been recognised that it was important that officer and rating instructors, though specialists in their subjects, should benefit by studying the principles of good instruction ; in 1943 regular courses in instructional technique were started at the more important naval training establishments. These courses are administered by the Education Department of the Admiralty, and because of their professional training and experience the officers in charge are Instructor Officers assisted by specialist Petty Officers. Courses are now a permanent feature of naval training, and officers and rating instructors receive this instruction in instructional technique as a normal part of their professional training. Each course not only covers the general principles of instruction, but also deals with instructional methods applicable to particular subjects. Regular courses are held at the gunnery, electrical, signal, anti-submarine and naval aviation schools. Courses of a more general nature are held in the three main depots, in conjunction with the Petty Officers' Leadership Courses. Further courses are held from time to time at the Navigation and Submarine Schools. In some of these schools the production of training aids, including instructional films and film strips, is included in the duties of the officer in charge of the

course ; his advice is regularly sought on methods of improvement in the standard of class instruction and the organisation of technical instruction.

Since 1843 the Admiralty has been a pioneer in the field of technical education by establishing schools in the dockyards at home " to provide and maintain a system of part-time education whereby the men in the dockyard might develop their abilities and improve their position." This system was later extended to the yards abroad. These schools now provide an organised training for civilian apprentices, partly in working hours and partly in their own time, in mathematics and engineering science. The courses last two, three or four years and embrace both theory and laboratory work in addition to practical work in the dockyard. There is a drastic process of elimination at the end of the second and third year courses, and only the most intelligent and industrious apprentices complete the four-year course and are able to take full advantage of the opportunities offered for further careers. Some gain cadetships into the Royal Corps of Naval Constructors and others win Whitworth or other scholarships, enabling them to proceed to universities to complete their training. These men eventually rise to the higher posts in their professions in Admiralty service or in the outside world. The staffs of the Dockyard Schools consist of civilian specialists with high technical qualifications and teaching experience, assisted in the lower school by part-time technical men from the dockyard departments. Throughout, therefore, the practical nature of the instruction is pronounced ; this is equally true at the schools abroad, though there the permanent staff consists of Instructor Officers.

The education of children of naval men abroad before the war was a small problem, since men were seldom accompanied by their families to naval bases on foreign stations when opportunities of seeing them there were so few and far between. Both in Malta and in Bermuda, however, schools did exist, attached to the apprentices' dockyard schools there. Since the war the Admiralty has undertaken to provide educational facilities for naval and dockyard children in overseas bases, and there is a growing tendency for families to move to foreign

stations now that married quarters are being provided. The Royal Naval School at Malta is established in new buildings on the island, and provides within its crowded walls an education up to school certificate standard and special classes for the few preparing for higher school certificate. Its seven hundred children will be augmented from a big waiting list as soon as further accommodation becomes available. In Bermuda the old accommodation is full to capacity, and the overflow is temporarily accommodated in the Army schools at Hamilton. At Gibraltar the new Dockyard and Technical School provides the usual schooling for the dockyard apprentices and yard boys, and is at the same time the secondary technical school for the colony's civilian educational system, which also provides for Service children. The school is thus especially interesting in that it is administered by the Flag Officer, Gibraltar, in consultation with the civilian Director of Education, Gibraltar. There are also naval children's schools at Singapore and Trincomalee which are expanding rapidly.

Examinations constitute an important feature of naval training for officers and men by ensuring adequate standards of entrance, testing the satisfactory completion of training courses, and assisting with the internal promotion scheme of the Service. Except for the examinations for " Special Entry " cadetships and dockyard apprentices entry, all examinations for entry in the Royal Navy are set by the Education Department of the Admiralty. The Admiralty qualifying examinations for the completion of various training courses comprise those for constructors and for advanced electrical and engineering courses, dockyard apprentices " finals," passing-out examinations at the Royal Naval Engineering College, Manadon, and the Royal Naval College, Dartmouth, the qualifying examination for artificer apprentices in their four trades, and, at the lowest level, the passing-out examination of boys leaving the boys training establishments. The standard of these examinations ranges from honours degree downwards. The Admiralty educational examinations for promotion, taken in the Fleet, have of course to be timed to conform with the movements of the main squadrons. The most familiar is Educational Test I, in English and arithmetic, which provides

the educational qualification for advancement to "leading rate" in all branches. The temporary waiving of this qualification during the war has led to a great increase in the number of candidates for the test. By passing Educational Test II, boys can get accelerated advancement to the "ordinary" rate; still further up the scale is the Higher Educational Test. This latter test covers a range of subjects—English, navigation, mathematics, mechanics, electricity, general knowledge, history and geography—of approximately matriculation standard, and ratings are required to pass it prior to consideration for commissioned rank, or to pass in certain specified subjects for promotion to the Branch List (originally Warrant Officers List). Altogether the Education Department of the Admiralty controls some 170 different examinations, and there are other examinations for which local Flag Officers are responsible, Instructor Officers acting as examiners in their special subjects.

During the war years the general education of the Women's Royal Naval Service was the responsibility of their Director, but that responsibility and provision is now the concern of the Director of the Education Department of the Admiralty. The W.R.N.S. enlist only girls of relatively high intellectual standard and there is little need for basic education. Technical education is given in the normal establishments, and, as would be expected, the cultural aspect receives most attention in the education scheme for women. The work is almost entirely voluntary, but time is allocated in working hours for instruction in current affairs. So far as possible this general education for W.R.N.S. is closely allied to that for the men, but the particularly feminine requirements of further education are most conveniently provided in the dog-watches at their own quarters. A small number of W.R.N.S. (education) ratings qualified to teach normal subjects also run classes in handicrafts, needlework, dressmaking and cookery. The domestic science instruction, the province of the expert, is catered for in mobile housecraft vans fitted with cookers, washing machines, refrigerators, and all modern kitchen equipment. These self-contained units can camp at any isolated naval aviation station or establishment and provide

instruction for small classes of W.R.N.S. No girl need lack teaching in the arts of housewifery with such facilities brought to her quarters.

Before concluding this account of the Naval system of education mention ought to be made of the provision for education in the Royal Marines—the closely allied Service. Though formerly the Royal Marines were served exclusively by their own schoolmasters, Instructor Officers have now assumed this responsibility and provide education on lines very similar to those in the Royal Navy. In addition to technical training in gunnery, the Royal Marine has opportunities for taking a general educational course, which if he so desires will assist him in obtaining the qualifications necessary for promotion. Arrangements are also made for handicrafts, music and art classes ; in fact, all the further educational facilities provided for sailors are equally available to the Royal Marine.

Instructor Officers are also attached to the Commando Brigade, where in addition to their educational responsibilities they take part in all activities, and in operations act as assistant intelligence officers.

In concluding this brief survey of Naval education it must be remarked that in neither of the other two Services do we find education so highly integrated with training, nor is the level of technical instruction surpassed even in the Royal Air Force.