

THE TRAINING OF APPRENTICES IN H.M.S. 'CALEDONIA'

BY

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Introduction

The purpose of this article is to provide a logical sequel to that on H.M.S. *Fisgard*, the Part I Training Establishment for artificer apprentices, which appeared in Volume 7, number 3 (July 1954) of this *Journal*, and to a previous one on H.M.S. *Caledonia* in Volume 4, number 4 (January 1951). Visitors to H.M.S. *Caledonia* are few and far between, except when the Home Fleet ships visit Rosyth, but writers on the subject of training have been many. This article is therefore designed as a survey of life in H.M.S. *Caledonia* for those who cannot come and see for themselves. It also outlines some changes which are about to be made.

H.M.S. *Caledonia* provides the Part II Series Training for some 470 Engine Room Artificer Apprentices, 340 Ordnance Artificer Apprentices and 100 Shipwright Artificer Apprentices, a total of 910. A few Indian Navy boiler-makers and quite a number of Royal Pakistan Navy E.R.A.s and O.A.s have been through the course. A growing number of Royal New Zealand Navy E.R.A.s, O.A.s and S.A.s are also taking the course, after undergoing their Part I training at home.

Of the E.R.A.s, 18 per cent are being trained as boiler-makers, and 15 per cent as coppersmiths. The last enginesmith has just passed out. The remainder are trained as fitters and turners. The O.A.s also are trained as fitters and turners, but most of their work is of miniature size.

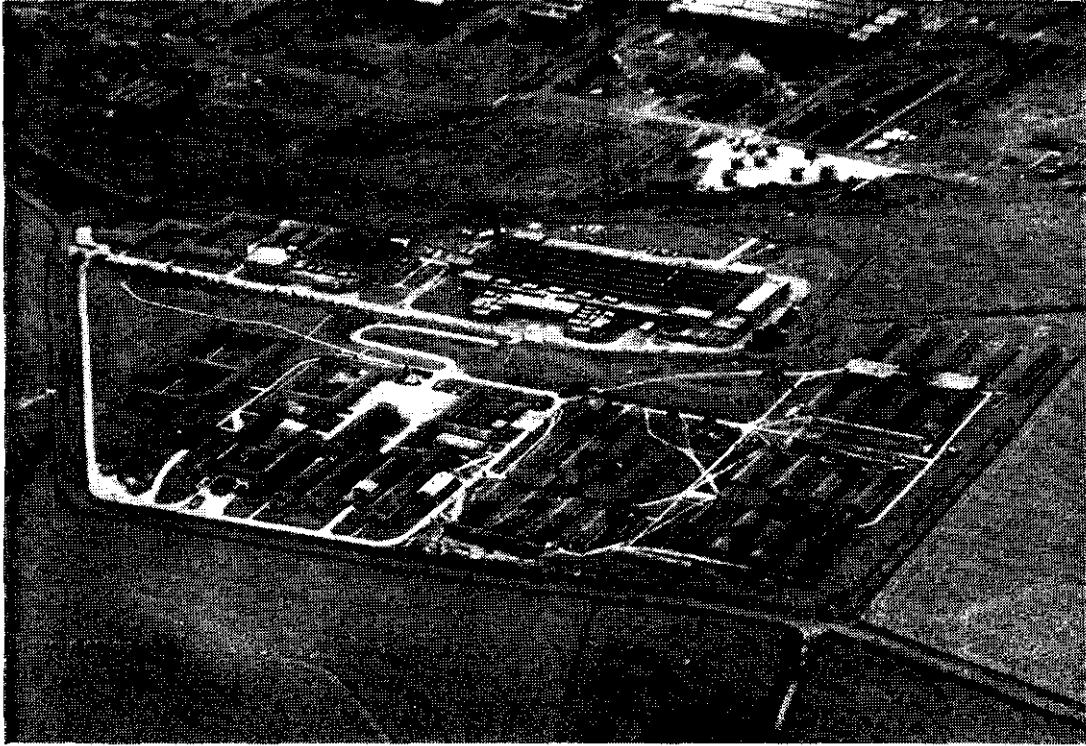
The S.A.s are taught the following trades, the workshops of the heavy repair ship *Artifex* providing the extensive facilities required :—

- Boat building and repairing (complete 14 ft. dinghies are built).
- Making masts and spars
- Joinery
- Plumbing and coppersmithing
- Blacksmithing
- Light and heavy platework
- Gas and electric welding
- Rivetting and caulking
- Tiling, laying semtex, corticene etc.
- Painting and glazing
- Ship fitting.

Objectives

The aim is to provide the Fleet with fully trained tradesmen, well grounded in the basic technical knowledge of their branch, and in the elements of leadership and good citizenship.

On passing out of H.M.S. *Caledonia*, apprentices are drafted as 5th Class Artificers to the Fleet for the final year of their apprenticeship, to be trained to



THE ESTABLISHMENT FROM THE NORTH WEST

put their knowledge into practice and become one of a ship's company. This is by no means the least important year of their 5 years' apprenticeship.

The Material

As well described in the July 1954 issue of the *Journal*, the material is provided from H.M.S. *Fisgard* after 4 terms there, and spends 8 terms in H.M.S. *Caledonia*. Owing to the 1 year 8 months age bracket on entry, ages in H.M.S. *Caledonia* range from about 16½ to 21.

The career of the naval artificer is unfortunately no longer held in such high esteem as it used to be by schoolmasters, who now aim at university careers for their brighter pupils. It used to be common for 1000 candidates to present themselves for 80 apprenticeships, so we could take the cream. Nowadays we are fortunate if there are 400 candidates for 200 places, and after the examination, medical and aptitude tests have weeded out the unsuitable, there has actually been a shortfall in recent entries.

It is possible however to take too gloomy a view of this, because the better material is still very good indeed, although the tail is certainly weak. The influence of our egalitarian State is having an increasing effect. Most education has become cramming, and the weaker apprentices find great difficulty in absorbing further knowledge. The qualities of grit and determination are somehow lacking in them, and they are apt to lose heart easily, with the knowledge that there are plenty of other jobs to be had outside. Home influences are not always good, nor must it be forgotten that the most formative years of the present-day apprentice coincided with the War. A much smaller proportion comes from the neighbourhood of the Home Ports, and there is consequently no widespread naval tradition. Whether we like it or not, this is the background we have to face. The material we need exists only in small quantities, and industry is after it too.

The Divisional System

This is on a ' House ' basis. There are eight Divisions, named after famous admirals, each containing a representative cross-section of each of the eight Classes and of each branch and trade. The new boys are allocated to the divisions by drawing their names out of a hat, to avoid the possibility of one division acquiring all the best sportsmen by underground means.

Each division has its own divisional officer. The Establishment complement includes five ' steam ' Lieutenants (E), two Lieutenants O/E and one Shipwright Lieutenant, which numbers are roughly proportional to the numbers of apprentices in each branch. Each division also has its own tutor, an Instructor Lieutenant, and a Divisional Petty Officer or Petty Officer Stoker Mechanic. Each term, a Chief Petty Officer Apprentice and a number of Petty Officer Apprentices and Leading Apprentices are selected for each division by a selection board on which the then Chief Petty Officer Apprentices have a say. A Chief of School is also selected.

Every opportunity is given to the apprentices of taking charge and of running their own games and other activities. When paraded for ceremonial Sunday Divisions for instance, each division is entirely under the charge of its own Chief Petty Officer Apprentice throughout the parade, the only part taken by the divisional officers being to inspect the dress.

The best division each term at games is awarded the ' Cock ' on Prize Day. This is judged on a points system, and is keenly contested. To maintain a high and consistent standard of drill at Sunday Divisions, it has been found necessary to award marks, which are aggregated over the term and scaled down so as to be roughly equivalent to the points obtainable for one sporting activity, and these count towards the Cock. The Cock House gets a day's extra leave.

There is also a trophy, presented by Sir William Wallace, the Chairman of Brown Brothers, which is awarded to the division doing best in the term's work. Positive points are awarded for the examination and test job successes of each class, and negative points for failures. This may sound somewhat complicated but has proved quite simple to operate. The results are displayed on a board as they come in, and the division with the highest points wins the Trophy and gets a day's extra leave.

These two devices have proved successful in encouraging a spirit of both playing and working for the division, and enable every apprentice to contribute something.

As there are about 115 apprentices to each division, the divisional officer cannot give the same attention to individuals as can housemasters in other boarding schools. He could not, even if he would, centralize the activities of his division in himself, as one writer has alleged. He also has to prepare and give lectures on technical and divisional subjects.

Conduct

In the old days the apprentices had their own disciplinary code and system of unofficial punishments, administered by the Chief of the School. It was rarely necessary to hale an apprentice before the Commander. Rough justice was done and life was hard for the offender, but generally fair. There was a good deal of fagging, but the juniors could take it and the seniors could be trusted not to abuse their powers.

Experience nowadays has shown, among the types of apprentice we get, that too many abuse their power over juniors, and that the modern junior is too prone to run home to his mother. Fagging has therefore been prohibited, and if discovered is visited with severe punishment, although it would be idle to

pretend that it has been completely eradicated. There are many, including the writer, who regret the abandonment of the old system.

Apprentices may be visited with all the punishments prescribed by Q.R. & A.I. applicable to their age except mulcts of pay. However, now that apprentices are so well paid, it is hoped that this anomaly will soon be removed.

Pay

After every possible deduction has been made, most apprentices draw about £3 a fortnight, to the profit of the many local attractions, and it is rare to see many apprentices on the touchline watching games. Most apprentices are, however, very well conducted and the really black sheep are few, but undoubtedly influenced by too much money. It is quite possible for an apprentice to be married and to be quite comfortable on his pay and the 42/-d. a week marriage allowance, together with anything his wife can earn. There are a few married apprentices in H.M.S. *Caledonia*. The laws of Scotland require no consent, and if both parties are over 16 there is no power to prevent their marriage.

Leave

Short leave is given from noon on Saturdays, from after Church on Sundays and from 1715 on weekdays, except to the duty watch or evening school classes. Leave expires at times ranging from 2200 to 2300 depending on Class, with an hour's extension on Saturdays.

On alternate weekends, when there are no Sunday Divisions, leave is allowed to the Juniors to visit 'approved' friends or hostels, and to Seniors without these restrictions. At half-term, weekend leave is given from 1630 Friday until Sunday night. Seasonal leave consists of a fortnight at Christmas and Easter, and three weeks in the summer.

Work

The working week is 41 hours, divided approximately as follows :—

30 Hours trade training

2 Hours technical subjects (marine engineering, ordnance engineering or ship construction).

6 Hours school subjects (mathematics, mechanics, mechanical drawing, workshop or shipyard practice).

$\frac{1}{2}$ Hour religious instruction.

$\frac{3}{4}$ Hour physical training.

1 Hour history, current affairs or divisional subjects.

$\frac{3}{4}$ Hour practical leadership training.

The working day is as follows :—

Monday, Tuesday, Thursday, Friday :—

0745-1140, 1315-1625, 1730-1930.

On each of these days two classes devote the afternoon period to organized recreation and usually have the evening period free.

Wednesday :—

0745-1150, 1315-1625.

On Wednesdays the evening period is devoted to extra study for the backward and voluntary classes for the ambitious.

Saturdays :--

0745-1130.

On Saturday afternoons the less skilled and least industrious have extra workshops and have their leave stopped.

A progress report is sent to the parents at the end of each of the first three terms. Parents are also warned when their son's progress or conduct has not reached the set standards, or when there are any human difficulties. These contacts have proved valuable to both sides.

Recreation

H.M.S. *Caledonia* is enviably well endowed with recreational facilities, possessing the finest indoor heated swimming bath in any naval establishment, an excellent gymnasium and a sufficient acreage of playing fields to accommodate 5 Rugby, 10 Association and 5 hockey pitches. There are also two hard tennis courts, and four skittle alleys have been built, thanks to the generosity of the Nuffield Trust.

Each division has its own whaler, and a small number of R.N.A.S. dinghies and a cutter are also available.

The following activities all have their adherents :--Rugby, Association football, hockey, cricket, softball, basketball, tennis, athletics, running, swimming, water-polo, boxing, fencing, spring-bayonets, table tennis, skittles, sailing, boat pulling, shooting. All these, except tennis, fencing, spring-bayonets, table tennis and skittles count towards the Cock, and each division produces its own team for the appropriate league, selected by the apprentices themselves. This involves a good deal of generalship, as the leagues are not started until half term, and then go on simultaneously. The first half of the term is given over to friendly interdivisional games. The games are so arranged during this period, that every apprentice has a chance of playing every game appropriate to the season in question. In this way, the expert in any one game is prevented from concentrating on that game to the exclusion of all others. It is found in practice that almost every apprentice does 'have a go' at every game he is likely to be able to play as a member of a ship's company.

The ship's teams, which have home and away fixtures with other schools and local leagues, play most of their matches on Saturdays and Sundays.

It is not unnatural, with so much youth to choose from, and such excellent facilities, that the establishment achieves considerable athletic success and some apprentices gain considerable distinction. Many represent the Port or Navy in Scotland, some the Nore Command and an occasional one the Navy.

An Olympiad is also held every term with H.M.S. *Condor*, Arbroath. There is a good gymnasium team, specializing in high box displays, and this is in considerable demand at local shows.

Sailing is very popular, and many apprentices qualify as coxswains and become most proficient. Local regattas are strongly supported, and many cups and prizes have been won. Apprentices are also allowed to go away sailing by themselves at weekends, and camp for the night. This, needless to say, is a very popular activity.

Clubs and other Recreation

There are many clubs in H.M.S. *Caledonia*, including :-- Mountain, Cycling, Motocycling, Chess, Bridge, Music, Conjuring, Photography and Judo.



BEATING THE RETREAT
(Cornhill, Dunfermline)

The most popular of these is the Mountain Club, which has over 100 members. This operates all the year round, and camping and climbing weekends are arranged amid the unrivalled scenery of the surrounding country. Some hardier spirits have climbed Ben Nevis in the depths of winter.

These clubs are run by the apprentices themselves, although most of them have an officer as sponsor and to see that funds are properly audited etc. There is also a very keen Rover Crew.

A pantomime is produced at the end of the Christmas term, performed by apprentices and Wrens. As much as possible is left to the apprentices themselves. In the Spring Term, two teams are generally entered for the Drama Festival, in which they compete in the Plymouth Command. On occasions they have acquitted themselves very well. A few apprentices also find places in the cast of the Rosyth Dockyard Operatic Society which gives a week's performance of Gilbert and Sullivan in Dunfermline every February.

Space for hobbies is unfortunately very limited, but enthusiasts are able to build model aeroplanes, canoes and radio sets.

The *Caledonia* Magazine is produced every term by a Committee of apprentices and an instructor officer. It sells well to a wide circle of readers.

Bands

The Brass Band can call on some 50 performers, the regular turn-out being about 35 strong. It is trained by a Royal Marine Band Sergeant and reaches a very creditable standard. A Pipe Band has just been formed and is coming along well, with some 20 learners. The Dance Band is in considerable demand for the many dances in the Establishment, and by outside activities.

The Brass Band, which is the only one in the Scotland Command, is in considerable demand, and together with the Apprentices' Guard it features in many local functions, such as marches through towns for the 'Meet the Royal Navy' Exhibition, displays at agricultural and youth shows, Dockyard Navy Days, and on many other occasions. During the Summer Term it also Beats the Retreat. Such keenness is displayed by the performers that they give a great deal of their spare time to training. The Guard is chosen each term from 11 Class and there is great competition to be selected for it.

The highlight occurs when Her Majesty pays State Visits to Edinburgh. On these occasions the apprentices are called upon to line Princes Street. During Her Coronation Year Visit there were three days of this, and the maximum effort was required. On one day, the band was privileged to lead the Street-Lining Procession of all the Services.

It is invariably found that apprentices rise to occasions such as these magnificently, and that they have a great smartening up and morale building effect on the whole establishment. They can be achieved with surprisingly small dislocation of training or effect on examination results.

The Practice of Religion

As the majority of apprentices are over 17½, Church on Sundays is not compulsory. Ceremonial Divisions are held every alternate Sunday, followed by Matins in Nelson Hall which is rigged for the purpose, the Chapel being too small to hold the average congregation. Weekend leave is allowed on the other Sundays, but the needs of those remaining in the Establishment are ministered to by Sung Eucharist in the Chapel, and this is well attended. The choir is composed of apprentices. The adjacent Married Quarters Estate provides a growing number of children for the Sunday School, run by the lay reader, several keen apprentices helping with the teaching. Confirmation classes are also held, but most apprentices have been confirmed before they reach *Caledonia*.

Facilities are provided locally for the command Church of Scotland and Roman Catholic Chaplains to minister to the needs of their own congregations. Half an hour of religious instruction is given to all apprentices once a fortnight, as part of their normal training.

School and Technical Subjects

These are taught, generally speaking, throughout the eight terms. They comprise :—

- Marine Engineering (for the E.R.A.s)
- Ordnance Engineering (for the O.A.s)
- Ship Construction (for the S.A.s)
- Workshop Practice (for the O.A.s and E.R.A.s)
- Shipyards Practice (for the S.A.s)
- Mechanics (up till 8 Class)
- Mechanical Drawing
- Mathematics.

The teaching of mathematics is a recent innovation. Previously this became a forgotten subject to the apprentice after leaving H.M.S. *Fisgard*. It is proving of great benefit, particularly as an aid to understanding other subjects, notably mechanics.

Local examinations or test papers are set each term. In 8 Class the important Admiralty Part II examination is taken by all apprentices. The Admiralty Final Examination is taken in 12 Class. A failure in an Admiralty Examination generally entails back classing, and a second failure entails discharge.

Practical Leadership, History and Current Affairs and Divisional Subjects

As will be seen from the section headed 'work', these subjects account for two periods a week. They are all to some extent devoted to the common purpose of producing good citizens with the elements of leadership. H.M.S. *Caledonia* is considerably indebted to H.M.S. *Royal Arthur* for much of the material and many ideas. Divisional officers spend several days at H.M.S. *Royal Arthur* and in attending Instructional Technique courses, and some have visited Outward Bound Schools.

The Practical Leadership periods are devoted to the following activities :—

- Parade Training
- Defence Company (7 Class)
- .303 Rifle Range and use of Lanchester, Bren and pistol
- Assault Course
- General Drill
- Seamanship
- Passive Defence and Fire Fighting
- Self Defence
- First Aid and Artificial Respiration
- Kit Musters
- Lectures on Discipline and Leadership
- Snap talks and practice lectures.

The History, Current Affairs and Divisional periods are devoted to talks by divisional and instructor officers on a great variety of topics of current interest, of which the following represent a small cross-section :—

- The Social Services
- Naval History
- Organization of a Ship
- Life in other Branches
- Discipline
- Personal and National Finance
- The Naval Discipline Act.
- News Reviews.

Edinburgh University also provides a few lectures by experts in special subjects of current interest during the term. Visits are also arranged to local engineering firms, steel works, coal mines, etc., as opportunities arise.

Every possible opportunity is taken of arranging sea trips for apprentices. The Home Fleet is particularly co-operative in this respect, and Home Fleet Orders enjoin all Commanding Officers of visiting ships to embark as many apprentices as possible when they leave. The apprentices are put ashore at a subsequent port of call to find their own way home. Apprentices also help as recorders on trials of ships refitted at Rosyth.

For 12 Class there is a spare fortnight at the end of the term, after they have completed their passing out trade tests and examinations, and before the results have been published. This period is devoted to an intensive disciplinary course, again modelled on *Royal Arthur* lines.

Cadets (E)

An avenue opens in 6 Class to Cadet (E) (Special Entry). Preliminary selections are made by a Board which visits the three Part II Establishments every term and interviews all apprentices who achieved a combined mark of over 75 per cent in the *Fisgard* Part I Examination. Likely candidates, who did not quite achieve 75 per cent, may also be put forward by the Establishment. The

Board is presided over by the Commanding Officer of each of the Artificer Training Establishments in turn, and includes officers of Commander's rank from the Establishment visited, from E-in-C., D.N.E.S. and D.N.L.D.

The selected candidates then appear before the Admiralty Interview Board at Dartmouth. The number that gets through at present averages about 2½ per cent per class, and it is of interest that as many unqualified apprentices get through, as those who qualified by getting 75 per cent in Part I.

Fifth Term Workshop Training

During their fifth term, that is to say their first term in *H.M.S. Caledonia*, all O.A. and E.R.A. (F. & T.) apprentices work at the fitting benches on a series of practice jobs, and to test their progress, they do a fitting test job during the 9th and 10th weeks. Failure in this job entails a 'Captain's Warning'.

The outside trade apprentices (i.e. coppersmiths and boilermakers) likewise spend the whole term at their trade, in learning the basic principles, and undergo a test job also.

The shipwright apprentices do seven weeks on joinery, and seven weeks on boatwork repairs, including a joinery test job.

Sixth Term Workshop Training

O.A. and E.R.A. (F. & T.) apprentices again spend the whole 14 weeks at the fitting benches, but in order to provide an incentive, those who do well are allowed to spend a time working on production work for ships under repair in the Dockyard. The O.A. apprentices now start on smaller jobs than the E.R.A.s to accustom them to the more intricate work that they will meet in Fire Control.

The outside trade apprentices spend eight weeks at their respective trades, and have 6 weeks gas and electric welding instruction.

The shipwright apprentices spend seven weeks on boat repair work, and seven weeks on mast work and boat building. The latter work includes the building of 14 ft. dinghies, which are supplied to the fleet.

There is no test job in the sixth term.

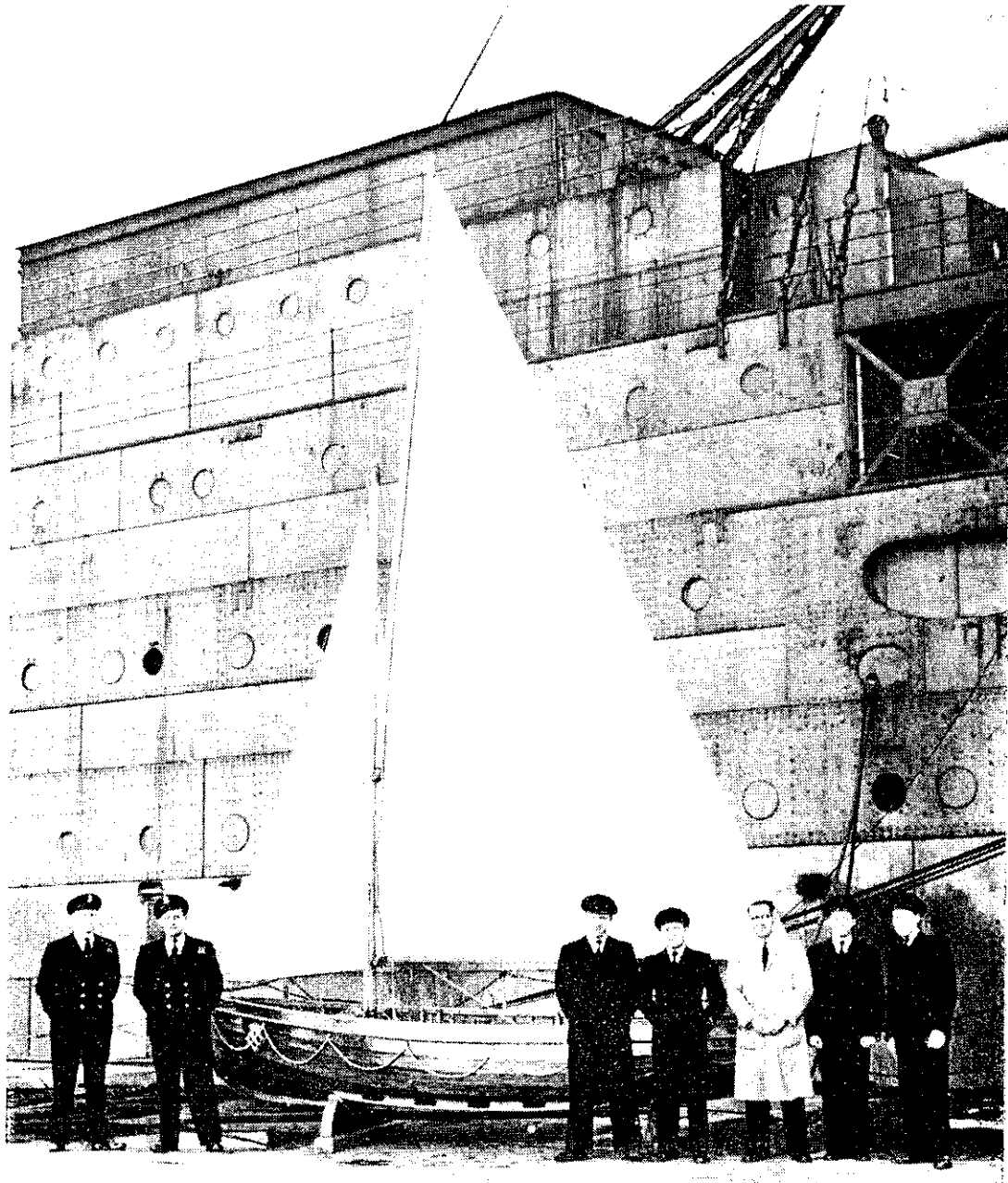
Seventh Term Workshop Training

In their seventh term, the O.A.s and E.R.A.s (F. & T.) complete their fitting course, the O.A.s after four weeks and the E.R.A.s after seven. Both then carry out a test job which is extremely important, as they do little more fitting until their final Trade Tests. It proves a formidable hurdle, and weeds out many of the less determined characters. After their test job the O.A.s start an Ordnance Engineering course which lasts six weeks, and finish the term with two weeks turning. The Ordnance Engineering course includes stripping and re-assembling fire-control mechanisms.

The E.R.A.s (F. & T.) start the machine work side of their training, being split into sections to cover turning, tool room, milling, grinding and boring.

The outside trade E.R.A.s complete their welding course with a further five weeks, carry out a test job, which exercises both their main trade and welding, and then spend the last seven weeks again at their trade.

The shipwright apprentices have a varied term, spending two weeks on hand and pneumatic drilling, two weeks rivetting, two weeks iron caulking, one week wood caulking, four weeks ship fitting, two weeks tiling, paint spraying and latex deck covering, and one week general boat work, including a test job on boat repairs.



SHIPWRIGHT APPRENTICES AND INSTRUCTORS WITH THE 14 FOOT DINGHY
 BUILT FOR THE BOAT BUILDERS' EXHIBITION AT OLYMPIA, 1954
 (Cornhill, Dunfermline)

Eighth Term Workshop Training

The eighth term includes the Admiralty Part II Examination on technical and academic subjects, so one whole week is given to it and to revision.

The O.A. apprentices spend the whole time on turning, again concentrating on the miniature or 4 in. lathes. The E.R.A.s (F. & T.) spend the first eight weeks completing their round of the millers, grinders and borers, and the final five weeks turning mainly on 6 in. lathes. Apprentices who reach a high standard are put on production work.

The E.R.A. boilermakers spend the whole term at their trade, but the copper-smiths spend one week in the Patternmaker's Shop and seven weeks in the Foundry to familiarize them with these trades. The remaining five weeks are spent at their own trade.

The shipwright apprentices divide their time equally between plumbing and blacksmithing.

Ninth Term Workshop Training

The O.A. apprentices continue their turning practice for a further ten weeks. This period includes a two weeks' test job, and for those reaching a high standard, work on production items.

The E.R.A.s (F. & T.) spend seven weeks turning, two weeks on a test job and are then divided into two sections, one of which starts an Internal Combustion Engine course, while the other goes into the dockyard, in suitably sized parties, to assist ships refitting, an experience which is much enjoyed by the apprentices, and which can be of great assistance to the ships concerned. Those who fail their turning test jobs are not allowed 'afloat' time until they have obtained a satisfactory mark in turning practice work.

The outside trade E.R.A.s spend seven weeks at their trade, two weeks on a test job and then join up with the fitters and turners for their I.C.E. course and 'afloat' work.

The shipwright apprentices spend three and a half weeks on mast work and boat's spars, three and a half weeks painting and seven weeks on welding and burning, including a two weeks' test job.

Tenth Term Workshop Training

O.A. apprentices complete their Ordnance Engineering course with a further nine weeks and then do five weeks of a fire control erection course.

All E.R.A. apprentices complete their I.C.E. course and 'afloat' time, which takes up nine weeks, and then start their erection course, which consists of lectures and the stripping and re-assembling of auxiliary machinery. A small boiler, producing a limited output of steam at 100 lb/sq in, is used to run some of the smaller auxiliaries after re-assembly.

Shipwright apprentices spend seven weeks on general plate work and seven weeks on sheet metal work.

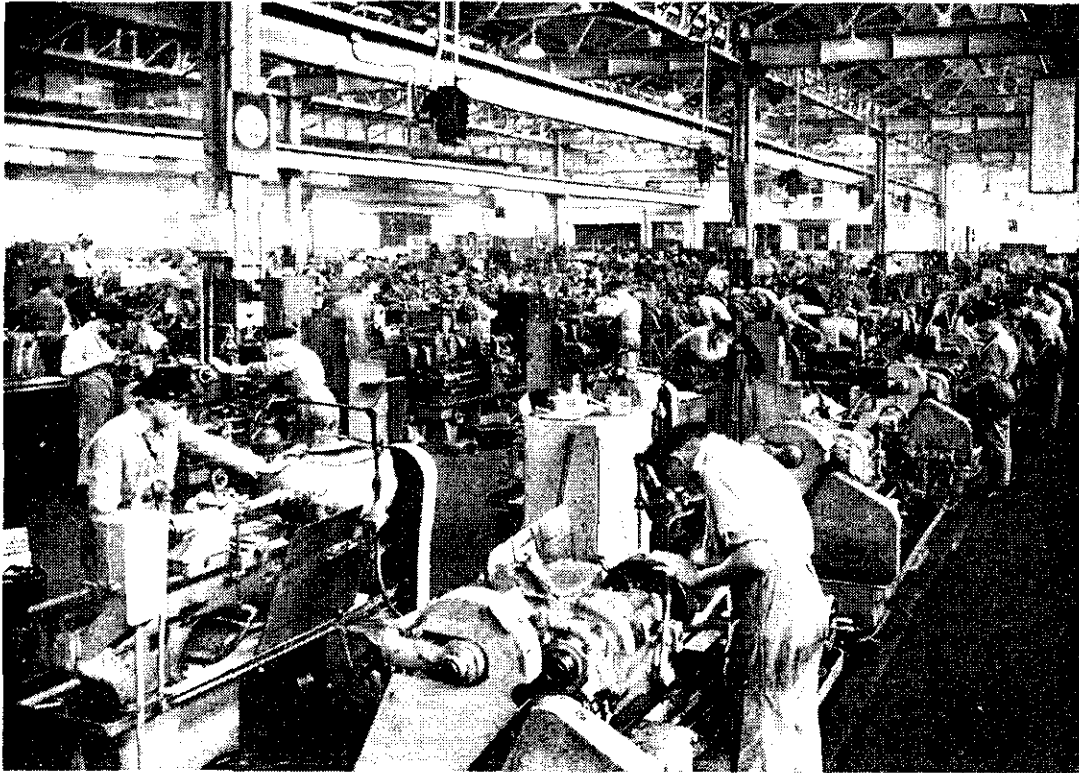
There are no tests this term.

Eleventh Term Workshop Training

The O.A. apprentices carry out a further three weeks fire control erection and then do four weeks fire control production fitting and one week production turning, spending the remaining six weeks on milling, grinding and in the tool room.

The E.R.A. apprentices complete a further five weeks erection course, and then return to their respective trades. The F. & T.s do nine weeks production fitting, turning and I.C.E. work, the boilermakers do seven weeks in the boiler shop and two weeks welding, and the coppersmiths do five weeks in their shop, two weeks welding and two weeks moulding. O.A. and E.R.A. (F. & T.) apprentices who are backward carry out selected fitting practice work instead of production work.

The shipwright apprentices spend seven weeks boat building and seven weeks 'afloat' time.



THE FACTORY. MAIN MACHINE AND FITTING SHOPS
(Cornhill, Dunfermline)

The elements of shallow water diving are also taught to selected volunteers, of whom there are many. There are no test jobs.

Twelfth Term Workshop Training

This is the apprentices' final term, the second half of which is taken up by the passing out examination and tests and a disciplinary course.

The O.A. and E.R.A.s (F. & T.) spend the first seven weeks on fitting and turning to get into good practice for their test jobs. The boilermakers and coppersmiths spend a further six weeks in their shop, and one week welding. The shipwright apprentices spend three and a half weeks welding and three and a half weeks on 'afloat' work, and one week on general revision.

The test job takes about 80 hours or 3-4 weeks, and is invigilated and marked by a team of officers and ratings specially appointed by the Admiralty for the task. It is a very good test of the whole four years' training, the shipwrights for example having to do six different jobs appropriate to six trades. There are very few failures, and the bulk of the apprentices undoubtedly possess a very sound knowledge of their respective trades on completion.

Accelerated Advancement

Many seagoing officers must be mystified, on receiving new 5th Class Artificers, to find that they have invariably been recommended for a number of weeks accelerated advancement to Acting 4th Class. The maximum that can be earned is twenty six weeks, but it is extremely rare for anyone to gain less than three weeks. The rules governing the award are laid down in B.R. 91 (50).

The amount awarded is based on a system of marks compounded from the results achieved in the Part I examination in H.M.S. *Fisgard*, the Part II and

Final examinations in H.M.S. *Caledonia*, various important test jobs and Service marks, suitably weighted according to their importance.

The achievements of the 5th Class Artificer are not rewarded by any accelerated advancement, although they are extremely important. Furthermore, each branch has different rules for dating the award of the Acting 4th Class rate, which is the starting point of an Artificer's career.

These anomalies are under consideration. In future it is planned that some 10 per cent of apprentices will gain a maximum of four months accelerated advancement on their showing in their Part II Establishment only. Another 20 per cent or so will gain two months. The rest will gain none at all. It will be possible to gain a further two months accelerated advancement on 5th Class achievements.

It is expected that accelerated advancement will then become an incentive rather than the mysterious gift which it is now, although its chief merit will still be the pressing on of the brighter material to higher rates.

Port Division Allocation

Apprentices set great store on being allocated to the port division of their choice, and this is at present a bigger incentive to hard work than accelerated advancement, although the same system is used to assess both. Apprentices state their order of preference, and allocations are based on the order of merit. The usual result is that few apprentices fail to gain their first choice, and only the tail has to be 'pressed'.

The price of an exchange in the past is said to have been as high as £40. Now that every second home shore draft is likely to be away from the home port, the incentive should not be so great, but tradition dies hard.

Future Developments

It is sometimes complained that the products of the Part II apprentice training, although well skilled with their tools, are unable to appreciate the working of machinery or to diagnose trouble. These complaints are justified, as the training does not at present provide the right groundwork. More and more is being done by accumulating representative examples of all the plant found in H.M. ships and courses in stripping and reassembling are arranged to demonstrate how it works. This is the next best thing to running actual machines, for which space and money are at present lacking.

Under the present system, the best of the apprentices do not get the opportunity to develop their full capabilities. The syllabus is designed to suit the least intelligent, and all are taken along the same road, although it is true that there are voluntary classes for potential Upper Yardmen. Each entry of just over 100 apprentices is divided into classes of not more than about 25, but each contains a proportion of the bright and dull apprentices.

This has just been changed in favour of a 'stream' system, in which the top class will contain all the brighter ones. It has been proposed that the syllabus should now be stiffened to extend the top class to the limit. The bottom class will work to the same syllabus but will only be taken as far as its capacity allows. It is hoped that other subjects such as Heat and Steam, Hydraulics, Ship Laying Off, and also practical laboratory work will be added. This will necessitate almost doubling the amount of school time, which can be done without detriment to the standard of skill of hand attained, by a judicious telescoping of all factory activities back to I Class in H.M.S. *Fisgard*.

If these proposals are adopted, the future artificer should be much better equipped mentally to understand the working of the ever more complex machinery placed in his charge, and to diagnose its faults.

At the same time, it is confidently expected that the brighter apprentices of all branches should be capable of gaining Ordinary National Certificates. It is intended that these should not be awarded automatically, but only as a result of a separate examination for which they would have to work in their own time. This will also have the merit of bringing the course more into conformity with outside apprenticeship training schemes, and of enhancing its recruiting value in the schools.

In these days of full employment and intense competition to attract bright youngsters, the Services cannot afford to stand aloof. We must be prepared to train a surplus of youngsters in the knowledge that many will leave us, in the same way that industry is forced to do. When told gloomily that our re-engagement rate for artificers was of the order of only 50 per cent, a visiting industrialist Apprentice Master expressed envy that anyone nowadays could keep half of their trainees for 22 years.

Other developments will be concerned with the trades taught, to bring these more into line with the needs of a small ship navy. At present, for instance, boilermakers and coppersmiths are still being taught the finer points of their trades, which they are seldom, if ever, called upon to put into practice. It has now been agreed that nearly all the needs in the Engine Room Branch would be catered for by the following types of tradesmen :-

- (a) A preponderance of skilled fitters, reasonably skilled in machine work, with some knowledge of welding, brazing and light plate work.
- (b) A small number of skilled machinists, reasonably skilled in fitting, who would generally be used in workshops and repair ships.
- (c) A like number of skilled light plate workers, with a reasonable knowledge of fitting.

The remaining needs, which are small in peace time, for a certain number of specialists for repair ships and bases (e.g. patternmakers and moulders), will have to be met by direct entry, as at present.

It is intended that the O.A.s should be trained on similar lines to (a).