

PORTSMOUTH DOCKYARD SCHOOL

The concept of Dockyard Schools goes back to the beginning of the 19th century when **Lord Barham** set up a Commission of Revision which reported in 1806, among other things, that there should be a deeper study of the principles of ship design. It was recommended that the best apprentices in the Royal Dockyards should be given special instruction in Naval Architecture and related subjects. The first School of Naval Architecture was set up in Portsmouth in 1811 but, following a change of Government, was abolished in 1832. In 1841 a new Board of Admiralty considered the question of education and in November 1842 the Secretary to the Admiralty reported to the Superintendents of the various Naval Dockyards that 'My Lords Commissioners are of the opinion that Schools should be established for apprentices to give them the benefits both of a Religious and Professional education'. Subsequently the setting up of the Dockyard Schools and the appointment of the associated Schoolmasters was approved by an Order in Council dated 1st February 1843. Portsmouth Dockyard School, along with Chatham and Pembroke Schools, was set up in 1843. Schools in the other Dockyards followed a year later.

The first school in Portsmouth was supervised by a committee comprising the Admiral Superintendent, the Master Shipwright and the Chaplain, but in later years the responsibility was taken over by the Director of Naval Education.

The curriculum varied between the schools and tended to cover basic education rather than professional and technical subjects. Some of the time was allocated to prayer and religious studies. In 1846 the Admiralty appointed the **Reverend Henry Moseley** (a former Professor at King's College, London), the Senior Inspector for the Council for Education, to carry out an annual inspection of the Dockyard Schools and this led to a number of recommendations relating to the running of the schools and their curriculum. One of these recommendations was the setting up of an Upper School for boys in the top part of the entrance examination results and a Lower School for the rest, who were apprentices in the minor trades.

A simple entrance examination for Dockyard Apprentices was introduced in 1847 but as a result of the **Northcote-Trevelyan** Report on the Civil Service in 1853 the entrance examination was replaced by a more rigorous examination set by the Civil Service Commission and this remained the practice for the duration of the Dockyard Schools. The subjects taken in the entrance examination were: Mathematics (2), Arithmetic, Science (2), History and Geography (2), English (3 - Composition, Handwriting and Literature) and Drawing. Such was the popularity of Dockyard apprenticeships that one or two private schools were set up in Portsmouth whose primary purpose was to get boys through the apprentice entrance examination.

Attendance at the Dockyard School (which was in a building within the Dockyard at Portsmouth) was compulsory for the first 3 years and the time allocated for attendance was 2 afternoons and 3 evenings for the Upper School and 1 afternoon and 3 evenings for the Lower School. The subjects then being taught in the Dockyard schools were: Geometry, Arithmetic and Mensuration, English Grammar, Algebra, Physics and Chemistry, Geography, History, Trigonometry, French, Mechanics, Hydrostatics, Conic Sections, Differential and Integral Calculus, Practical Shipbuilding and Laying-off. The training in

professional subjects was usually undertaken by members of the dockyard staff.

At the end of the 3rd year the best boys were kept on for a 4th year and the best 3 Shipwright apprentices were selected by examination for training at the Royal Naval College, Greenwich.

In the 1870's some members of the Board of Admiralty were opposed, inter alia, to the technical training of Dockyard Apprentices but the then Director of Naval Education, **Dr. Joseph Woolley**, successfully defended the Dockyard Schools. Some further changes were introduced, for example in 1886 a pictorial drawing exercise was added to the 4th year Dockyard School examination which was undertaken in the Drawing Office.

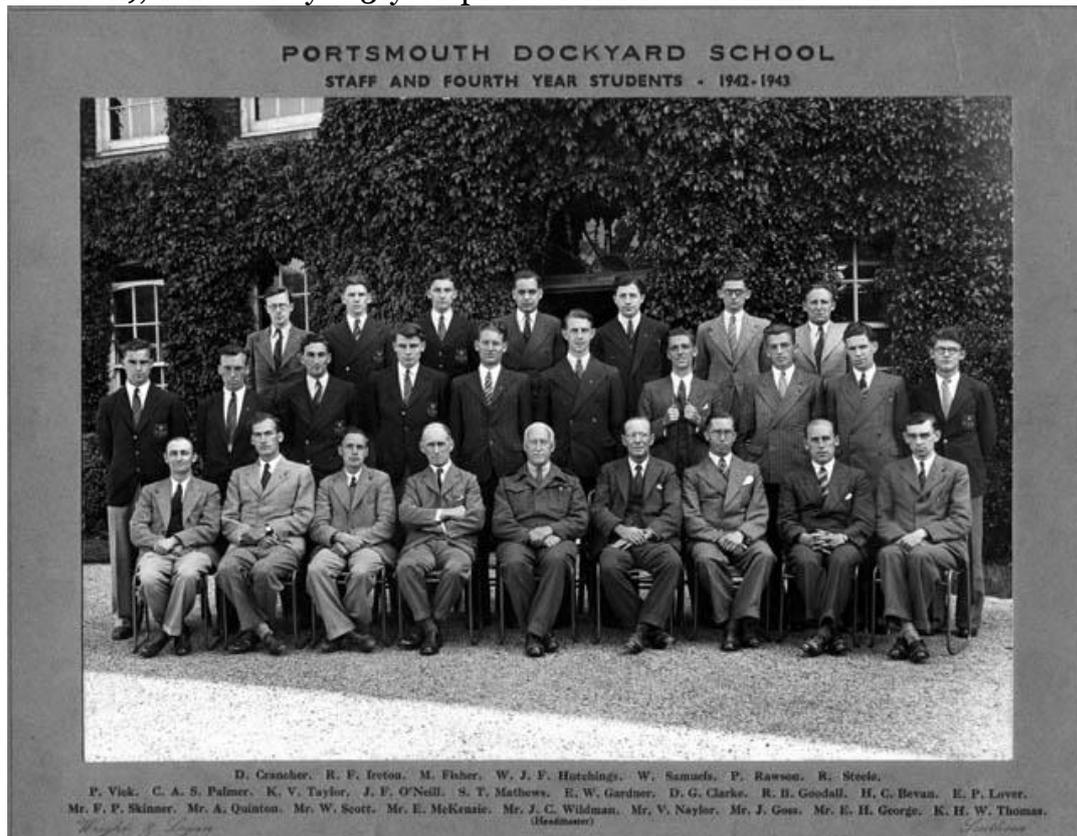
An extensive review of the Dockyard Schools was conducted by **Sir Alfred Ewing MA, FRS**, the Director of Naval Education, in 1905 which resulted in establishing the form of the Dockyard Schools which survived with few modifications until the post WW2 developments in education. The changes made by Sir Alfred Ewing included more emphasis being given to the professional subjects of the three main trades, as well as developing a sound mathematical and scientific training. All Dockyard Schools were required to adopt the same syllabus using the same textbooks. No changes were made to the attendance times (2 afternoons and 3 evenings a week for the Upper School, and 1 afternoon and 2 evenings a week for the Lower School), but the Upper School was extended to a four year course. The pattern adopted and which remained for the life of the Dockyard schools was that at the end of the first year the top half (by examination) of the Upper School proceeded to the second year. Some of the bottom half transferred to the Lower School and the remainder left the school. In the Lower School the top half went on to a second in the Lower School and the rest left the school. Exceptionally an apprentice who had done extremely well in the Lower School could transfer to the Upper School. Similarly in subsequent years the top half of the second year Upper School went on to the third year and the top half of the third year to the fourth year. The system resulted in an average of about 15 apprentices making it to the fourth year. Opportunities were often provided, unofficially, for apprentices to continue their studies for a limited period during working hours but this facility depended on the Chargeman, the instructor and the location.

Examinations at the end of each year were common to all the Dockyards and in addition to the prizes awarded in each School, an Admiralty Prize was awarded to the apprentice who came top in all Dockyards in each year. It was an altogether highly competitive system which engendered fierce rivalry between the Dockyards.

The syllabus for the Dockyard Schools and the completion of four years in the Upper School was assessed to be the equivalent to at least a 3rd class honours degree in engineering. The final examinations at the end of the 4th year comprised: Mathematics (2), Mechanics (2), Heat and Metallurgy, Electricity and Magnetism, Professional Subjects (2) and the trial drawing. Unfortunately academic awards could not be made by the Dockyard Schools but, prior to WW2, achievements by apprentices in the Dockyard Schools were fully recognised by other organisations.

At the end of the 4th year Upper School the top few shipwright apprentices from all Dockyards were selected for cadetships and served in uniform beginning

with one year at the Royal Naval Engineering College, Keyham (subsequently at Manadon), followed by a 3 year professional Naval Architecture course at the



Royal Naval College, Greenwich. (After WW2 the training was undertaken at UCL, London for which a degree was awarded). This was normally followed by a year at sea. The numbers selected for cadetships varied according to the assessed needs of the Admiralty but generally were from 2-8. In addition, from 1910, the top two electrical apprentices in all Dockyards were awarded electrical cadetships and went direct to RNC Greenwich for a 3 year course. No cadetships were awarded to any of the other trades but if an apprentice in any trade achieved sufficiently high marks and was assessed as having the appropriate potential he could be given the opportunity to change trade to that of a shipwright at the end of the 2nd year. Exceptionally an apprentice would sometimes be offered a cadetship to train as a Naval Constructor at the end of the 4th year irrespective of his trade.

Those who were unsuccessful, often missing by a few marks in the final examinations, had nothing to show for their achievements and, if they wished to progress in the Dockyard service, they had to take the Inspector's or Draughtsman's examinations for which their Dockyard School training stood them in good stead. There were, however, major National engineering and naval architecture scholarships: Whitworth, Martell, Royal Scholarships. Elgar and I.N.A., and the majority of these usually went to Dockyard apprentices, enabling them to attend the City and Guilds College at Imperial College, London. There was always a proportion of boys who entered as apprentices in order to benefit from the technical education provided enabling them to qualify for these scholarships which would normally lead to appointments outside the Admiralty service.

As far as can be established Portsmouth Dockyard School continued throughout WW1 but during WW2, early in 1941, the Dockyard School building

was completely destroyed by an air-raid on Portsmouth. For several weeks no schooling was possible but eventually accommodation for the Upper School was made available at the Teachers Training College in Milton along with the use of Milton Church Hall, together with other accommodation in Pitt Street. Other Dockyards sent books and equipment to replace what had been destroyed.

In 1943 the School celebrated its centenary with a Grand Centenary Dance



March 1943 - K.H.W.Thomas (4th year) receives his prize from The Rt.Hon. A.V.Alexander, CH, MP, 1st Lord of the Admiralty

in the Foster Hall of the Training College. Later in the year a special centenary [Speech Day](#) was held in the Kings Theatre, Southsea at which **A.V.Alexander**, the First Lord of the Admiralty, was the guest speaker and presented the prizes.

The Dockyard School remained at Milton until 1945 when it was accommodated in some Nissen Huts built outside the Unicorn Gate. It had been intended to build a new college and training centre but, with cuts in expenditure, the scheme was cancelled. At the end of WW2 changes were made to further education and it was no longer necessary for boys (or girls) to enter the Dockyard in order to obtain a good technical education and to use this as a stepping stone to service elsewhere. Moreover the Select Committee on Estimates in 1950 was highly critical of the Dockyard apprentice system which had resulted in significant numbers of apprentices leaving Admiralty employment.

The 1944 Education Act led to opportunities for 6th form education, qualifying for a possible University course, and as a result the academic quality of the apprentice entry into the Dockyard fell considerably. Early in the 1950s the Mechanical Repair Establishment at Flathouse moved to HMS SULTAN and the building was offered to the Dockyard with properly laid out classrooms and, on the other side of the road, shops with lathes and other equipment. The Apprentice Training Centre was therefore established at Flathouse and included the Dockyard School to provide the necessary accommodation after the temporary arrangements which had been made following the destruction of the original school in 1941. Further, in 1952, the title of the Dockyard School was changed to Dockyard Technical College. This effectively ended the Dockyard School as it had existed for over 100 years.

In 1956 the National Dockyard Entrance Examination was dropped and a dual-stream entry scheme of Student apprentices (to be trained to become Inspectors or draughtsmen) with separate Craft apprentices (to be trained as craftsmen with limited promotion prospects). The Student apprentices followed the National Certificate course and the Craft apprentices followed the City and Guilds course though the better ones were able to follow the National Certificate

Courses or the City and Guilds Technician course. The dual entry followed a four year course similar to the 4th year Upper School course but the original Upper and Lower school courses were terminated. The last of the old style 4th year was 1958.

The Student Apprentice scheme was not a success and was abolished in 1968 being replaced by a Technician Apprentice system with more demanding entry requirements. The Dockyard Technical College was recognised as a centre for the awarding of Ordinary and Higher National Certificates in Naval Architecture, Mechanical and Electrical Engineering and the syllabus was amended accordingly.

In 1961 the Minister of Education presented a White Paper entitled: 'Better Opportunities in Technical Education'. The Dockyards were instructed by the Admiralty that the Dockyard Technical Colleges were to follow the pattern laid down in the White Paper. All craft apprentices were placed on courses leading to nationally recognised qualifications with some apprentices in minor trades being trained in the Local Authority College.

A Working Party was set up in 1968 to review the methods of providing further education to technician and craft apprentices in the Royal Dockyards. It recommended that the education should be transferred to the Local Education Authority - and this led to the closure on 1st September 1970 of the Portsmouth Dockyard Technical College. But the existing building at Flathouse was used by the Portsmouth Education Authority as an extension of their facilities, to cater mainly for HM Dockyard requirements. The former Principal of the Dockyard Technical College was retained as an Education Officer with a small staff to liaise with the local college. He was attached to the staff of the Dockyard Personnel Manager and worked closely with the Chief Apprentice Training Officer.

In 1981 apprentice intakes in Portsmouth Dockyard ceased with the rundown of Portsmouth Dockyard following the Defence Review but recruitment resumed on a small scale by the Fleet Maintenance and Repair Organisation from 1984 and training continued as before, in conjunction with Highbury College, until 1998.

Headmasters

The board listing the Headmasters of Portsmouth Dockyard School since its inception was lost when the school building was destroyed in 1941 but the following names have been traced:

- R. Rawson Esq.** appointed 1843;
- George Macavoy** (from 1881 Census)
- Professor A.M.Worthington MA, FRAS** resigned in 1888;
- H.G. White Esq.** appointed 1888;
- T.Dawe Esq. BSc** appointed 1906;
- G.T.Chivers Esq. OBE** appointed 1914;
- J.M.Irvine Esq. MBE, BSc** appointed 1923;
- J.W.Wildman Esq. MBE, BSc** appointed 1938 (also serving as a major in the Home Guard);
- W.G.Burrell Esq. BSc** appointed 1947;
- J.G.Goss Esq. OBE, AMINA** appointed 1953 (an ex-Portsmouth Dockyard apprentice)- first Principal of the Dockyard Technical College;
- E.H.George Esq. MBE, BSc** appointed 1968 as Principal of the Dockyard Technical College and subsequently the Education Officer.

There is no doubt that the Dockyard Schools in their early years were ahead of their time and have served the country well by providing for just over 100 years a high standard of technical education to thousands of apprentices, mostly from working class background, who would otherwise not had the opportunity of receiving such an education. Many apprentices from the Portsmouth Dockyard School (and the other Dockyard Schools) rose to high positions both within the Admiralty (later MOD) as well as in a wide variety of professions and services - an indication of the quality of education which they had received in the Dockyard School. Probably the most notable of Portsmouth apprentices was **Sir Phillip Watts** who began his apprenticeship in Portsmouth Dockyard in 1860, subsequently becoming a Naval Constructor. He resigned from Admiralty service in 1885 to become the Naval Architect and General Manager of Sir W.G.Armstrong and Co., where he was responsible for designing and building warships both for the Admiralty and foreign powers. He returned to the Admiralty in 1902 on appointment as Director of Naval Construction (and Head of the Royal Corps of Naval Constructors) where he was closely involved with Admiral Fisher in the designing and building of **HMS Dreadnought**. He retired in 1912.

References:

- a. The Centenary of the Royal Dockyard Schools, L.Woollard, Transactions of the Royal Institution of Naval Architects, 1943.
- b. A History of Apprentice Training in H.M.Dockyard, Portsmouth, S.W.B.Leathlen, published by Hampshire County Museum Service, 1990. (It is now out of print but a copy is held in the reference section of Fareham Public Library.

Footnotes:

- a. The Dockyard School adopted for its motto some lines by Richard Monckton Milnes:

**If what shone afar so grand
Turn to nothing in the hand
On again! The virtue lies
In the struggle, not the prize.**

- b. 4th Year apprentices in the Upper School used to wear a small circular lapel badge of concentric red, white and blue rings with a Roman IV in the centre. There was also a Dockyard School tie and this was subsequently adopted by the Portsmouth Royal Dockyard Historical Society, later the PRDHT Support Group.

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