SOUTH WEST WALES INDUSTRIAL ARCHAEOLOGY SOCIETY

NEWSLETTER CYLCHLYTHYR

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ANNUAL GENERAL MEETING

The Society's second AGM was held in the Royal Institution on April 4th last. Attendance was good despite the depressing after - effects of the recent energy crisis.

The President, Professor H.O'Neill, in his summing up of the year's activities said he was pleased with the sustained interest shown in the Society' activities, not least by younger members. The interesting series of lectures had drawn good audiences from the public as well as from members, but had unfortunately been brought to a premature close due to the heating and lighting restrictions. Last summer's site visits were well patronised particularly the visit to Kidwelly Tinplate worsk, with its interesting contents still in situ

The need for a Deputy Chairman had shown itself during Mr R.O.Robert's illness. Dr. F.G. Cowley who had acted for Mr Roberts during this period was formally adopted as Deputy Chairman, and all other officers and committee members were re-elected.

Several suggestions for field days during the coming summer were made. At the time of writing these notes one has already held, to the Neath and Swansea Canals, led by Mr Richard Keen of the National Museum and the second, to Ironbridge, is shortly to take place.

Mr R.O. Roberts, Chairman, appealed to members for the loan of any historical photographs which could be copied for the Society's photographic collection whic is in the custody of Mr H. Holloway, the Society's Photographer.

The meeting closed at 8-30 p.m. and after refreshments illustrated talk on Burry Holm was given by Mr Holloway. The superb quality of the illustrations, both views and plans together with the fascinating narrative, fully justified the effort by Mr Holloway had put into his project, was greatly appreciated by everyone.

W.I.R.

VISIT TO THE SWANSEA AND NEATH CANALS

On May 17 - 18th Mr Richard Keen, Assistant Keeper, Department of Industry in the National Museum of Wales, by arrangement with the Society and the Extra-Mural Department of the University College of Swansea, delivered two public lectures. The first was on inland waterways with particular reference to the canals of South West Wales and the second on the Neath, Tennant and Swansea Canals.

After the second lecture Mr Keen acted as guide on an afternoon coach excursion organized by the Society to points of interest along the canals in the Swansea and Neath Valleys. The first stop was made at Ynysmudw where the party visited the now derelict site of the well - known pottery and tinplate works which adjoined the canal. Lack of time and bad weather prevented a visit to the feeder canal which connected by tramway across the River Tawe to collieries at Cilybebyll. The party then moved on to Yard Level just beyond Hen Neuadd, the head of ths Swansea Canal. This was the centre of a number of colliery levels from which the coal was transported by tramway across an elegant bridge over the Tawe to the basin at Hen Neuadd. Two members of the party discovered two pieces of cast-iron tramplates in excellent condition and these are to be preserved. A final stop was made at the famous aqueduct at Aberdulais in the Neath Valley. This aqueduct was constructed in 1823-24 under the supervision of William Kirkhouse of Cadoxton and Neath Abbey for George Tennant and carries the Tennant Canal over the River Neath to connect with the Neath Canal. The Adjoining railway bridge was built in 1849-51. So successful were the lectures and excursions that MR Keen has agreed to visit us again next year to deal in greater detail with the Neath and Swansea Canals.

F.G.C.

SUBSCRIPTIONS

There are still a few members whose subscriptions for 1974 have still to be paid. If a cross appears in the margin beside this paragraph, that indicates that you are one of them. Please remit your subscription (£1-00, or 50p for students and OAPs) to the Hon Treasurer as soon as is convenient. We regret that anyone we do not hear from will have to be deleted from our list of members.

VISIT FROM SOUTHAMPTON UNIVERSITY

A group of IAs from Southampton University Extra Mural Department will be spending a week in Swansea from August 3 - 10th and will be staying in the Swansea College of Education, During the week they will be visiting various sites of interest in our region by coachand will have a few spare seats for any of our members who are interested. The final details have yet to be fixed, but their rough programme is as follows: Canals in the Neath and Swansea Valleys (Sunday) The Valleys (Monday); Pembrokeshire (Tuesday); Loughor, Kidwelly and other Carmarthenshire sites (Thursday); Cardiff, St. Fagans, Maesteg (Friday). Anyone who would be interested in taking part in any of these excursions is asked in the first place to contact the Editor of this Newsletter, from whom fuller information may be obtained. It may be necessary to ask for a small contribution towards the visiting party's expenses, but this will not be more than 50p. Also on the Friday evening (August 9th) there will be a social gathering in the College of Education to which our members are invited; further details are not yet available.

NEATH, PONTARDAWE & BRYNAMMAN RAILWAY

P.R. Reynolds has mentioned this proposal in the February 1974 Newsletter and has called our attention to C.L.Mowat's article in 'Railway Magazine" for 1957 which deals with it in some detail.

This was an interesting scheme as it showed that, in this area at least, there remained in the last decade of the 19th century optimistic burghers prepared to lay golden sovereigns against steep engineering and economic odds to lay steel in already adequately railed localities, and furthermore, that they were prepared to risk the wrath of the Lords of Paddington in so doing.

There was something to commend a more direct line from the coal-rich Amman Valley via the promising valley of the Upper Clydach, as is shown by the later G.W.R. proposals.

The promoters of the N.P. & B.R. chose to go to Neath via the Alltwen Gap as it was felt that seven or eight small pits in the Bryncoch area would be usefully augment their traffic. A short level spur would have connected Cwm Nant Llwyd and obviated its difficult inclines. New Primrose and Fforest Goch would have been alongside the line and notable economies would have been achieved compared to their steeply graded route down to Pontardawe. Likewise Wernddu, Bryncoch Main and Wernceirch could have been offered better service than their existing Duffryn Clydach line to Court Herbert, the lower portion of which roadbed would have been incorporated into the new line. It is likely that Skewen Main and several adjacent levels could also have been served, cutting out their incline, and possibly tidying up the congested wagon handling arrangements at the three major works at Neath Abbey riverside.

An east - facing junction to the G.W.R. on the embankment to the west of where Neath Grammar School now is would have provided rapid access to easterly destinations. A bridge over this line was to have led to a west-facing junction to the Neath and Swansea line of the G.W.R., which would have given a direct run to the works on the west bank of the Neath River and to Swansea East Dock.

Mowat refers to the 1903 authorisation of a connection to the Rhondda and Swansea Bay Railway, but this would have been just a ploy to attract additional backers. More realistic was the decision at this time to abandon the ridiculously graded triangular junctions with the Swansea Wale line at Lower Alltwen.

The later G.W.R. scheme would have been of doubtful profitability even if the Egel Valley had been developed. The N.P. and B.R. scheme would have cost around £75,000 more to build and it is clear that the limited tonnages and short route mileages arising from the Bryncoch area could have provided but small augmentations to their gross revenues.

The lapsing of the N.P. and B.R. proposals saved a number of shirts being lost and saved the worthy citizens of Pontardawe from having a huge viaduct over their town. Unfortunately it deprived us IAs of some impressive material.

A.J.Y Richards.

SOME NOTES ON THE NEATH ABBEY IRONWORKS

In 1791 a group of industrial venturers made a decision in Cornwall which was to have a profound effect on industrial development in the Neath Valley. The decision was to build an iron foundry at Perran Wharf, Falmouth. The projectors of this scheme were members of the interrelated Fox, Price and Tregelles families and the foundry was destined to supply castings and machinery for the Gwennap mines in which the Fox family had a large interest. In 1792 the company decided to expand its interests to Wales by building an ironworks at Neath Abbey. The purpose of the Neath Abbey works was to produce pig iron both for sale and to supply Perran Wharf with its raw material. Boulton and Watt were consulted concerning the cost of an engine to provide the blast at Neath Abbey. The letter clearly stated the plans the company had for their furnaces at Neath Abbey.

"We propose to erect two and to have sufficient blast for three; indeed of such power as there will be no doubt of our making one hundred to one hundred and ten tons of iron a week".

The furnaces were completed in July 1793 and were soon in production being blown by Boulton and Watt's double engine which had a steam cylinder of 40" diameter and an air cylinder of 70" diameter. This engine was one of only twenty eight Boulton and Watt engines supplied to iron working concerns in Britain during the period 1775 - 1800.

The early years of the nineteenth century saw a change in the stratergy of the company and the sending of Peter Price to Neath Abbey as manager in 1800 was a clear indication of where the future work was to be concentrated. Price, who was born in Madely, Salop, in 1739, received his training as a moulder at Coalbrookdale and spent ten years at Carron ironworks near Falkirk in Scotland where he became a foreman in the boring shop. It was while he was at Carron that Price was to meet and befriend James Watt, who was later to describe Price in a letter to Boulton as, "A man of character and a great deal of, knowledge in the foundry way".

The early years of the nineteenth century saw the Neath Abbey concern change from a bulk ironworks to a precision engineering establishment. Under successive generations of the Price Family the works rose to become one of the greatest engineering concerns in Great Britain, producing railway locomotives, marine engines and stationary steam engines.

After 1825 expansion took place not at Neath Abbey but on several other sites in the Neath Valley. The Venallt ironworks at Cwmgwrach was in 1826 probably to supply Neath Abbey with pig iron. By 1840 the company had acquired a rolling mill and blast Furnaces at Briton Ferry and in the early 1840's they built three blast Furnaces at Abernant, Glynneath. (The Abernant site was later to be used as a brickworks and in the early 1900's the area was levelled and houses constructed on the site).

Neath Abbey was the base for four Quaker Companies, among which were, the Neath Abbey Iron Company, the Neath Abbey Coal Company and the Abernant Iron Company. The works continued to build every sort of steam engine up to 1875 when the Quakers closed the works. An attempt was made to revive ironworking at the Neath Abbey site, but it was forced to close finally in 1885.

The achievements of the Neath Abbey ironworks were immense. At its peak the Neath Abbey Iron Company was building some of the finest and largest steam engines in Britain, particularly Cornish beam engines.

The works had received early patronage from Richard Trevithick, building for him some of his early high pressure non - condensing whim engines. In 1820 the works produced an engine which was described as half as powerful again as the largest steam engine elsewhere. This engine, designed by the Cornish engineer Arthur Woolf, had a cylinder of 90" diameter. In 1839 the Neath Abbey works was again to astonish the engineering world by producing a blowing engine with a 122" blowing cylinder. This cylinder size was not superseded until 1843, when Harvey and Co., of Hayle built their 144" cylinders for the engines to drain Haarlem Meer in Holland.

Equal success was met with in marine engineering and building of railway locomotives. In 1851 the works built a pair of 18" high pressure marine engines for the Great Exhibition at Crystal Palace. The building of railway locomotives seems to have started at a very early date with the works building an early locomotive to Trevithick's design. The works could number among its products the first fully adhesive locomotive to be built with articulation (supplied to the Dowlais Iron Company in 1831), The first with combined adhesion and rack working (also supplied to Dowlais in 1832), early examples of locomotives with horizontal cylinders and the first railway locomotive to run in the West Country (the 'Camel' supplied to the Bodmin and Wadebridge Railway in 1834)

The remains of the ironworks occupy part of the valley of the River Clydach (ss738977). The oldest buildings on the present site are the two furnaces, probably the finest examples of late 18th century furnaces in Britain. A series of workshops which made up the engine manufactory still stand, and a few hundred yards further up the Clydach Valley is a Forge and rolling mill constructed in 1825 and now used for the manufacture of overalls. There are many traces of other buildings in the Valley and the modification of the River Clydach for industrial use can be clearly made out. Particularly spectacular is the still standing Cwm Clydach Dam (ss739988) which was constructed in 1840 to regulate the flow of the River Clydach.

(Since this article was written it has been announced that the woollen mill referred to in the final paragraph is to close. There are hopes that some of the machinery may be preserved in the extension to the Glynn Vivian Gallery in Swansea. Ed.)

Laurence Ince.

BOOK REVIEW

Neath and District: A Symposium. Edited and published by Elis Jenkins, Neath, 1974. £6-50.

I believe it was from the vast store of local love that the editor of this publication will spin at the drop of a Welsh hat that I heard the following tale. It seems that D. Rhys Phillips, whose monumental "A History of the Vale of Neath" (1925) has long proved the richly - filled handbook for any student of the area, was shrewd enough to retain sufficient copies of the work against the time when the publication became scarce. He would then produce, from under his bed so to speak, "just one last copy" that he happened to have, to the profound gratitude of the person seeking the publication. I recount the tale in the conviction not so much that Elis Jenkins will resort to such hoarding in the hope of inflationary gain but that the publication he has edited will be as highly regarded and sought - after as Phillips' work of nearly fifty years ago. In fact those who have not already obtained a copy of the first impression must await a second printing later this year at an inevitably somewhat higher cost.

The book is a collection of eighteen chapters by various well - qualified contributors dealing with a variety of subjects ranging from archaeology to zinc ore in the Neath region, It is finely - produced work with fifteen beautifully - reproduced colour plates which reflect the editor's own interest in the natural beauty of the Vale, some of which, like the fine river waterfalls, still exist, but much of which disappeared with the industrialisation of the area.

It seems almost paradoxical that one can be saddened by the disappearance of industrial remains whose once - active presence despoiled the natural beauty of the area, but it is probably a nostalgic trait that can be understood by industrial archaeologists. Thus one finds Clive Trott, in his excellent and well - documented account of the Copper Industry, reporting on the problems associated with smoke from the smelting of copper blowing over the town, a problem that Swansea was later careful not to repeat in the location of its works. Even Lady "Molly" Mackworth, whose family had profited so richly from the copper industry, was moved in 1796 to express her concern at what a contemporary observer reported were "disagreeable and perhaps pernicious fumes" that " must wrap the (Gnoll) House" and doubtless too affected lesser mortals in the town. It is sad, however, that almost every vestige of such important industrial remains as the Mines Royal / Cheadle site at Neath Abbey have now, as recorded in the first number of this Newsletter, disappeared beneath the foundations of a new road system.

D. Morgan Rees contributes a valuable chapter on the Iron Industry. Particular mention is made of the Neath Abbey Ironworks and the fine collection of plans and drawings deposited at the Glamorgan Record Office which reveal, as Mr Rees says "an almost incredible contribution of plant and machinery to a variety of industries" including lighthouse machinery for Mumbles Head. Some good photographs accompany this chapter and aptly placed is a lovely colour plate of the Clydach Falls which have served the iron and other industries for three centuries. It would be proper at this point to mention the important contribution that Quakers like the Cornish Fox family made to industrial development, in the Neath area. The oldest school in the locality was founded as a works school by the Quaker Peter Price at Neath Abbey in 1815.

Robert Thomas details the history of communications in the area. Those who have a particular interest in canals and railways will realise that the few pages devoted to both cannot hope to be in any way a comprehensive record of their history. Those who do not know it, incidentally, will find the Neath Abbey station of the Swansea and Neath Railway little altered from the drawing which appeared in the "Illustrated London News" in 1863 to mark the openeing of the line.

Other chapters of particular interest to industrial archaeologists include Dr. Gerwyn Thomas writing on the long history of coal mining in the area, the first reference to which is found in 1281. While the valley still retains some mining activity it is surprising how nature, assisted by man, has clothed much of the evidence of the coal industry in places like the Bryncoch, Neath Abbey and Skewen area where the Main Colliery Company employed around 2,000 men up to 1918, and then ceased production a decade later. Readers will be interested to note the ingenuity of Sir Humphrey Mackworth at the end of the seventheeth century who employed some sort of tram equipped with sail to carry his coal to the river - side.

The name of the influential Mackworth family appears again early in the history of banking in a chapter contributed by our own Chairman, Mr R.O. Roberts. Elis Jenkins himself writes of other industries in the area recording with relish the fact that the word "Dinas," from the firebrick invented by that versatile and fabricated genius William Weston Young in 1823 from the silica found near Craig - Y - Dinas, Pont - Nedd - Fechan, is a word known in the Russian and German languages. In an appendix Merlin Thomas writes on the tinplate and steel sheet industry in the Neath area, a contribution by a man whose academic interest grew out of his days as a manual worker in this local industry. A selection of photographs of old Neath by Walter Oak provide a rich pictorial history of the area.

Elis Jenkins has done for the Neath area what Professor W.G. Balchin did in 1971 with "Swansea and its Region". And students of the Neath area can look forward to two further volumes in the future compiled by the same editor recording in greater detail the history of the various local communities of which it is comprised and the sports and pastimes which have helped to characterise the region.

J.L.Griffiths

LLANDYFAN FORGES.

Most of our readers will remember the talk given by Mr Michael Evans last December on the early iron industry of South West Wales. Since then Mr Evans has had an article published in the Carmarthenshire Antiquary, vol. 9 on the Llandyfan forges which featured largely in his lecture. In 25 pages he traces the history of these two forges north of Llandybie from the foundation of Llandyfan Forge at some indetermined date in the 17th century up to the early 19th century when they both ceased to function. He has also transcribed and published as an appendix to his article four inventories of stock dated 1701, 1798, 1800 and 1807. The article is illustrated by maps and a photograph (which was taken by our Society Photographer, Mr H. Holloway.)

Mr Evans has had a number of extra copies of this article printed so as to produce an attractive pamphlet costing 30p including postage. It is hoped to arrange a visit to the forges later on this summer, and this pamphlet would make excellent backgroung reading. Copies may be obtained from Mr M.C.S. Evans, 69, Bronwydd Road, Carmarthen.

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