SOUTH WEST WALES INDUSTRIAL ARCHAEOLOGY SOCIETY

NEWSLETTER CYLCHLYTHYR

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No. 4, June 1973
Editorial Committee: F.G. Cowley, S. Frank, P.R. Reynolds

SOCIETY NOTES

Annual General Meeting, 27 March, 1973, 7.30 p.m., held at the Royal Institution, Swansea.

The Secretary and Treasurer gave their reports. The President thanked the Extramural Department of University College for their help and looked forward to continued cooperation. He proposed that a Deputy Chairman, Dr. F.G. Cowley, be elected for the time being, to aid Mr. R.O. Roberts, the Chairman, during a period of ill health. This was seconded by Mr. J.M. Davies and voted by members present. Mr. Davies proposed that the present Committee be re-elected. This was seconded and voted by members present. Several suggestions were made for future visits and Mr. P. R. Reynolds asked for general articles and current local news for the Newsletter.

Anyone who wishes to see the complete minutes of the A.G.M. should contact the Secretary.

S.F.

Subscriptions There are still a number of members whose subscriptions for 1973 are outstanding. A cross in the margin beside this paragraph indicates that you are one of these. Please remit the appropriate amount (£1, or 50p for students and OAPs) to the Treasurer at your earliest convenience. Regretfully we shall have to assume that any member who doesn't do this wishes to resign from the Society, and no further Newsletters will be sent to him or her.

FORTHCOMING EVENTS

Residential Course in IA at Exeter. We have been asked to publicize a course which is to be held at Exeter from Friday 14 September to Sunday 16 September. The course is being arranged by the Extra-Mural Department of the University of Exeter. Students will be accommodated in one of the University's Halls of Residence, and the programme includes three lectures on IA in Devon, and three tours, including a whole-day excursion on the Sunday. The inclusive charge for accommodation, tuition and transport on excursions is £8 each. Anyone who is interested in attending is asked to contact the editor of the Newsletter as soon as possible.

Visit to Ynysmeudwy. In the last issues of the Newsletter we carried a query concerning wharves, locks, bridge abutments and ruined buildings on the Swansea Canal near Ynysmeudwy. Mr. J.M. Davies has provided an account of these remains: the colliery immediately opposite the dock on the east side of the Tawe is Waun y Coed Colliery. On the 1884 6" O.S. map a footbridge with a tramway is shown as going across the river to the dock. A branch line runs straight to the canal. The other colliery feeding the dock was Cwm-Nant-Llwyd Colliery immediately south of Waun y Coed. The tramway passed a woollen factory at Craig Gelli Nedd.

In view of the interest attaching to the site, it is proposed that a party examine the remains. This visit will take place on SATURDAY 30 JUNE. Please assemble outside the Ynysmudw Arms at 2.30; or alternatively, if you require transport to the site, please contact one of the Society officers who will attempt to arrange for someone with a car to give you a lift.

N.B. Ynysmeudwy is about half way between Pontardawe and Ystalyfera on the main road up the Swansea Valley.

A DAY OF INDUSTRIAL ARCHAEOLOGY

A one-day conference on industrial archaeology was held on Saturday, April 7, 1973, at the Adult Education Centre, Oxford House, Risca. The Oxford House Industrial Archaeological Society, formed two years ago, now has about one hundred members. The Society acted as host to representatives of industrial archaeological societies from Wales and the South West.

The opening papers, given by Albert Clarke and Tom Grey-Davies (Oxford House I.A.S.) described the general development of industry in the Risca area: coal mining and iron production were dominant and processes were developed that were adopted throughout the British iron trade. The next paper, given by Martin Watts (Bristol I.A.S.) described the windmills of Somerset. In a county with plentiful water power, many types of windmill were developed and efforts are now being made to restore and preserve the few that are left.

John van Laun and Michael Rippin (Abergavenny and District Steam Society) have been engaged in excavations at Garnddyrys, the site of the forge and rolling mill associated with the old Blaenavon Ironworks. The forge produced wrought iron from cast iron made at Blaenavon, to which it was connected by a tramroad which ran through the longest tramroad tunnel in the country (2,050 yds) between Pwlldu and Blaenavon. The community at Garnddyrys at one time may have numbered about 300, and its products were widely distributed in this country and abroad.

In the afternoon Richard Keen (South East Wales I.A.S.) talked about the exploration and photography of old mine workings in his paper on underground and industrial archaeology, and Roger Worsley (Friends of Pembroke Museum) reported on his discovery of an abandoned railway line in Pembrokeshire, planned by Brunel as part of the extension to the Great Western system. R.H. Pullan (Gloucester Society for Industrial Archaeology) discussed the problems involved in the construction of medieval buildings. Arthur Flint (Kenfig Hill Society) considered the part played by Sir Robert Price in the failure of his private railway, built in about 1830, which connected his coal, iron and brick interests at Bettws and Tondu to the Porthcawl-Dyffryn Llynvi-Bridgend railway. The programme ended with the film 'Shuffleboat' which recorded the sailings of the old paddle steamers 'Cardiff Queen' and 'Bristol Queen'.

S.F.

VISIT TO LOWER SWANSEA VALLEY

On Saturday afternoon, 3rd February a small field party (R.O. Roberts, H. Holloway, I. Roberts, S. Frank and F. Cowley) visited the now derelict area east of the old Hafod Copper Works. The area is still covered with the debris of the copper industry - there are still large deposits of clinker and slag but the whole area is now in process of being cleared.

Several points of interest were noted: the base of a large brick-built stack bearing a date-plate marked 1906; hoppers for loading boats and lay-ups for barges along the river side and a wharf immediately opposite the site of the former Upper Bank Copper Works (now the Addis Brush Co. Works). The Morfa Bridge, now declared to be unsafe for traffic, has a hand operated mechanism for raising the bridge to allow boats to travel farther up river. The bridge was installed between 1900 and 1913.

Although the weather was not ideal for photography, a photographic record was made of the points of interest noted. It is hoped that this will be the first of many exploratory walks in the Swansea Valley area.

F.G.C.

ELBA STEEL WORKS, GOWERTON

The Elba Steel Works at Gowerton (SS 588967) form a complex of buildings lying east-to-west to the south of the former G.W.R. main line between Swansea and Llanelli. The most prominent building is a large shed at one time housing the rolling mills and built of brick and corrugated iron. In recent years the Elba has been the property of Imperial Metal Industries (Kyncoch) Ltd. who have used the rolling mills to reduce large blooms of titanium to 5" square bars. However the works were in need of

considerable modernization, and new plant has recently been commissioned at Witton, Birmingham which is capable of forging 5" bars and this has meant that work ceased at the Elba on December 22, 1972. The SWWIAS were alerted by Mr. Jack Lewis of Yorkshire Imperial Metals, Swansea, and through the good offices of Mr. A.W. Martin of IMI a small party were able to visit the works on March 26 before demolition commenced. The Society's photographer was able to obtain a number of interesting shots, both inside and outside.

IMI took over the works in September 1967, and carried out only very limited modifications. Consequently when we visited it, the works were very much as they had been when used as a steel rolling mill. Most of the movable equipment had been taken out, but a lot of the fixed plant was still in situ, and can best be described by following in outline the order of operations followed in the steel rolling days.

On the south side of the rolling mill there was originally a melting shop, and steel ingots from here were brought into the west end of the rolling mill and were placed in the Soaking Pits in the middle of the floor. Here they were subjected to a temperature of 1050-1250°C to make them more amenable to rolling. The Soaking Pits backed onto furnaces reached by stairs down from the shop floor. In later years the furnaces were fired by oil. When they had reached the correct temperature the ingots were removed from the Soaking Pits and moved along a line of horizontal rollers in the floor to the Standards holding a Cogging Mill and Intermediate Mill each containing two rolls and situated towards the east end of the shed. The rolls had already been disposed of, though it is understood they weighed 6-7 tons each and were made by Midland Rollmakers. In the south-east corner of the shed there was a shop for re-grooving the rolls, but most of the equipment had already been disposed of. The Mill Standards however remain - two pairs, each inscribed "Taylor & Farley, West Bromwich". Also to be seen are the Manipulators, small claw-like devices for turning the bars round between each pass through the rolls. When the ingots had been reduced to bars of the required size, they were returned to the western end of the shed along a narrow channel on the floor, moved by revolving rollers. They were then sawn into convenient lengths and passed to the Billet Bank which occupied the north-western corner of the shed. A system of rails and chains was used to move them to where they were to be stacked.

The power for the rolling mill was provided by a steam engine housed in an extension on the south side of the shed, although the floor rollers were electrically driven by D.C. motors. This engine, built by Galloways of Manchester was installed in 1917. During World War II the foundations started to fail. An unsuccessful attempt to remedy this was made by pouring in

cement. In 1945 the engine was dismantled, new foundations were laid, and the engine was re-installed. A photocopy of the engine's plan and section, dated 1950, has been given to the society by Mr. Martin. The boilers were housed in a similar extension on the opposite side of the shed. A total of six boilers was available, but only five were used at once, with the sixth remaining as a standby. One of the boilers came second-hand from Broad Oak Colliery, Loughor, and its makers are unknown, but the other five were made by Yorkshire Boiler Works, Bradford. Their pressure is 160 lbs. The tall brick chimney stack over the boiler house has the word 'Baldwins' picked out vertically in white brick - a reminder of the former owners of the works. To the west of the boiler house is another extension housing the water-pumping machinery.

Some notes on the history of the Elba Steel Works

The history of the works goes back over 100 years to 1870 when a small steel works was erected on land belonging to Tygwyn Farm, by Alfred Sterry, of Birmingham, Roger Beck, and a Mr. Healy, of Croydon. Sterry already had an interest in the area: he was owner of the Gorwydd and Alltwen collieries in 1871. However this venture only lasted a short time and failed in 1872.

In 1878 Col. (later Sir) John Roper Wright formed a partnership with Isaac Butler, described as "an expert hammer man to report on the quality of steel as turned out under hammer processing". Together with Roger Beck they formed the company of Wright, Butler & Co. This firm took a lease on the derelict works and re-opened it for the experimental manufacture of mild steel for tinplates. The Open-Hearth process was used, and four furnaces and a mechanical steam hammer were installed. Wright had previously assisted Siemens in his investigations at Landore which had led to the Open-Hearth (Siemens) process of producing steel. The first works to make tinplate using steel from the Elba was the Morlais Tin Plate Co. of Llangennech, and the superiority of steel bars over iron for tinplate purposes was demonstrated at the 1878 Paris International Exhibition. This rapidly led to the change from iron to steel throughout the tinplate industry and the closure of the local iron forges. The Elba was, of course, in an ideal position to supply the tinplate trade, situated as it was at the point where the Great Western Railway, running east to west, was crossed by the London & North Western Railway running north and south, thus giving direct access to works throughout the tinplate district. A good trade was carried on until 1898 when a recession caused the works to be idle until 1900.

In April 1902 the firm of Baldwins Ltd. was formed by the amalgamation of five smaller companies, of which Wright Butler & Co., and E.P. & W. Baldwin were the two largest, each valued at £350,000. Both Wright and Butler became directors of this new company. At the Elba the "basic process" of steel manufacture was introduced: one mechanically charged basic furnace was erected, and extensions and improvements were made to the rolling mills. It is to this period that the tall chimney stack to the north of the works belongs.

A further amalgamation took place in January 1945 between Baldwins Ltd. and Richard Thomas & Co. to produce Richard Thomas & Baldwins Ltd. (RTB). By this time there were six Open-Hearth furnaces at the Elba. However major changes were taking place in the tinplate industry at this time, which inevitably had their effect on the plants producing steel for tinning. The Tinplate Redundancy Scheme and the opening of Trostre and Velindre led to the closure of all the small tinplate works, and this in turn led to the closure of nearly all the steel works that supplied them. By 1964 Elba was the last one left producing sheet steel, used for small orders of tinplate. And in 1967 the Elba ceased to produce steel, and was acquired by IMI for use as a titanium rolling mill. But as explained above, the works needed considerable modernization, which meant that on December 22, 1972 they were finally closed. At the time of writing the works are still standing, but only as an empty shell. Tenders have already been invited from demolition contractors, and demolition is likely to start very shortly. In any case the job will have been completed and the site cleared by the end of this year.

P.R.R.

(I am indebted to Mr. A.W. Martin of IMI for his assistance in writing the description of the works; and to Mr. John Hunter of the SWWIAS for information on the steam engine used in the works.)

LATE NOTE: Demolition work started in the week ending June 16.

DONATIONS

In recent months the Society have been fortunate in acquiring a number of books and photographs as gifts from different people.

Dr. I. Jessiman of Chislehurst, Kent, has given a set of 12 photographs of the Saundersfoot Railway, a small colliery line that ceased to operate in 1939. Traces of the line can still be seen. These photographs are of an exceptionally high standard and form a sequence of shots showing a train coming down to the dock at Saundersfoot, passing over the weighbridge, being loaded onto a steamer and then returning empty across the main street. These photographs may be inspected by arrangement with the Society Photographer, Mr. H. Holloway, 105 Gorwydd Road, Gowerton. Copies may be obtained from Dr. Jessiman through the Society.

Mr. K.J. Hilton, formerly Director of the Lower Swansea Valley Project has presented a copy of GORDON'S MAP OF THE SOUTH WALES COALFIELD. This large and informative map, dated 1921, covers the whole of industrial South Wales from the Eastern Valleys to Kidwelly on a scale of two miles to the inch. Insets depict the Pembrokeshire coalfield on a smaller scale, and a detailed plan of Swansea docks. Railways, canals, collieries, steel, tinplate, copper and other works are all shown, together with the names of their owners. A feature of particular interest is the inclusion

of the proposed line of two railways that were never built - the Neath, Pontardawe and Brynamman Railway, and the Gower Light Railway from Dunvant to Port Eynon. The designer of the map, George Edward Gordon, a native of Gower, was a mining engineer and Managing Director of the Penlan Colliery Co. He lived at Penlan Cottage, Penclawdd and took part in local affairs as a member of Glamorgan County Council between 1900 and 1919 and as a Justice of the Peace.

Also presented by Mr. Hilton are a number of books, viz.:

FESTIVAL OF BRITAIN COMMEMORATIVE MAGAZINE; edited by Clive Trott (Neath, 1951). This contribution by the Borough of Neath to the Festival of Britain describes the history of the town from Roman Nidum to 1951, including chapters on industrial development, transport, and the port and river of Neath.

A BRITISH INVENTION, BEING A DESCRIPTION OF THE MANUFACTURE OF WELDLESS STEEL PIPES (London, 1924) is a pamphlet describing the work of the British Mannesmann Tube Co. of Landore and Newport. Although the history of the company and of Landore works is included most of the pamphlet, and all the illustrations, are on Newport.

On a similar subject is THE SEAMLESS STORY, by J.P. Boore (Los Angeles, 1951). The theme of the book is adequately described by the sub-title - "A history of the seamless tube industry in the United States" - but the early chapters do include some information on the British Mannesmann Tube Co.'s Landore works.

GUEST KEEN BALDWINS IRON AND STEEL CO. LTD. (London, 1937) gives an historical account of this company formed in 1930 to acquire the heavy iron and steel business of GKN and of Baldwins, together with histories of the two parent firms. The work is well illustrated, including many interior and exterior views of the Port Talbot and Margam works.

THE IRON AND COAL TRADES REVIEW (Sept. 17, 1920) contains three interesting articles on local industrial history. The first is a detailed account of the then new Margam works of Baldwins. The second describes the King's Dock Tinplate Works, also the property of Baldwins, and includes two good illustrations; and the third, also well illustrated, is on the Port Talbot Steel Works.

Also on the steel industry, the BSC have kindly donated a copy of David Brinn's DEVELOPMENT OF IRON AND STEEL INDUSTRY IN THE PORT TALBOT AREA (Port Talbot, 1972). This well-produced and clearly-written little book, which deserves to be better known

than it is, traces the history of iron and steel making in the Port Talbot area with increasing detail as one approaches the present day. As well as the narrative section there are a number of historic photographs, a map of the present layout of the works, and chronological tables, tables of 'facts and figures' and a full bibliography.

These books are all in the keeping of the Deputy Chairman, Dr. F. G. Cowley, and available for use by members of the Society.

P.R.R.