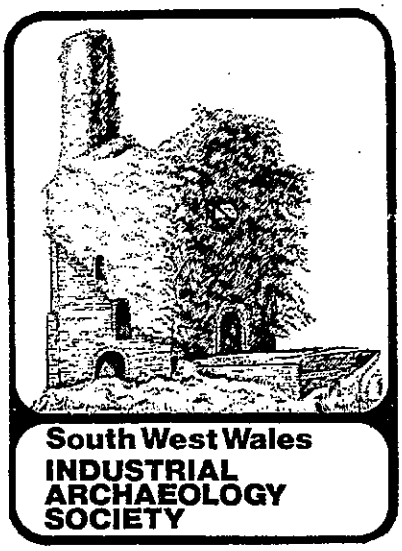


SOUTH WEST WALES INDUSTRIAL ARCHAEOLOGY SOCIETY

NEWSLETTER CYLCHLYTHYR

GYMDEITHAS ARCHAEOLEG DIWYDIANNOL DE ORLLEWIN CYMRU

No. 15: March 1977
Editorial Committee: F.G.Cowley, P.R.Reynolds, W.I.Roberts
Price to non-members: 10p

FORTHCOMING EVENTS

Thursday 17 March 1977, 7.00 p.m.
Royal Institution of South Wales (Meeting in conjunction with the Extra-Mural Dept.)
Mr S.R.Hughes: Archaeology of the Neath, Tennant and Swansea Canals.
(Mr Hughes is an Inspector with the RCAHM (Wales) at Aberystwyth. He has very kindly agreed to speak at short notice in place of Mr Gwyn Walters who has unavoidably been prevented from visiting us.)

Saturday 26 March, 1977, 9.30 a.m.
Scott's Pit
Another day's investigation of this interesting site which still poses a number of problems. Please arrive as early as you can, and help get to the bottom of it.
A progress report on recent developments will be found on another page.

Thursday 31 March 1977, 7.30 p.m.
Committee Room 2, Swansea Guildhall
Annual General Meeting followed by Mr Hayden Holloway's audio-visual presentation "Merthyr's iron kingdom".
Copies of the agenda will be available at the meeting. Anyone who requires a copy in advance should apply, with an s.a.e., to Paul Reynolds.
Please come along, so that the AGM's decisions really do reflect the wishes of the society as a whole.

Thursday 21 April 1977, 7.30 p.m.
Committee Room 2, Swansea Guildhall
Mr W.C.Rogers: Great landed families of Swansea and Gower and their contributions to Swansea's industrial development.

Saturday 23 April 1977, 9.30 a.m.
Scott's Pit
Another day's digging. The weather should be ideal for a vigorous day in the fresh air. Please come along, even if you can only manage an hour or two.

ANNUAL SUBSCRIPTIONS

Thankyou very much, all those members who have already responded to the appeal in the January circular. To those of you who have so far overlooked this matter, may I remind you that subscriptions are now due for 1977 and should be sent to Paul Reynolds, the Hon.Treasurer (address on the back page). The rates are £1-50 (standard) and 75p (full-time students and senior citizens).

RECENT NEWS

Weaver's Mill. In February 1976, it will be remembered (SWWIAS Newsletter, no.12, p.3), Weaver's Mill was spot-listed by the Welsh Office. The effect of this was to nullify the permission which had been granted by Swansea City Council a few weeks previously for its demolition. After a few months' lull, the issue was raised once again last December when the lease-holders once again applied for permission to demolish this historic ferro-concrete mill of 1897. However, as a result of representations from the Victorian Society, this application has been withdrawn for the time being. Instead, in order to sound out the views of the City Council, planning applications were submitted for a variety of purposes, including an hotel, a sports centre and various forms of light industry, to take effect if and when Weaver's Mill were to be demolished. The Planning Committee readily agreed to these proposals in principle at the beginning of February, but so far the demolition application has not been re-submitted. In any case, now Weaver's is a listed building, the final decision rests with the Welsh Office, who can either ratify or over-rule any decision made by Swansea City Council.

Weaver's Mill seems to have few friends. The press and the Council want to see it demolished, and even the Victorian Society have stated that they will oppose demolition plans, but not very enthusiastically. The fact is, that whilst Waever's is certainly an historic building, it is also ugly and dangerous and there seems to be little hope of adapting it successfully to other purposes. However, there is a feeling about that not enough attention has been paid to the feasibility of schemes for adapting it to alternative uses, and the Hon. Secretary of the SWWIAS has written to Swansea City Council seeking reassurance on this point.

In this connection, it is interesting to apply the criteria for preservation outlined in Dr Fred Cowley's review, What should we preserve?, to be found elsewhere in this Newsletter.

Crynant winding engines. For some time anxiety has been felt over the two steam-powered winding engines at Blaenant Colliery in the Dulais Valley. No.1 winder dates from 1912 and was built by Markham & Co. of Chesterfield, while No.2 is a Worsley Mesnes (Wigan) engine of 1927. They are two of the very few remaining engines in the South Wales coalfield. As part of a modernisation plan for Blaenant, the N.C.B. proposed the sinking of a 700-yard long drift which would lead to the winding engines being dispensed with. However, as a result of pressure from the National Museum of Wales, West Glamorgan County Council and a group of local history societies (on which the SWWIAS was represented by our Hon. Secretary, Idris Roberts), the Coal Board have agreed to allow the machinery to remain in its present position, even after it has ceased to perform its original function. This includes the winders, steam engines, boiler house and chimney stack, which, it is claimed, all have great tourist potential. Well done, N.C.B! The engines are certainly splendid machines, a delight to watch, and well worth saving.

Hafod Conservation Area. Last month Swansea City Council's planning committee declared parts of the Hafod to be a conservation area. The area proposed includes Vivian Street and the adjacent area. It is of considerable importance in the social and industrial history of South Wales and takes in a number of interesting examples of industrial housing which date back to the 1840s. They were built for workers in his Hafod copper-works by John Henry Vivian, and the names of members of his family are perpetuated in many of the street names in the area. The Vivians also built St John's church and Odo Street school (originally the Hafod Copper Works Infant School) which are both included in the proposed conservation area.

Wind Street and Strand Railway Arches. The demolition took place early last November of the arches which formerly housed the booking office and waiting room of Wind Street station, described by Gerald Gabb in SWWIAS Newsletter no.13, p.5. After these had been removed, the demolition contractors moved on to the viaduct which ran alongside the Strand and which used to carry the railway linking High Street station to the South Dock and the Vale of Neath line. These arches were built in 1857-59. Their destruction has now advanced as far as the N.C.P. car park on the site of the North Dock, but a certain amount of controversy surrounds the future of the remaining arches which are still used by a number of small businesses.

A MODERN HORSE-DRAWN TRAMROAD -

At Big Arch Colliery, a private drift mine one mile east of Abersychan, Gwent, there is still operating in 1977 a horse-drawn tramroad. This mine is working headings abandoned by the N.C.B. and , indeed, by many generations of previous enterprises, bituminous coal having been extracted here for some 200 years. (Tramplates have been found underground on several occasions.)

Since this mine is working coal considered too difficult for previous operators to cut, and is in an area of steep geological dip, traversed by the Greenland Fault, and since private mines generally need to outbid the N.C.B. for labour and undercut them in product sales, a high degree of efficiency is needed to remain profitable. Mr Griffin, the Manager, a man very much of the cut of the old mine "Captain", happens to be fond of horses, but employs them purely because they provide the fastest and cheapest means of moving coal within his yard areas. Neither of his two tramroads much exceed 100 metres: they are used to carry journeys of coal from the slant adits (where they have been raised by conventional electric haulage) to the graders, and to assemble journeys of empty drams for return.

It was demonstrated to me that, with a slight falling gradient, the Welsh mountain ponies could readily handle the half-dozen or so loaded drams that represent the convenient size of a haulage journey. It was manifest that the speed of handling could in no way have been achieved by a tractor, much less by any kind of locomotive. It was also obvious that little space for run-rounds or turning was required. Track condition is also clearly less critical than with mechanical power. Also a good horse can assist the driver to lift a derailed dram back on to the track.

Mr Griffin states that it costs him about £15 per week to keep each horse, which would do little more than cover the finance alone of a tractor. He does not employ horses underground as conditions are not suitable, but in the mining context, where distances are short, single shifts only are worked, and competent drivers are available, he insists that there is, as yet, no economically viable replacement for horse-powered transport.

A.J.Y.Richards

BUILDING THE FORTH RAILWAY BRIDGE IN 1890

Mr Norman Bowen has submitted the following extracts from the journal Engineering, vol.49, no.9, 28 February 1890, which give some indication of the contribution made by the iron and steel industry of South Wales to the construction of the Forth Bridge. The whole of the issue forms a highly detailed description of the history, design and construction of the bridge, with numerous plans and illustrations.

> "The original estimate gave the quantity of steel required for the cantilever bridge (not including approach viaduct spans) as 42,000 tons. Of this quantity the Landore works near Swansea in South Wales of Messrs Siemens supplied 12,000 tons and the Steel Company of Scotland, from their Blochairn and Newton works near Glasgow the remaining 30,000 tons... All steel was manufactured by the Siemens-Martin open-hearth process..." (pp.248-9.)

Some notes on Mr Benjamin Baker (1840-1907) designer, with Sir John Fowler, of the bridge are also included in Engineering:

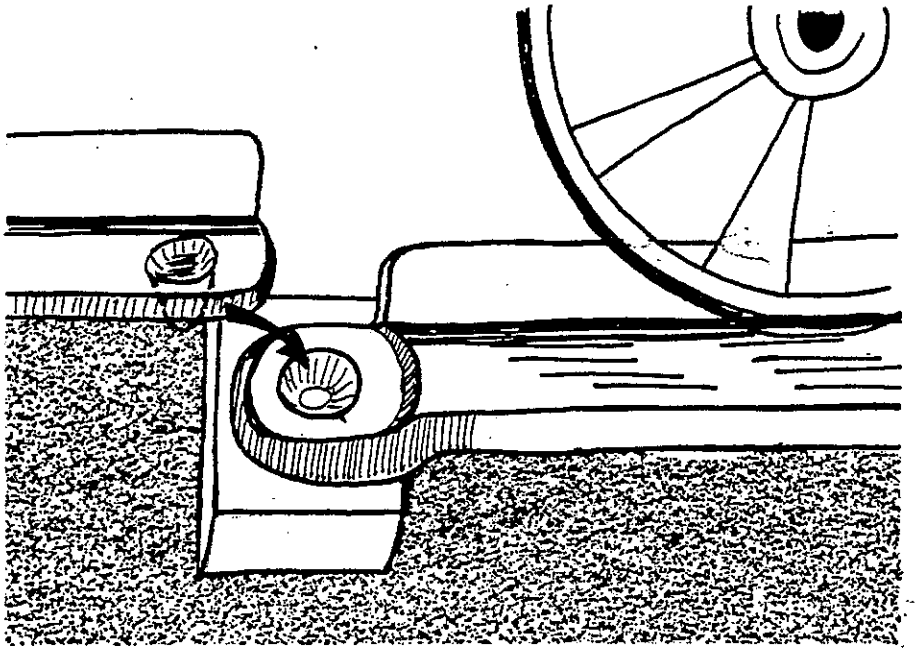
> "Mr Baker's (professional training began) with hammer and chisel in one of the oldest ironworks in South Wales. After the usual preliminary training of an engineering student, Mr Baker was articled to Mr H.H.Price, civil engineer, in whose workshops and drawing-office he acquired practical experience in foundry, forge and manufacturing processes and the designing of machinery and ironwork of all kinds. At the works referred to were made 100 years ago Trevithick's first Cornish pumping engines; and long before the eve of the Liverpool and Manchester Railway, strange locomotives, with spur gearing and racks, and others with double bogies...were turned out of the works together with marine engines and steamboats of the earliest type." (p.281.)

(Although not stated in Engineering, the ironworks where Baker received his early training were clearly the Neath Abbey Works - but so far as is known they did not start to produce locomotives until 1831, a year after the opening of the Liverpool & Manchester Railway. Ed.SWWIAS.)

SCOTT'S PIT: FURTHER PROGRESS

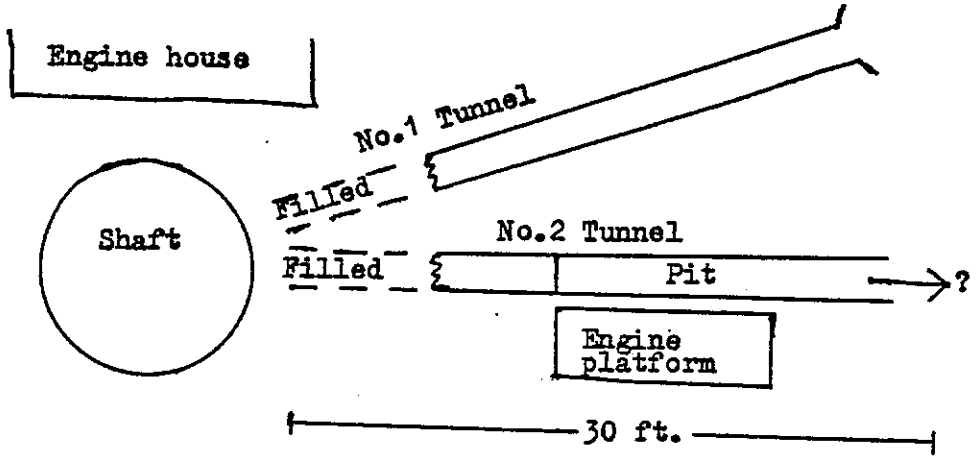
The investigations proposed in the last issue of the Newsletter are now well under way, with some interesting finds and a number of unanswered questions.

It was very encouraging to have an early find of a complete iron tramplate on the route of Scott's tramroad, within a few yards of the pit and lying on the remains of a prepared trackbed. The plate is 3' 10" long, L-shaped and with an elaborately-designed joining arrangement shown in the following diagram. Are any other examples known of tramplates of this design? Information on this would be welcome.



We were fortunate in having the services of David Goss, who, with his metal detector, "swept" the area around the likely route of the tramroad, found some fragments of tramplate, and saved us all a lot of work and effort. This area is now unlikely to contain anything else of archaeological interest.

A second horizontal tunnel was discovered. This leads from the shaft towards the engine platform (see plan in the last issue of the Newsletter) where it becomes a pit 7' 6" deep and 2' wide. It extends 30' at least from the shaft, and the other end has not yet been located. The tunnel is stone-lined, 6' high by 2' wide.



What was the purpose of these two tunnels, and particularlyof this narrow one that runs out alongside what appears to be a winding engine platform? The pit is too narrow for a winding drum, particularly in relation to its depth, although the tunnel would appear to be more suitable for ventilation, winding ropes or even drainage than for raising men and coal. There is no evidence of its use for channelling away water from the pit for which its level clay bottom appears unsuitable.

Further digging in February and March will, we hope, reveal the ends of both these tunnels.

As a sheltered job for bad-weather days, a start has been made on clearing about 18" of rubble from the engine house floor, and we hope that something interesting may be found in this layer of cover.

The boiler housing and an area containing possible outbuildings south-west of the shaft have still to be investigated. Also the remaining ivy has to be removed. On current progress we should complete this work by early summer, but to do this we need more of you to help us. Just a few hours will do. The next digs are on March 26th and April 23rd.

Our historical studies have provided more information on the Llansamlet and Gwernllwynchwyth collieries and on those who worked them from 1750. Most sources are tantalizing in only referring to Scott's Pit in passing and we have yet to find a useful and authoritative source for its importance and its operations.

A report, plans and detailed photographs of Scott's Pit should be produced this summer which can then be circulated to other societies and institutions in an attempt to obtain further information.

B.C.Fagg

TREVITHICK AND THE OYSTERMOUTH RAILWAY

When the origins of the Oystermouth Railway are dicussed, it is usually pointed out that the Act of 1804 provided for "haling or drawing" by "men, horses or otherwise", and that this phraseology made possible the use of steam power after 1877 without a further Act. Charles Lee's standard history of the line (Oakwood Press, 3rd edition, 1970) mentions that Trevithick was experimenting with steam locomotives at Penydarren from February 1804 onwards, and adds that this has led some people to think that "the promoters may have had steam traction in mind". In his fascinating lecture at the Royal Institution on November 11th, Professor Llewellyn-Jones said that he was convinced that this was the case. A letter in an early issue of The Cambrian confirms this.

Edward Martin put the idea of a canal or railway to Oystermouth before the burgesses of Swansea in August 1803, and was commissioned to make a survey. Between February and April 1804, in a series of letters, Martin defended the project against criticism from several anonymous correspondents. His chief opponent, styling himself "Spectator", argued that the proposed canal would lower the water level at the Swansea wharves, and proposed that a tramroad be substituted along the riverside. In the course of his reply, Martin commented:

> "It has always appeared to me that the whole line from Oystermouth to Swansea should either be a Canal or a Tram-road, and powers (as it is well known) are intended to be taken to carry either into effect, as may be most expedient: and I have no hesitation in declaring that if Mr. Trevithick's very ingenious machine is brought to that perfection, which some persons are confident it will be, and which, from the very liberal patronage it has received from Mr Homfray of Pendarran,(sic) there is every reason to hope for; that is, of driving waggons on a Tram road at a cheaper rate by 50 per cent than it can now be done by horses, that it will be most advantageous to the proprietors and the public to substitute an entire Tram-road insted of a Canal..." (The Cambrian, 10 March 1804)

Edward Martin of "Morristown" could claim to be a colliery expert and a surveyor of several canals. Perhaps his close touch with new technological developments prompted the promoters of the Oystermouth Railway to abandon the idea of a canal in favour of a railway, and to insert the phrase which facilitated steam traction 70 years later. For the Oystermouth Railway, this link with the earliset experiments in steam locomotion is yet another in its long list of distinctions.

G.F.Gabb

WHAT SHOULD WE PRESERVE?

The last decade has witnessed a spate of books on preservation and rescue archaeology. The most recent, The future of the past: attitudes to conservation, 1174-1974, edited by Jane Fawcett (London, Thames and Huddon, 1976, £7-50) is a collection of essays on conservation by a number of distinguished writers. Sir Osbert Lancaster's contribution, entitled "What should we preserve?", from which the accompanying cartoons are taken, first appeared in the Journal of the Royal Institute of British Architects. It is still very pertinent to the work and aims of our own society.

Sir Osbert argues that when a building has outlived its original functional usefulness, there are three grounds, and only three, on which we are logically entitled to press for preservation: aesthetic merit, pietas, and scenic usefulness.

On the first of these there is always a remarkable lack of unanimity: what is visually pleasing to one individual, to another may appear hideous. What one generation labels beautiful, another may label ugly. The (surely apocryphal) story of a Georgian fanatic who pressed for the demolition of Exeter cathedral because it obstructed the view of a fine eighteenth century terrace is matched by Sir Osbert's true story of an archbishop of Canterbury in the 'thirties who favoured the destruction of Varley House, a handsome eighteenth-century mansion, "so that we should be afforded a full view of the old medieval Jewel House of Westminster Abbey. Upon inspection, this proved to be a cube of poorly dressed masonry, not dissimilar in silhouette to those mysterious brick erections in which the Central Electricity Board conceal their transformers or power units". Sir Osbert bids us beware of the uncertainty of private judgment: "what to us may be without merit may well prove to posterity, who can view it in perspective, to be of considerable value."

'Gentlemen, let us get our priorities right! Historic buildings must not be allowed to stand in the way of expensive accommodation for the tourists who come to see these historic

'All over the country the grime, muddle and decay of our Victorian heritage is being replaced and the quality of urban life uplifted' – Harold Wilson

The second of Sir Osbert's criteria - pietas - is likely to command a greater measure of agreement. He defines it as "an emotion widely diffused, unaesthetic and comprehensible only in the light of a people's proper consciousness of their past".and cites as an example the Tower of London. Although badly restored and a 'rather provincial example of twelfth-century functionalism', Sir Osbert would be among the first to sign a protest against its demolition. We may say then that any building or monument, the history of which is in any way intimately interwoven with the history of a nation or a region, deserves preservation.

The third of Sir Osbert's criteria - does the building (whatever its aesthetic merit) fulfil a vital role in the landscape? - is the most difficult one upon which to take a stand because the number of people who "realize the vital part played by one small unit in landscape or an architectural ensemble...is always very small."

Sir Osbert adds an important rider: "No building lacking aesthetic merit, nor evoking a genuine pietas, and playing no part in the landscape should be allowed to occupy a site needed for something else solely on the grounds that it is unique." The treatment for

such buildings is simple: measure it, photograph it, and then pull it down.

When Sir Osbert wrote his essay he was thinking particularly of domestic, ecclesiastical and civic buildings rather than industrial ones. During the past twenty years, however, thanks largely to the work of industrial archaeology societies, people have become much more conscious of the heritage of buildings left by the Industrial Revolution. They have come to realise that the abandoned tinplate or copper-smelting works is as important an historical monument as the crumbling shell of a medieval castle or abbey, and can evoke feelings of pietas which are just as genuine. Provided pietas is given this extended meaning and, bearing in mind that Wales has a particularly poor architectural heritage compared with England, Sir Osbert's criteria form a useful yardstick which can be used by all who are concerned with the task of conservation in our region.

F.G.C.

SWANSEA MARITIME AND INDUSTRIAL MUSEUM

After a period of some uncertainty, work on the museum is now firmly under way towards a projected opening in June 1977. The complete development of the museum will unfold over three phases, with each succeeding year up to 1979 seeing increased space being given over to museum display. The first phase, opening this year, will focus primarily on the Neath Abbey woollen mill, with displays of an essentially introductory character on the industrial, maritime and transport history of Swansea. This is a combination that will introduce the public to the scope and intentions of the new museum.

The area that the museum will serve, and from which its collections will be drawn, is that area of south west Wales which looks upon Swansea as its economic and social centre. It is an area whose industrial activity includes the rural industries of Gower, the anthracite coalfield, the non-ferrous metal industries of the Swansea Valley, tinplate, iron and steel. Our collecting policy, as far as these industries are concerned, is to collect machinery, tools, illustrations, printed and oral testimony etc. that in any way represent or reveal their past. Our existing collections range from stationary engines to domestic washing machines, from typewriters to railway locomotives, for we wish also to reflect the impact of industry on domestic and commercial life, on the private as well as on the working life of the individual.

It has already been mentioned that the first phase of the museum's development will be broadly introductory in character. This fact, and the limitations of space, will affect the type of material initially displayed. In addition to the obvious material exhibits, we are particularly keen to locate graphic material, i.e. illustrations and printed material, relating to the copper, tinplate, zinc, lead and coal industries of this area. This includes early views and photographs of the works, the men who worked in them and the men who directed them; ninteenth-century engineering drawings of machines and processes utilised in such industries; illustrations of changing townscapes, and of modes of travel within and between them; and maps and plans which reveal changes in land utilisation.

Any material of the above-mentioned nature that could be loaned to the museum for copying, donated,or for which a location could be established, would be most gratefully received. For our part, any help that the Museum's officers, Mr John Bunt, Curator, or Mr Roy Davies, Keeper of Technology, are able to extend to the SWWIAS and its members, is gladly offered.

R.S.Davies.

(If you feel able to help in this way, please contact Mr Roy Davies, Keeper of Technology, Swansea Industrial and Maritime Museum, South Dock, Swansea. Telephone: 49885.)

MUMBLES RAILWAY EXHIBITION

This year sees the 170th anniversary of the world's first passenger railway service on the Oystermouth Railway. To mark this event, the Mumbles Railway Society are staging an exhibition at Ashley's Restaurant, Mumbles on Saturday 26th March. The doors are open from 10 a.m. to 5 p.m. and admission is 20p for adults and 10p for children.

FORTHCOMING CONFERENCES

16 April 1977: 8th Annual Conference of Western IA Societies
- Strode Theatre, Street, Somerset
- Conference fee £1-00 each /per head
- Morning coffee, buffet lunch and afternoon tea at an all-in charge of about £1-00
- Eight 30-minute talks by members of participating societies

In view of the distance, it would probably be a good idea to hire a minibus for the occasion if enough people want to go. If you are interested, please contact Idris Roberts or Paul Reynolds by March 24th.

30 July - 6 August 1977: The Midland canals in town and country
- Organised by Birmingham University Department of Extra-Mural Studies
- Avoncroft Residential College, Birmingham
- Nine lectures, two full-day trips, visits to local canals and two boat-trips
- The opportunity to "leg" a boat through the 1½-mile long Dudley tunnel in the dark
- £55 + VAT for accomodation and tuition

The Midlands canals formed the arteries of the Industrial Revolution. Although now they are no longer used as commercial highways, they still serve a number of purposes and there is a wealth of IA associated with them. Further details are available from Paul Reynolds who has the descriptive leaflet which also includes courses on Roman and medieval archaeology in the Midlands arranged by Birmingham University.

RECENT LITERATURE

S.P.BELL. A biographical index of British engineers in the 19th century. (New York and London, Garland, 1975.)

An index to obituary notices of leading engineers who died during the 19th century. One failing is that it does not index engineers who were active in this period, but who did not die until after 1900. However, a useful reference tool.

INDUSTRIAL ARCHAEOLOGY REVIEW, vol.I, 1976

A new IA journal, published by Oxford Univ.pr., to replace the now defunct Industrial Archaeology. Edited by Professor John Butt of Strathclyde University, it is due to appear three times a year at an annual cost of £10-00.

LLWCHWR SOCIETY MAGAZINE, vol.II, 1976

A selection of articles on the history of Loughor, Gorseinon, Gowerton and neighbouring districts. Of particular relevance is Uriel Phillips' "Shipping on the Burry Estuary", but there are a number of other interesting articles as well.

GOWER, vol.XXVII, 1976

The usual intersting assortment of articles on all aspects of Swansea and Gower. Articles of IA interest include P.R.Reynolds' "Captain Scott's locomotive" and Mary Tucker's "Lead mining at Bishopston".

R.BARR. Pontydd Cymru. (Y Gwyddonydd, 14,2,1976, pp.72-83)

An historical survey,for Welsh-readers,of bridges in Wales, including road and rail bridges and canal aqueducts. A nice selection of illustrations is included.

Published for the South West Wales Industrial Archaeology Society by P.R.Reynolds, 12 Beaconsfield Way, Sketty, Swansea SA2 9JR.