

SOUTH WEST WALES INDUSTRIAL ARCHAEOLOGY SOCIETY

NEWSLETTER

CYLCHLYTHYR

CYMDEITHAS ARCHAEOLEG DIWYDIANNOL DE ORLLEWIN CYMRU

No. 22: July 1979

Editorial Committee: F.G. Cowley, P.R. Reynolds, W.I. Roberts

Price to non-members: 15p

SUMMER EXCURSIONS

THURSDAY

12 JULY

Mr David Morgan will be our guide for an evening walk in Duvant. He will show us some of the sites which he described in his fascinating lecture on Duvant and its collieries earlier this year.

Meet in Duvant Square at 7 p.m. outside Ebenezer chapel. There is adequate car parking space nearby. It is intended to follow the tramway to Killan pit, continue to Penlan colliery and brickworks and end up at Klondyke Valley pumping house.

SATURDAY

22
SEPTEMBER

Forest of Dean: a full-day coach trip led by Mr P.G.Rattenbury.

Booking forms and full details will be sent out nearer the day. The route is to be Chepstow - Tintern - Whitecliff - Dark Hill - Parkend - Lydney. Make a note in your diaries and keep this date free for visiting this very popular area.

PERSONALIA

At the Annual General Meeting on April 3rd, Mr Alun Richards stepped down as Chairman after three years' faithful service in that office. His place has been taken by Dr Fred Cowley who must be well known to all our members and is an enthusiastic researcher into both industrial history and medieval church history. He is also a regular contributor to this Newsletter, his article on the Pentre pit in the last issue having attracted a good deal of interest.

We are very sorry to have to say goodbye to Mr Barry Fagg who has moved to take up a post near Nottingham. His enthusiasm and energy have contributed a lot to the Society over the past few years. His main achievement has been the Scott's Pit project which he encouraged the Society to undertake and which he has directed and publicised ever since. Through his position in the Guildhall he was able to act as linkman between the Society and Swansea City Council in the cooperative project of publishing trails for various parts of the city. The new Chairman and a few other members recently made a small presentation to Barry in the name of the Society, something that was thoroughly deserved.

Fortunately another member, Mr Cliff Alden, has stepped forward to take over as Supervisor of the Scott's Pit project, and under his guidance it is hoped that the scheme will be substantially finished later this year. In future, for any matters relating to Scott's Pit, please contact Cliff Alden at 369 Heol Las Road, Birchgrove, Swansea (telephone 781335).

EDWARD MARTIN

By 1850, Martin Street, Morryston had been so named (1). It seems likely that this commemorates Edward Martin, a man whose achievements deserve wider acclaim than they have so far received. In most of the schemes for developing collieries and industrial transport in the Swansea area between the 1780s and his death in 1818, he played a part. What follows is little more than a catalogue of this involvement.

Edward Martin came from Martyndale in Cumberland (2), and in 1787 is mentioned as colliery agent to John Smith of Gwernllwynchwyth on the occasion of a serious explosion in the latter's Pwll Mawr pit (3). In 1793 he is again referred to as acting for Smith in removing several gravel banks in the lower Tawe (4). With the construction of "Morrystown" in the mid-1790s he seems to have settled there, for in the third issue of The Cambrian (28 January 1804) he is advertising collieries for sale - on either side of the Burry River - and describing himself as a colliery inspector from Morryston. He sank Pwll Mawr, Bryncoch for J.T. Price, "the first deep pit in the country" (4). He became the Duke of Beaufort's colliery agent for Wales in which position he seems to have been succeeded by his son, also Edward, who in 1825 advertised for sale the Duke's coal rights under Clyne and Fairwood (The Cambrian 6 August 1825). A notable survey by Martin senior was that of the old Mackworth pits in Neath in 1801 (5) at the behest of C. Hanbury Leigh who had inherited them, the whole report being quoted in D.R. Phillips, History of the Vale of Neath, pp. 721-3. Over the years Martin was agent in the sale of collieries in Cardiff (C. 5-5-1804), Gwent (C. 12-10-1805), Kidwelly (C. 24-8-1805), Llanelly and Neath (C. 16-9-1805), Cilybebyll (C. 13-4-1805), and Loughor (C. 30-11-1811 and 22-8-1811). He made his specialised knowledge available in a lecture given before the Royal Society on 23 May 1806, which was published in 1809 (2). He supplied geological material to "Viator" who wrote a series of articles in The Cambrian Visitor, a journal published in 1813 (6). Viator may well have been Charles Smith of Gwernllwynchwyth, another link between Martin and the Smith family. Martin also contributed a number of letters to The Cambrian in 1814-15. On 20 July 1807 that newspaper contained Martin's specially written 'Description of the mineral basin in South Wales', founded, explained the editor, "on actual subterraneous research, independent of the various opportunities afforded him above ground in the exercise of his profession as a Colliery Surveyor". It was well received (C. 27-6-1807).

Martin was fully involved in the first attempts to develop the port of Swansea. In December 1802 the Harbour Trustees asked Martin, in conjunction with William Bevan, also of Morryston, to stake out the line of the East Pier, and in December 1803 to prepare an estimate for construction. Martin recommended that a tramroad be laid down to bring the stone from the Cwm Scythan quarry. He helped to organise construction (4). By 1803 he was a Proprietary Harbour Trustee. On 12 December 1803 he reported to the Trustees in detail on the silting up of the Tawe, again working with Bevan: a long extract is printed in W.H. Jones, History of the port of Swansea, p. 99. In January 1804 Martin and Bevan produced an estimate of £4,000 for creating a floating dock where the North Dock was later built. The Hall Day Minute Books of Swansea Corporation record considerable municipal debts to Martin as early as 14 November 1800. Entries record that he received £65 15s. 6d. for embanking the river north of the Brewery (2-12-1803, 21-4-1804), that he did culverting work near the Parade (14-11-1804). In July 1805 the Trustees asked him to "inspect the railway on the Mumbles Head", an interesting if cryptic reference, and in 1809 he and Sylvanus Padley investigated the lighthouse itself after complaints from General Warde of Woodlands (Clyne Castle) (4).

Canal construction also claimed his expertise. As early as 1780 William Padley proposed a Tawe Valley canal, and Martin made a survey for one as far as Yniscedwyn (4). Martin became one of the original Swansea Canal Company proprietors. Another canal he seems to have worked on was that from Hirwaun to Aberdare around 1810 (7). By 1807 Martin had taken into partnership one David Davies, described at the time of his early death at the age of 33 in 1819 as an "active and intelligent surveyor" from Morryston (C. 12-6-1819). He married Martin's eldest daughter (C. 23-3-1811). In 1810 Martin and Davies were requested to do a survey for a canal or tramroad from Cadley Bridge to Penclawdd (C. 28-7-1810). A month later they reported in favour

of a canal with tramroad feeders, and were asked to make a formal survey (C. 25-8-1810). Davies was Clerk to the Penclawdd Canal Proprietors from at least 12 June 1813 until his death. By August 1812 Martin and Davies were preparing specifications for the proposed Kidwelly & Llanelly Canal to which they were appointed engineers (C. 22,29-8-1812). They had been involved in the scheme from its earliest stages, reporting on harbour improvement at Kidwelly in conjunction with a canal to Llanelly in July 1811 (C. 6-7-1811) and providing estimates and expert advice as the form of the scheme was amended over the ensuing months (C. 31-8-1811, 21-9-1811, 9-11-1811).

The Oystermouth Railway papers at the University College of Swansea, the Hall Day Minute Books and The Cambrian contain evidence of Martin's major role in the promotion, construction and operation of the Oystermouth Tramroad. Only a brief resumé is offered here. In 1803 he proposed to the Corporation that the Swansea Canal be extended to Oystermouth, quite possibly in this, as in his subsequent actions, as the representative of a lobby, perhaps a Morryston group. He was commissioned to do a survey and estimate. He defended the scheme against a series of critical letter writers in The Cambrian and went as an expert witness in favour of the bill to Westminster. Forced in Committee to accept a tramroad instead of a canal, he supervised the construction of the line. He may well have been instrumental in securing that clause in the Act which later facilitated the use of steam power without further legislation. From 1812 until 1819 the account books record his carrying vast quantities of limestone over the track. He was a member of the executive committee of the tramroad company, attending meetings assiduously, unlike most, and acting as consulting engineer until his death. For one year, 1812-13, he became a sort of general manager.

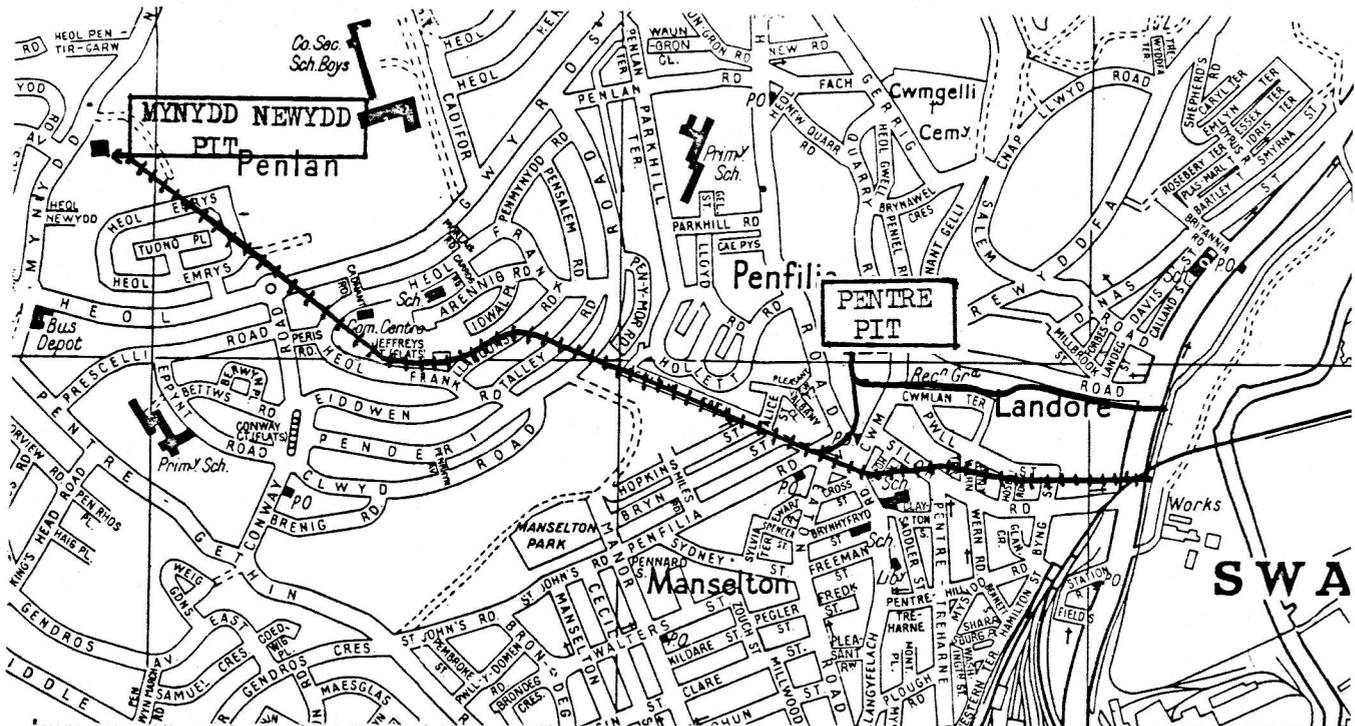
At a time when the estate agent in the modern sense hardly existed - perhaps Dawson of Lilliput was one of the first locally (C. 20-10-1821) - Martin, as a local man of business, was ready to advertise property in the Morryston area, including houses (C. 1-7-1815), shops (C. 1-5-1813, 3-8-1816), and Ynystawe mill, stressing in this last case "carriage by Canal to the mill door" (C. 23-4-1814). In 1804 he patented a method of smelting iron with steam coal of which The Cambrian had great hopes (C. 4, 11-8-1804). Two instances suggest that Martin and Davies may eventually have over-committed themselves. In December 1814 Martin was recommended as surveyor of a new road Swansea to Brecon in conjunction with the enclosure of the Great Forest of Brecon (C 10-12-1814), but even though Martin subscribed five guineas towards the survey, the job went to William Coulting (C 13-5-1815). In February 1815 there was a meeting at Bridgend to appoint a new surveyor for the tramroad, "Messrs. Martin and Davies having failed to deliver in their Plan and Estimate by the time appointed" (C. 11-2-1815).

At a fairly early stage Martin had moved out of Morryston to the rural serenity of Ynystawe. It was there that he died on 14 May 1818. The Cambrian obituary ran: "eminent for his extensive knowledge of our collieries, and a man of sterling integrity and worth" (C. 16-5-1818).

SOURCES

1. Morryston Other Times, September-October 1978.
2. J.H. Davies, History of Pontardawe and district (Christopher Davies, 1967), p. 90.
3. John Jordan, 'Coal mining in the parish of Llansamlet and district', The Colliery Official and Student, September 1915.
4. W.H. Jones, History of the port of Swansea (Spurrell, 1922), pp. 88, 99, 102-103, 128, 255, 106.
5. E. Jenkins (ed.), Neath and district: a symposium (Neath, 1974), p. 169.
6. C. Wilkins, The south Wales coal trade (Cardiff, 1888).
7. C. Hadfield, The canals of south Wales and the border (Cardiff, 1960), p. 50.

Unlike the Pentre Pit which was described in the last issue of this Newsletter, the Mynydd Newydd, another of Vivian & Sons' collieries, has a comparatively straight-forward history with all the principal dates firmly established. Nevertheless, there has been a tendency among local history writers of this area to accept the statements of their predecessors at face value. In this re-examination of the history of the pit in the light of contemporary evidence, I will, therefore, suggest some modifications to what has been generally accepted.



Mynydd Newydd Colliery and its railway superimposed on a modern street plan.
(The original line is marked - - - - -; the Pentre pit railway ———)

1. Early Years

The date usually given for the sinking of the pit is 1843. Although this derives from secondary sources, there seems no reason to doubt it: the pit does not appear on the Tithe Map of 1838, but reports of accidents at the pit start to occur in 1844. It was not sunk, as is commonly stated, by Vivian & Sons, but by the Swansea Coal Company in whose possession it remained until 1863 (see sect. 2 below). However, although nominally an independent concern, the S.C.C. was in fact a puppet of Vivians and of Williams, Foster & Co (Morfa) who combined to set up this company to "work collieries for the supply of their own works... they also sell and export coal, but not in large quantities" (1). In order to maintain a steady supply of coal to the copperworks the S.C.C. acquired existing pits, such as Cwm Level and Pentre, and also sank new ones, including Pentrefelen and Mynydd Newydd. For nearly its entire life the principal purpose of Mynydd Newydd was to provide coal for the Hafod copperworks.

In its early years there was a number of fatalities at Mynydd Newydd which were almost entirely attributable to the stupidity of individual colliers. Roof-falls and explosions were frequent (2), although none of these accidents paralleled the catastrophes of the later Victorian period at other mines. At the inquests on the victims of these accidents it always came out that the accidents had been due to the actions of the miners themselves rather than to conditions created by bad management. Printed regulations were issued to all miners long before this became compulsory by law; the pit was inspected by firemen every morning before the men went down; and safety lamps were issued to the men who were fined for not using them. This contrasts with the normal practice of the time by which the men were expected to find their own lamps. Even so explosions continued to occur because the men insisted on working by naked light and taking them into old workings where gas had built up. Candles gave more illumination than safety lamps and this meant that it was possible to extract coal

more quickly and easily. Since in general Mynydd Newydd was not a particularly fiery pit it is easy to understand the temptation to revert to candles. Indeed for many years the normal practice in this and most well-ventilated pits was to use the safety lamp only to test for the presence of gas, and once the workings had been proved to be pure, to use candles.

A feature of Mynydd Newydd which has received perhaps undue attention because of its curiosity value was the underground chapel. The accepted story is that the chapel was established in 1845 as the result of an explosion in 1844 in which five men were burnt to death. There can be no doubt that prayer-meetings started in 1845: there are contemporary references to the practice in The Cambrian and other journals, but whether there was an underground chapel at this date is not so certain. The early accounts all refer only to prayer-meetings (3), and it is possible that the 6 ft. seam, in which the chapel was located, was not reached until a little later than 1845 (see sect. 3 below). It may well be that the chapel was not fashioned until the practice of holding prayer-meetings had been going on for some years and become well established. As for the explosion of 1844, there appears to be no authority for this at all: neither The Cambrian nor Galloway, o.c., who draws on the contemporary Mining Journal, cite any explosion at Mynydd Newydd in 1844 in which five men lost their lives. Of the explosions of that year, one resulted in no fatalities, the other in one death due to a roof-fall triggered off by the explosion. Had such a catastrophe occurred it is almost inconceivable that it would have been ignored by the contemporary press, since the deplorable state of safety in mines was a major issue of the day. The only accident approximating to the one in the conventional description occurred in May 1846 when four lads were killed in an explosion and another died of his injuries a little later. A more likely reason, therefore, for the miners of Mynydd Newydd to decide to hold weekly prayer-meetings was not any single disaster in their colliery, but the general state of safety in mines at the time. The Mining Journal of 10 November 1846, quoted by Galloway, talked of South Wales becoming "a huge charnel house". The situation had been reached where a miner hardly knew when he went underground whether he would see the surface again, and it is in this context that the real significance of Mynydd Newydd chapel lies, as the response of a group of miners becoming increasingly alarmed at the conditions in which they worked. Incidentally, the Mynydd Newydd chapel was not unique: in its day Tyrconol pit had a similar underground chapel, and at Pentre the men used to hold a pit-head prayer meeting, although the custom died out late in the 19th century.

2 Vivian & Sons

For the first twenty years of its life the Mynydd Newydd remained the property of the S.C.C. Although nominally an independent concern, the S.C.C. was really under the control of the copper smelting firms of Vivian & Sons and Williams, Foster & Co. In about 1863 the S.C.C. was dissolved and its assets divided between the two copper companies, the lion's share, including Mynydd Newydd, going to Vivians; Williams, Foster having to be content solely with Tyrconol pit. The reasons for this have not been established, nor has it been possible to find the precise date, but all the evidence points to early in 1863. A report by Arthur Pendarves Vivian on his company's collieries in 1868 refers to an "agreement entered into with Messrs. Williams in Feb. 1863 (by which) they retain Tyrconol in their own hand and we (i.e. Vivians) receive as our portion Pentre, Cwm Level, Mynydd Newydd and Pentrefelin". That this agreement marked the winding-up of the S.C.C. is born out by evidence from the annual reports of H.M. Inspectors of Mines. In these reports every fatal accident occurring during the course of each year was recorded with the name of the pit and its owners. The last date on which an accident occurred at a pit whose owner was named as the S.C.C. was 28 May 1862 at Tyrconol: subsequently the owner of this pit appeared as Williams, Foster. Similarly, the first date for an accident at a pit for which the owner was given as Vivians was 18 June 1863 at Pentrefelen, previously the property of the S.C.C. It seems reasonable, therefore, that February 1863 was the date when Mynydd Newydd and the other Vivian pits passed from the puppet company to the direct ownership of Vivian & Sons.

3. Working the Pit

The Mynydd Newydd exploited the Swansea seams belonging to the Pennant series. There seams were encountered in the following order from the surface: Four feet, Five feet, Six feet, Three feet, Two feet. Below these lay the Hughes vein. At Mynydd Newydd the 4 ft. was not present: it lay "just out of the ground" in the words of Arthur Pendarves Vivian. Of the other seams, the 5 ft. and 6 ft. were worked, with some intermissions, for most of the life of the colliery, while the 2 ft. and 3 ft. appear to have been in spasmodic production.

The 5 ft. seam was encountered 348 ft. below the surface and varied in thickness from 5 ft. to 9 ft. It was the first productive seam to be worked and exploitation must have started in about 1843 or 1844. By 1846 the workings were already 600 yards from the shaft (4). The 6 ft. seam, which lay 774 ft. below the surface, must have come into production soon after the 5 ft. The accepted account of the underground chapel states that it was established in the 6 ft. seam in 1845: if this is correct, it means that the 6 ft. seam was being worked by 1845. However, as has been suggested above, there is no evidence that the chapel, as opposed to the prayer-meetings, was in existence as early as this, and there are some indications that the 6 ft. seam was not struck until a slightly later date. In its account of the 1846 disaster, The Cambrian refers to a pit in the 5 ft. seam "17 fathoms deeper which has recently been sunk by the Company for the sake of getting at the lower coal". It is, of course, a lot more than 17 fathoms (93 ft. 6 in.) from the 5 ft. to the 6 ft. seam, and this pit may only have been dug to follow the 5 ft. where it had been displaced by faulting. On the other hand, it may be connected with sinking to a lower seam. Mr G.H. Parcell records a folk-memory among old miners in the early years of this century that an attempt was made to reach the 6 ft. seam, but that the project of driving through a fault to reach it had to be abandoned, ironically, as it later transpired, when it was within a few feet of the seam. The memory is imprecise, but these two passages together tend to suggest that the 5 ft. seam was in production by itself for a time before the exploitation of the 6 ft. seam commenced.

By 1868 only the 5 ft. seam was being worked. The 6 ft. had been worked to the rise and it was reported that it would need draining from Landore when it was re-opened. This proposal was subsequently put into effect and, in so doing, the seeds of destruction were sown. So long as the pumping engine at Callands pit, Landore continued to operate, the workings were safe, but when, as happened in 1926, pumping ceased at Callands, then Mynydd Newydd was bound to be flooded.

Vivian's report of 1868 refers only to the 5 ft. and 6 ft. seams, and it appears that the 3 ft. and 2 ft. had not been struck at that date. In 1880 it was reported that the shaft was 240 yards deep (5) which corresponds closely enough with the known depth of 774 ft. to the 6 ft. seam to indicate that these lower seams had still not been reached. The first positive evidence for the exploitation of the 3 ft. seam, which lay at a depth of 813 ft., is in the List of Mines for 1887, although in 1888 only the 6 ft. is given and in 1891 only the 5 ft. and 6 ft. The 3 ft. seam does not appear very frequently in the List of Mines or the Colliery Year Book and is named for the last time in 1925.

The 2 ft. seam lay at a depth of 930 ft. and the only date for which I have been able to find evidence of its being worked is 1914.

In general it was the 5 ft. and 6 ft. seams which were the most extensively worked. They appear to have been in production more or less continuously, although there are indications that one or other lay idle for a period from time to time. As has been seen, the 6 ft. was idle in 1868, and in the List of Mines for 1887 and 1888 the 5 ft. is not mentioned as being worked. N.L. Thomas refers to the 5 ft. seam being re-opened in 1904, but the closure cannot have been a long one since it was in production in 1891 and probably later. These cessations of working can never have been particularly long and probably depended to a large extent on the fluctuation in demand for coal at the Hafod works.

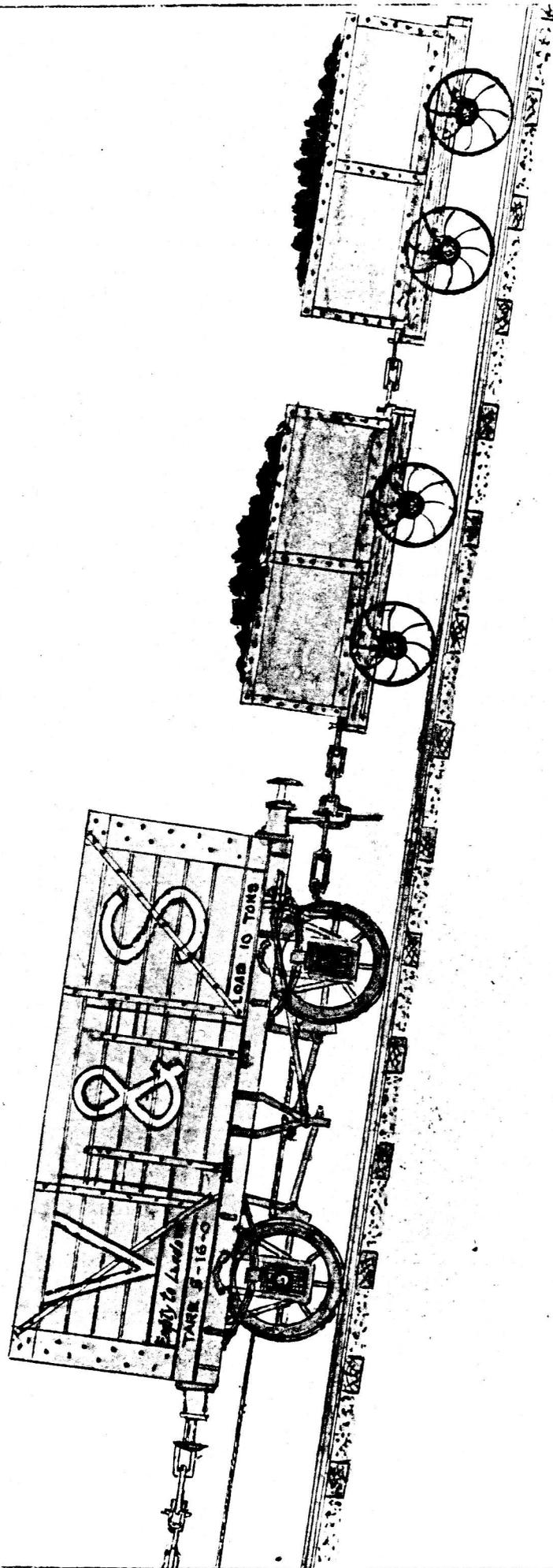
The Mynydd Newydd was worked throughout its life by the pillar-and-stall method. The workings were all westwards from the shaft apart from a few to the east. Despite the explosions of the 1840s it continued to be worked by naked light and explosions still occurred, although they were infrequent and, in some cases, non-fatal. The worst was in 1869 when three lives were lost. This continued use of naked lights was justified at the time by the fact that the pit did not have the reputation of being a fiery one, and because it was generally agreed to have been well ventilated. At the inquest on the victims of the 1846 explosion it was pointed out that the blast was confined to one stall and that it was because of the good ventilation that there was not a widespread fire (6). At the inquest on the victims of the 1869 disaster it was stated that the pit had "the reputation of being exceedingly well ventilated and managed" and this was corroborated by T.E. Wales, H.M. Inspector of Mines for South Wales (7). The ventilation system depended on the existence of two shafts, an upcast and a downcast, which ensured a flow of air through the workings. Originally the current of air would probably have been maintained by a furnace, although I have not seen this stated positively. In the early 1870s a Waddle fan, 25 ft. in diameter, was installed. It was not mentioned by Vivian in 1868, nor at the 1869 inquest: had it existed then it is likely that it would have received a mention. However, a fan was stated to be in existence at the colliery by 1874 (8), so it is probable that it was installed between the years 1869 and 1874.

One of the hazards of working in the Mynydd Newydd was the poor quality of the roof, especially in the 5 ft. seam. N.L. Thomas describes the difficulties and they are further indicated by fatal accidents in 1844 and 1867 involving roof-falls. Vivian, too, noted "roof bad" in 1868. The root of the trouble lay in the weak blue clift which lay directly over the seam, and in the existence of "pans" or "bells" - lumps of rock embedded in the clift which had the un-nerving tendency to fall out onto unwary miners' heads. Another feature of the 5 ft. seam which made working more difficult, and which is described fully by N.L. Thomas, was the tendency of the soft shale underneath the seam to creep or heave. Time was lost in restoring a level floor for haulage and timbers were snapped.

On the surface there were two engines. A 32" pumping engine worked the downcast shaft, or No. 1 pit, which was 812 ft. deep (i.e. to the 3 ft. seam). Fifty yards west of it was the winding shaft, or No. 2 pit, which was the upcast. A Cornish beam engine worked this shaft until it was replaced by a horizontal engine in about 1915. The cages were suspended on a flat wire rope. However, in the early years of the pit the winding engine appears to have been used only for raising coal. In 1849 a collier was killed while descending the shaft: "when within thirty or forty yards of the end of his journey he slipped his hold from the ladder and fell to the bottom", which seems to show that the miners climbed down ladders to get to the workings at this date (9). Generally speaking, the cage for use by the men was first introduced in the 1840s and was widespread by 1860. It cannot have been very long after this incident that man-winding came in at Mynydd Newydd using cages.

The number of men employed at the pit is stated in connection with various accidents or, in the 20th century, in the List of Mines and Colliery Year Book. In 1846, at the time of the explosion, there were between 150 and 200 men employed at the pit according to The Cambrian, although the Illustrated London News' account of the same disaster says between 200 and 300. In 1869 there were between 100 and 150 and in 1891, 144 underground and 55 surface workers. From 1895 to 1911 the total varied between 200 and 300 underground and 50 to 120 on the surface. The highest recorded figure was in 1914 - a boom year for the mining industry - with 326 and 106 respectively. Thereafter it declined to about 270 underground and 120 surface workers in the early 1920s, dropping to 145 and 56 respectively in 1932, the final year of operations at the pit.

MYNYDD NEWYDD COLLIERY SELF ACTING INCLINE - 1843 - 1932.
PENLAN FAWR TO PENFILIA TERRACE, BRYNHYFRYD, SWANSEA.



LENGTH 750 YARDS AT A GRADIENT OF ONE IN EIGHT.
TWO LOADED TRAMS PULLING UP ONE EMPTY TRUCK



T. BRYN RICHARD.

4. The Mynydd Newydd Railway

The Mynydd Newydd colliery occupied a rather isolated site, some two miles from the copperworks which it was intended to supply, and it was therefore necessary to build a mineral railway to carry the coal from the pithead to the Swansea Canal. It was divided into three sections: a level stretch from the colliery for about one mile; a long inclined-plane; and a final shorter section which fell from the foot of the incline to the canal.

The incline was 2250 ft. long and had a gradient of 1 in 8. It worked on the self-acting principle; that is, the descending wagons or trams were connected to one end of a long steel cable and those ascending to the other end. The weight of the descending wagons then pulled the others up. At the top of the incline the cable was wound round a drum which could be braked to regulate the speed. The drawing by Mr T. Bryn Richard, reproduced opposite by his kind permission, shows two loaded trams descending the incline and pulling up an empty wagon. The railway used edge-rails from the start rather than tramplates. It will be seen that wooden sleepers were in use at the time that Mr Richard made his drawing, but it is almost certain that the line was originally laid on stone sleeper blocks. A number of such blocks, each with two holes to take a chair, can be seen beside the incline and near the point half way up where it was subsequently bridged by the Cegfngyfelach Railway, and it would seem very likely that these originated on the Mynydd Newydd line. This was quite normal practice for a mineral railway in the 1840s: the Swansea Vale Railway, slightly later than the Mynydd Newydd, was laid on stone blocks at first. On the incline there were three rails, the centre one being common to up and down traffic, while in the middle there was a four-rail passing place. Between the rails rollers were fixed to support the weight of the steel cable. The noise made by the cable on these rollers appears to have been tremendous: W. Walford Moore refers to the cable "sometimes in the groove, sometimes out, grinding and roaring past obstructions"; and Mr T. Bryn Richard recalls that "you could always tell when it (i.e. the incline) was in operation by the noise made by the rollers".

As originally constructed the Mynydd Newydd line continued across Brynhyfryd Square and Siloh Road and down part of Pwll Street to the Canal, but at some date subsequent to 1876 it was diverted at the foot of the incline to pass in front of Penfilia Terrace, across Llangyfelach Road, and into the yard of the Pentre colliery. Traffic then continued down the Pentre railway to the canal. Such an alteration made obvious sense: there was no need to have the expense of maintaining and operating two parallel tramways, and the only surprising fact is that the diversion was not made many years earlier when the Pentre and Mynydd Newydd undertakings first passed into common ownership.

From the foot of the incline the coal was hauled by locomotive to the Pentre yard. The level crossing over Llangyfelach Road was ungated, but it appears that no accidents ever took place. A red-brick structure near the entrance to the Pentre yard beside Llangyfelach Road can still be seen, and it is very probable that this was originally the engine-shed for the locomotive that worked this section of the line.

One problem concerning the Mynydd Newydd and Pentre railways which has not been satisfactorily resolved is why they should have terminated at the canal and not have continued the short distance to the copperworks which were the principal customers for the coal. The necessary land would have been available until the G.W.R. built its Morriston branch in the 1870s, and it would have saved trans-shipment of coal from rail to canal for a haul of less than half a mile. Perhaps the answer is to be sought in the attitude of the Canal Company which would have created as many obstructions as possible to such a project rather than see its traffic abstracted in such a way. It should also be born in mind that Vivians were receiving coal from a number of collieries higher up the valley such as Brynwilach, Pentrefelin and Cathelid, and this coal would have had to come in by canal. They may therefore have found it more convenient to take delivery of all their coal by canal.

5. Final Years

By 1926 Mynydd Newydd was the only productive pit still in the hands of Vivians: all the others had either been closed or sold off. They also still owned Callands pit, the pumping shaft that was essential for operations to continue in Mynydd Newydd and all the other pits to the north and north-west of Swansea. Vivians closed the colliery that year, but in July a new company was formed, the Mynydd Newydd Colliery Company Ltd., to purchase the colliery from Vivians and keep it going. It had a capital of £10,000 and was composed of colliery officials and local gentlemen (10). Callands pit was included in the deal. Very soon the new company found that it was unable to meet the expense of working the pumping shaft by itself and sought the assistance of other coalowners whose property was drained by Callands. This proved unsuccessful and the decision had to be taken to cease pumping. Inevitably the water level rose and all the pits in the area were forced to close. Mynydd Newydd was able to carry on longer than most because of the existence of a deep near the pit bottom, but the water kept rising. The 6 ft. seam appears to have been worked for the last time in 1929 (11), but the colliery continued for a few more years exploiting the 5 ft. seam only, with a drop in output of about 30,000 tons annually (80/100,000 tons p.a. in 1924-29 declining to 50/70,000 in 1930-32). The end finally came in 1932. The Colliery Company was deeply in debt; all the coal in the sidings was mortgaged; and even though the men agreed to work without wages for several weeks it was impossible to save the colliery, the company and their jobs. In August 1932 the Mynydd Newydd Colliery Co. was wound up and about 200 men thrown out of work (12).

A final attempt was made to work the seams. A new company, the Mynydd Newydd Colliery Co. (1933) Ltd. was formed which worked the Mynydd Newydd Drift or Slant for a few months before rising water forced it to abandon the undertaking in June 1934. It was succeeded by the Mynydd Newydd Colliery Co. (1935) Ltd. which installed adequate pumps and boilers to cope with the water. Coal production recommenced in 1937, and the slant survived nationalisation to be closed in July 1955.

Of Mynydd Newydd colliery, nothing now remains. The surface buildings have been completely swept away and the site landscaped. It now forms an extensive playing field, although it is not difficult to see that it is composed of colliery waste. Of the railway, only the lower part of the incline remains in anything like recognisable form. The level section at the top of the incline has been built over, but on a patch of rough ground behind Heol Frank it is possible to follow a track for a few yards which probably represents the line of the railway.

P.R.R.

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Information received from Mrs Eluned Davies, Mr G.H. Parcell, and Mr T. Bryn Richard, to whom we are also indebted for the illustration depicting the incline.

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10. Iron and Coal Trades Review 9 July, 30 July 1926
11. This is the last year in which the 6 ft. seam appears in Colliery Year Book.
12. Iron and Coal Trades Review 12 August 1932

PENTRE COLLIERY: FURTHER INFORMATION

Thanks to publicity given to the article on the Pentre Colliery in the Evening Post, a number of people have written giving copious and valuable additional material on this colliery. Extracts from these letters will be either paraphrased or given verbatim in this and subsequent numbers of the Newsletter.

Mr T. Bryn Richard. We were particularly indebted to Mr. Richard for allowing us to reproduce one of his fine drawings of the Pentre Colliery which appeared in the last number of the Newsletter and are further indebted to him for one of the Mynydd Newydd self-acting incline which appears in this issue. He has also provided us with valuable material which enlarges our knowledge of the Pentre Colliery which is used below.

Mr. Richard comes from a family of mining engineers and surveyors well known throughout South Wales and particularly in Swansea and its surrounding districts. Both his grandfather, Thomas Richard (1824-1892) and his father, Thomas Richard (1853-1904) were mining engineers. His uncle, John Richard (1868-1940) was a civil and mining engineer and an architect. The latter acted for Mr Trevor Glasbrook Richard and his associates in the re-opening of the Pentre Pit in 1910. Mr T. Bryn Richard was beginning his training in the mining profession at this time and worked with his uncle at the Pentre and at Messrs. Glasbrook Brothers' Garnagoch Collieries Nos. 1, 2 and 3 pits. He left mining for local government when he was appointed Deputy Engineer and Surveyor for the Swansea Rural District Council in June 1926. The Council later became Llŵchwr Urban District Council for whom he later became Architect. He retired in November 1960 and lived for some time at Norton, West Cross. He moved to Southsea, Hants in 1977.

Mr Richard writes:

Amongst the plans and reports left by my father Thomas Richard (1853-1904) there is a complete section of the strata sunk through at the Pentre Pit and giving the exact depth to each seam of coal struck. Sir John Morris (1745-1818) of Clasemont, sank the Pentre Pit down to the six and three feet seams, a drift was also driven down to the two-foot seam.

When the six-foot seam was worked out and the three-foot seam nearing exhaustion, Messrs. Vivian and Sons ... decided to sink the pit down below the three-foot and two-foot seams and commenced sinking operations in June 1894. The intention was to reach the Hughes seam, which Messrs. Richard and Glasbrook had so successfully worked at their Gorse Colliery near Cockett in the 1860s. Coal getting, therefore, was stopped for the time being while sinking operations were proceeding until the Hughes seam had been proved and opened out, if found of good quality and thickness.

Sinking proceeded with a 12-foot diameter shaft down to a depth of 774 feet when it was considered advisable to abandon further sinking and instead to put down a borehole to prove the strata before going into more expenditure. Boring operations commenced from the bottom of the shaft then reached and the Hughes seam was struck at a depth of 1347 feet from the surface. The coal brought up by the borehole was found to be rather soft, the seam consisting of:- top coal, 3 feet, clift, 2 feet, and bottom coal, 1 foot 3 inches.

In view of the disappointing quality of the coal, the 2 feet layer of clift within the seam, and the cost of sinking the shaft down such a considerable depth to a seam with such unfavourable indications, it was deemed to be not worthwhile proceeding any further with a speculation having such a poor outlook. However, boring was continued for another 124 feet to make sure that the coal struck was actually the Hughes seam. The boring was discontinued at a depth from the surface of 1471 feet and 10 inches on May 14th, 1896. Messrs. Vivian and Sons did not keep the colliery open for very long afterwards and closed it down leaving the pit-head and the old beam-winding-engine intact together with two boilers in 1904. The colliery was re-opened early in 1910 by Mr. Trevor Glasbrook Richard of Ravenhill House, Fforestfach and his associates.

I should mention here that Trevor G. Richard had two projects in mind, one was to re-open the old Landore Colliery, and the second to re-open the Pentre Colliery. My father writes in his diary that on Monday 14th May, 1900, he met Trevor at the disused Cwm Pit top. A windlass was being set up to enable a John Williams to be lowered down the shaft. This was probably in connection with the proposal to re-open the old Landore Pit in conjunction with which Cwm Pit would also have to be re-opened to some extent as the underground workings would be already joined up with those of Landore Pit and could be used for ventilation purposes as airways. My father also records in his diary that on Wednesday 14th November, 1900, Enoch Morgan and William Thomas met with an accident in Cwm Pit that morning.

Evidently the re-opening of the Pentre Pit was the project he proceeded with, but as my father had died on January 2nd, 1904, Trevor called in my uncle, father's brother, John Richard (1868-1940) to act for him in 1910.

I have vivid memories of being taken underground by my father at the Cwmgelli Colliery on Saturday, March 5th, 1901, two months before my 6th birthday. The incident is recorded by my father in his diary. A new drift was being driven in from the surface to strike the five-foot seam. The mouth of the drift was about 250 yards north of the northern boundary of Cwmgelli Cemetery. It appears he wanted to inspect a fault encountered that morning so I was informed years later. My father and Mr. Elias Morgan, grandfather of Mr. John Morgan of the B.B.C., who was a well-known Landore builder and contractor, had formed a company to open the new colliery. It gave employment for many miners living in the Treboeth and Brynhyfryd area. The colliery was called "Ladysmith" for some time during its early development, because the coal seam was struck about the same time as the relief of Ladysmith in the South African war. I think the colliery worked successfully until World War 1 broke out. A tramway was laid to a coal yard near Cwm Level Square from where the coal was taken to various works in horse drawn wagons and taken by some coal merchants for house coal.

Mr. Richard is convinced that "Mr. Morris's coal mine" referred to by E.D. Clarke in his tour of 1791 is Cwm Level, not Pentre I.

In my opinion this mine must be Cwm Level, which was the earliest of the levels opened out in the Landore and Brynhyfryd area. The Pentre Pit was evidently connected to the Cwm Level as proved by a statement I found in my father's diary for 1903 which he attributes to the late Mr. William Williams, of the Wern, Landore, when talking of his boy-hood days. He said that "The Pentre Colliery stables were near the mouth of the old Cwm Level, the horses coming to the surface through the horseway". This conforms with the description given by E.D. Clarke:- "Our guides made us turn off to the right, to a sort of staircase which they called the horse road". This horseway or horseroad must have been the connection from the Pentre Pit six-foot seam workings to the Cwm Level five-foot seam workings. This horseway accounted for 122 yards which is the vertical distance between the five and six-foot seams, and was probably rather steep, hence the description "a sort of staircase".

An old plan I have shows the mouths of two levels adjoining Cwm Level Square, one on the west side of Quarry Road and the other on the west side of Cwm Pit Road. The actual mouth of the latter is at the junction of the two roads. The Pentre Colliery "Horseway" I believe is the one on the west side of Quarry Road, its mouth now obliterated by the clearance and levelling off of the old waste tips to form what is now a fine recreation ground laid out by the Swansea City Council.

Extracts from letters and material received from Mrs Eluned Davies, Mr G.F. Stuckey, Mr G.H. Parcell, Mr J. Rees and Mr J.M. Davies will be presented in future issues numbers of the Newsletter.

ANNUAL SUBSCRIPTIONS

This is the last reminder to those of you who have not yet paid your annual subscriptions for 1979. If a cross appears in the margin beside this paragraph, that means that according to our records you appear to fall into this category. Please send your remittance to Paul Reynolds (address on back page) as soon as possible. In view of the cost of publicity and postage, we regret that if we don't hear from non-subscribers, we shall have to take this as indicating the desire to resign.

NOTES AND NEWS

The late Mr N.L. Thomas. Readers must have been shocked to hear of the death shortly after Easter of Mr N.L. Thomas, author of The story of Swansea's districts and villages and a number of other works of local history. His work tended to have the quality of a jackdaw's nest - a great deal of information enthusiastically collected but not so well organised or indexed. Even so, Swansea's districts and villages frequently serves as the first point of reference for an enquiry about the local history of this area in the same way as D. Rhys Phillips' History of the Vale of Neath has become a standard work for that district. Errors and omissions have been siezed on gleefully in both works, points of detail corrected, but they continue to be used. It is easy to find fault with either book, but you cannot do without them.

Collieries in Llanelli. Shortly to be published is Dr Malcolm Symons' Coal mining in the Llanelli area. Vol.I: 16th century to 1829. It is being printed by Christopher Davies, Swansea and will be on sale at Llanelli Borough Library. It is understood that the cost will be about £3 plus postage and packing which is remarkably good value for a 400-page, hard-backed book. The reason for this is that Llanelli Borough Council has decided to sell it on a non-profit making basis. We look forward to its appearance with impatience since it is sure to be well worth having. Enquiries to Mr H.A. Prescott, Borough Librarian, Llanelli.

H.M.S. Warrior. Britain's first iro-clad warship continues to lie at Pembroke Dock as a floating hulk. Plans are being made by Newham Council (London) and the Maritime Trust to restore her at a cost which might be as much as £10 million. The Telegraph Sunday Magazine for 20 May 1979 carried a pleasant, if not very profound, little article on the vessel and the plans to re-instate her.

IA on TV. Early in June HTV hired a camera and took some film of bell pits in the Clyne Valley for possible use in a series on IA. Wynford Vaughan Thomas and Richard Keen are involved in preparing the series, and our members Idris Roberts and John Hayman were on site to tell them the truth about the valley and its bell pits. Since the weather was dull and there was a steady drizzle it remains to be seen whether the resultant film will prove suitable for showing on the screen.

"Llansamlet/Birchgrove Coal Mining Trail". As a gift to members we are pleased to enclose a copy of this newly-published leaflet. It was compiled by Barry Fagg with the map drawn by Hayden Holloway and contains some useful information in a compact form. Further trails are on the production line, the next being a guide to the Clyne Valley.

Swansea Valley Historical Society. Their latest Newsletter (no. 3) is to hand and includes news of work at Ynysmudw pottery during the winter. Hundreds of fragments of unglazed, plain glazed and pattern glazed pottery have been found. Two larger pieces have been disinterred with the mark YMP, as well as substantial pieces of pipe, sanitary ware and other items of earthenware. The most interesting find so far is a piece of plain glazed pottery in the shape of a knife edge with a reproduction signature "Wellington".

The SVHS also reports that the Welsh Office has listed many of the IA features of the Swansea Canal including the Twrch aqueduct (Ystalyfera), the Upper Clydach aqueduct (Pontardawe), the dry dock at Waun Coed and part of the Brecon Forest Tramroad. The Society is undertaking the rescue of two of the former canal craft. One is a 10 ft. long punt used for maintenance work, the other, a 69 ft long boat. They are to be put on display behind the Glanafon Country Hotel, Ynysmudw.

Copies of the Newsletter can be obtained for 5p plus an s.a.e. from the Swansea Valley Historical Society, The Cross Community Centre, 1 High Street, Pontardawe, Swansea.

RECENT LITERATURE

WELSH RAILWAYS REVIEW, vol. 1, no. 1

"The railway scene throughout the Principality is so varied and also very much alive today... Thus it seemed... that a new journal dealing specifically with Wales might be justified. It was felt that this would not only meet a growing demand; it should also encourage research and unite railway enthusiasts throughout Wales." So writes Robert A. Kennedy, curator of the Pembrokeshire Museums, and the result is this, the first issue of a new journal devoted to the railways of Wales. It appears as the result of co-operation between the Museum and the publishers, Laidlaw-Burgess of Haverfordwest. Besides Mr Kennedy the editorial board comprises Professor F. Llewellyn-Jones (President of the S.W.W.I.A.S.), Mr John P. Morris and Dr George Penn. There are fifteen contributions, and to have managed to include this number in 72 pages means that some of them are of necessity very short, and few, if any, are over 2,000 words. The Review is well-illustrated and the standard of production is good. Both historical and current aspects of railway development and operation are considered, although, as might be expected from the provenance of the journal, there is a bias towards south-west Wales. Some of the contributions appear to be rather slight and to represent little more than public relations exercises for British Rail and other, smaller railway companies. There are, however, useful articles on the Manchester & Milford Railway (arigins and operations) by Peter Bosley; Clarbeston Road, a rural junction in Pembrokeshire, by J.P. Morris, and, from the same author, an account of railway signalling in south-west Wales. There are short articles on "Margaret" (the locomotive that once worked at Kidwelly Tinsplate Works and elsewhere), on Tredgold's survey of railways of 1829 so far as it affected Wales, and on papers in the Pembroke Record Office of John Owen, Chairman of the Whitland Taf Vale Railway.

The appearance of this review is welcome. It is to be hoped that it will speedily establish itself as a means of disseminating the results of worthwhile research on the railways of Wales and their history. But in future issues it would be an improvement if the page number of each article was to be printed in the list of contents.

(Published by Laidlaw-Burgess Publishers, 2 Castle Street, Haverfordwest. £1-75.)

Pat KENNETT. The Foden story: from farm machinery to diesel trucks

The author of this story of the well-known firm of lorry builders included a visit to Kidwelly in his researches. Two of the engines in the former tinsplate works were made by the firm and there are several pages on these and other engines in south Wales.

(Published by Patrick Stephens Ltd., Cambridge. £6-50.)

H. BODEY and M. HALLAS. Elementary surveying for industrial archaeologists

A short description of a number of methods of basic survey. Equipment is described, and special requirements for dealing with buildings and machinery explained. The use of film and tape-recording is included.

(Published by Shire Publications, Aylesbury. £1-25.)

D. Morgan REES. Historic industrial scenes: Wales

After a brief introduction this book consists of a selection of photographs (and a few drawings) showing different kinds of industry. Each illustration has an informative caption and they are all packed with detail so that they repay careful study and make interesting browsing. A useful feature, quite often not found in books of this kind, is the provision of an index of places and sites. Reproduction is by litho which means that in a few cases full justice is not done to the illustrations: some appear to be rather over-inked while others are rather washed out.

(Published by Moorland Publishing Co., Ashbourne. £5-50.)

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