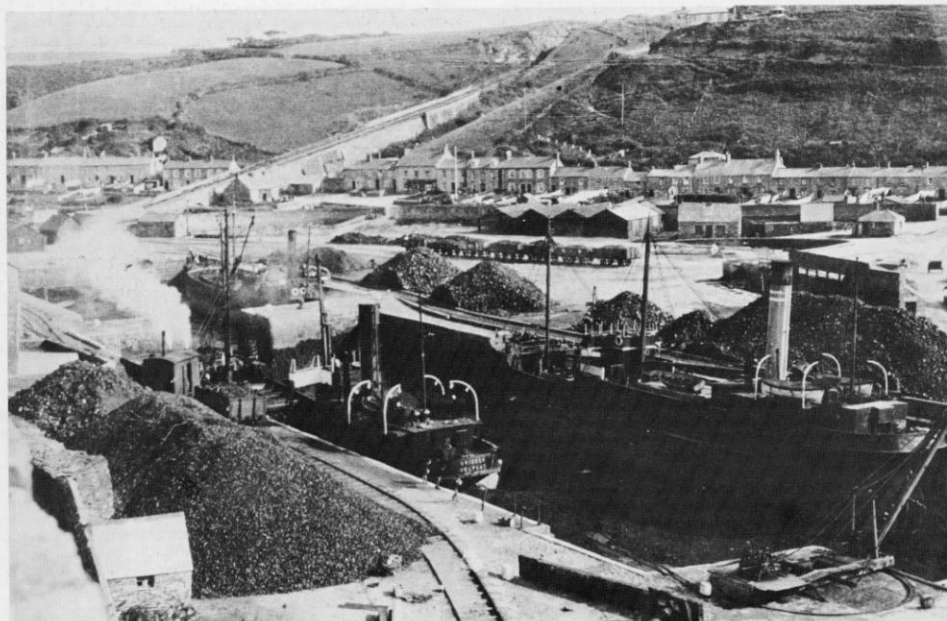


THE TREVITHICK SOCIETY

NEWSLETTER No.41

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Portreath Harbour in 1929 showing, left to right, the colliers 'Treleigh', 'Brideen' and 'Hopton'

THE RISE AND FALL OF THE CORNISH COASTAL TRADE, 28 JANUARY

Clive Carter's address at the Ambulance Hall, Redruth, was illustrated with slides of sailing ships and steamers and quayside scenes at Portreath and Hayle, and enlivened by many anecdotes gleaned from old sailors remembering their youth. Mr Carter also displayed pictures and artifacts, including a model of a steam collier.

Beginning with the 'Welsh Fleet'—sailing ships taking copper ore to South Wales and returning with coal—Mr Carter told of the rough and dangerous nature of the trade. Not only had crews to contend with the vagaries of the sea but with the dangerous nature of copper ore—mud choking the pumps and sulphur slime eating away the metal of the ship's fastenings.

The Bain family of Portreath were among the first to replace sailing ships with small steam colliers like the *Olivia*, *Guardian*, *Pannure*, *Holme-wood* and the longest lived *Treleigh*, better known to Portreath sailors as 'Rolling Reggie' because of her appalling motion in a seaway. Harvey's of Hayle ran the collier *Carnsew*, designed to carry Cornish boilers and engine parts. The last ship they built was the *Hayle*, a handsome and fast collier which was lengthened by an amazing 34ft to increase her carrying capacity. She became the workhorse of the coal trade into Hayle, bringing coal for Levant or Dolcoath mines and often returning to South Wales with dynamite for Neath or ropes and ratlines from Harvey's rope walk for Cardiff. The *Hayle* survived the First World War and was sold for breaking in 1933.

The Bain colliers were succeeded by A.C.Reynold's fleet, the *Marlie*, *Florence Reynolds*, and *Brideen*, still well remembered in Portreath. A regular visitor in the 1930's was the collier *Isleman* perhaps the most handsome and the fastest of all. She was owned by the Beynon Shipping Co. of Cardiff whose other vessels *Kyle Rona* and *Porthcarrack* were already familiar sights in West Cornish ports.

The County of Cornwall Steamship Company owned by John Hampton, one time harbourmaster, continued the coal trade into Hayle. Their Scots-built colliers *Marena*, *Taycraig*, *Abercraig*

and *Ross-more* were already quite old by the time they reached Cornwall. The *Marena* was several times stranded on Hayle Bar and on one such occasion her fireman took the opportunity to

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Editorial

With this issue, we are starting with a new printer at Callington whom we hope will give us as good a service as we have had in London—at less cost. Readers will note the smaller typeface which I hope will prove acceptable as we still have insufficient room for all the matter received for this issue.

Through no-one's fault, I regret that the February issue was despatched a few days late owing to the parcel taking an undue time to travel from the printers to our Membership Secretary. The number was also short. Exhaustive inquiry eventually discovered that the parcel had split open in a London sorting office. Unfortunately we have no claim on the copies which must have been lost.

This is actually the first time we have had trouble with material posted from London, but it is worth remarking that several letters from Cornwall to me have gone astray during my three years of office. It is worth registering anything like photographic material which is not readily retrievable.

I referred briefly in my last letter to an invitation from the South West Wales Industrial Archaeology Society to inspect an engine house believed to date from about 1780 at a place called Gwernllwynch with near Llansamlet, Swansea. I duly paid a visit in the company of two colleagues from Kew Bridge Engines, and Trevithick member and author David Bick from the Forest of Dean. We all came to the conclusion that the house had probably contained a small, house-enclosed beam engine, possibly of the atmospheric type, before being put to other uses.

Unfortunately, digging a trial hole in the floor revealed that a chimney sweep must have been depositing domestic soot in the house for many years, and the task of excavating 3-5 ft of the stuff in an effort to locate the engine foundation was much too great a task for a Sunday afternoon. The SWWIAS now plans to approach the site owner for permission for this to be done. In the meantime I have agreed to write to certain local bodies to endorse the local society's assessment of the importance of the site, in the hopes that some official steps can be taken to safeguard its future.

The SWWIAS has already shown what can be done in South Wales by the splendid excavation and conservation at nearby Scott's Pit. I have chosen this as the subject of a feature article in this newsletter, see page 4. The two sites are, in fact, only a quarter of a mile apart and the M4 motorway runs between them, miraculously without being close enough to either to jeopardise conservation efforts.

I would like to pay tribute to the SWWIAS' secretary, Paul Reynolds, for the warm welcome extended to us by his members.

Press date for the August issue of the Trevithick newsletter is 1 July. Would contributors please be sure to let me have their copy before that date.

Kenneth Brown

Coming events

Waterwheel weekend 20-21 May

The Society's spring weekend 20-21 May will include a visit to a part of Cornwall with which many members may be unfamiliar. It is hoped that a number of members will find an interest in exploring it as well as being introduced to its waterwheels.

On Friday, 20 May, Alan Stoyel will lecture on Waterwheels at the Camborne Community Centre, South Terras Road, at 7.30 pm. On the following morning he will lead an expedition, leaving the Community Centre by coach at 1000 precisely, and heading for the Bodmin, Eglosayle, St. Issey area.

The full timings are estimated to be:

1000	Leave Camborne Community Centre	
1015	Redruth Railway Station pick-up	
1040	Summercourt—vicinity of London Inn pick-up	
1100—1130	Wheal Prosper Stamps, Lanivet	SX036645
1145—1230	West Ruthern Farm, Withiel	SX012668
1240—1300	Laveddon Mill, Bodmin	SX052660
1320—1520	Hingham Mill, Eglosayle	SX020725
(includes lunch break)	Lemail Quinneys, "	SX022729
	Lemail Springs, "	SX020731
1530—1600	Hawksland, St. Issey	SW950710
	Return via Summercourt and Redruth Station	
1650	Arrive Camborne.	

All sites can be approached by coach and the owners have been contacted. The Eglosayle stop will allow members two hours to walk to the three sites and eat lunch. There will be no diversion for a bought lunch. Members should bring pasties (or effete packed lunches) and suitable beverages.

Hingham Mill will be working for us. As well as waterwheel stops there will be a water closet stop.

There will be a standard charge of £2 per head for the coach trip. Half price for under-16's. No advance booking.

Even if waterwheels are not your first love this promises to be a very interesting day out and it is hoped that members will support it well.

JC

Summer weekend 5-6 August

Another interesting weekend is planned for 5-6 August which will provide an introduction to the noble art of recording. Members will recall that a subcommittee was set up last year to assess the needs, and ways in which the Society could contribute towards the study (and which could lead to the preservation) of surviving relics of the industrial revolution in Cornwall.

The weekend will start with a lecture session on the Friday evening (Camborne Community Centre, South Terrace, 7.30pm). Recording convenor Bill Newby will outline the subcommittee's work to date and will set out the three levels of recording in which individual members might wish to involve themselves. Mr. Newby will be assisted by other members who know something about the subject and examples of their work will be presented.

For the Field Trip on the Saturday, the area around Marriott's Shaft on the South Frances section of Basset Mines has been selected as having some of the best industrial ruins; they are as yet under no protection order. Again, several experienced "recordists" will be on hand to show how recording and interpretation of visible remains may be carried out. Some places where remains are less obvious but nonetheless meaningful will also be pointed out.

If the weather is fine, the session will provide a splendid excuse for a day out in pleasant surroundings. Meeting place is in the car park of "The Countryman" pub on the way up to Four Lanes from Pool crossroads: the time 1.30pm. All members are welcome; no prior knowledge is needed and if you just want to come along and maybe learn a little more about Cornish mining, please feel free.

Those who wish to participate should, however, come prepared for some rough walking—stout shoes or boots are essential—and old clothes including rainwear if the weather is showery. Equipment such as notebooks, tape measures, cameras, metal detectors(!) plastic bags (for collecting mineral samples, if you are so minded) will not be provided, so come prepared. It is hoped that many participants will set down an account of the visit afterwards, and it is proposed that what the subcommittee judge is the best write-up will be published in the newsletter as an account of the visit. (What will the Editor be doing? Oh, helping in other ways!).

Urgent reminder

Members are reminded that anyone who has not paid his subscription in full by now will be dropped from the mailing list until he pays up. Everyone who was unpaid, or underpaid by 15 February, had a reminder included in the last Newsletter.

All subscriptions and any queries regarding them should be sent to the Membership Secretary and NOT to the Treasurer.

Members who renew late are also warned that they risk missing out on some issues of the Newsletter, because we are now trimming the print order closer to predicted requirements.

An apology

The editor would like to apologise to Dyllansow Truran, publisher of the book "The Cornish Copper Company" reviewed in the February newsletter, for certain remarks concerning the poor quality of the printing. It now transpires that the review copy was printed on sub-standard paper, being part of a preliminary print run, and that copies of the book on sale are on much better quality paper. This misunderstanding highlights the risk involved with reviewing new publications from proofs or preliminary copies, a problem with which your editor is not unfamiliar!

Hayle bypass starts

Contractors Sir Alfred McAlpine & Sons (who also built the Launceston and Bodmin bypasses) are getting on with their £14 million contract to build the Hayle bypass. In line with the latest Department of Transport thinking on trunk roads in the West-country, it will be only a single carriageway.

The new bypass will start at the Treswithian end of the Camborne-Redruth bypass, traverse the workings of West Roskear Mine and then drop down to cross the Roseworthy valley on an embankment. Excavation has revealed an adit on the east side of the valley which appears to run curve round south-eastwards in the direction of Barrripper.

The bypass will stay north of the present A30 past Connor Downs and then cross the present road at a large roundabout at Loggans Moor. From here it will swing south, passing through one of the arches of the railway viaduct and curve gently west just missing Wheel Alfred. It will also miss the three engine shafts of Mellanear copper mine, to emerge on an embankment with a viaduct crossing over the Hayle River and the railway. It will end in a large roundabout near the milk factory at St. Erth station.

Consulting engineers are Freeman Fox & Partners. Despite slight delays caused by the wet winter McAlpine hopes to have the road ready for traffic in the autumn of 1984.

Hon Secretary's column

This new regular column is intended to keep members in touch with our activities and proposals in between the AGMs. Members wishing to comment on any of the subjects mentioned are welcome to write privately to the Hon. Secretary, or to the Newsletter Editor if publication is desired.

The inhabitant of the Hornblower cottage at Chacewater, which is a listed building, called our urgent attention to proposed alterations in the building and we were able to enlist the support of the District Council in this matter. So far it has not been resolved, and is now in the hands of the Department of the Environment. We hope the outcome will in the end be satisfactory.

The Programme Committee is now planning at least a year ahead the lectures in the winter months and the field trips in the summer. With the February newsletter every member should have received the first blue Programme card which we hope will be helpful to all members in making their arrangements during the coming year. There was an IA conference at Exeter University in March and Council member, Clive Carter, attended as our representative to speak on the sources for the construction of a model of Dolcoath Mine in 1906.

Bill Newby has done a great deal of work for us in planning a system of recording buildings or sites etc. that are in danger of being lost and a complete index of these is being prepared and will be kept at the Institute of Cornish Studies. John Corin, our programme co-ordinator, is also dealing with publicity and our general meeting in January was given good coverage in the new Radio Cornwall. He is also dealing with the media generally and with the editors of Cornish newspapers.

One subject in which members could be of great assistance to us is that of waterwheels. We are anxious to develop an interest in this side of the Society's activities, and many members complain there is nothing about them in the Newsletters or Journal. We have approached many people, but so far without success, and if any member would write a short article about even one waterwheel in the Westcountry and so start the ball rolling, we should all be most grateful.

We have in the last year developed constructive relations with three District Councils in West Cornwall, and hope that this will result in the preservation of buildings and sites of particular historic interest which would otherwise be lost.

Finally it is hoped to present a new Constitution to members at the AGM next September. The one now in use is very lengthy and a great deal of it no longer applies. This will involve the sub-committee of the Chairman, Hon. Treasurer and Hon. Secretary in a good deal of work, but the new one will simplify our proceedings and make for greater efficiency.

Please note that I shall be away from 23 June to 4 July.

MS

Crofton steaming dates

We are advised that the 1983 steaming dates for the small preserved Cornish pumping engines at Crofton (on the Kennet and Avon Canal near Great Bedwyn, Wilts) are as follows:

28, 29, 30 May; 25, 26 June; 27, 28, 29 August; 24, 25 September; 12, 13 November.

These are the dates the engines will actually be working; at other weekends they may be seen static, when no charge is made.

How William Morris made his fortune

William Morris (Jr) owed his business acumen and considerable fortune to a lucky investment made by his father: Devon Great Consolidated Copper Mining Company, alias Devon Great Consols.

The elder Morris was a 'City' man, for he was a partner in the billbroking house of Sanderson & Co—originally Harris, Sander-

son & Harris of 83 King William Street. When Devon Great Consols was floated in November 1844—three years before his death—he took 272 out of the original 1024 £1 shares that formed the capital of the Cost Book company, and in a very short time saw them go to £800, so that at any one time he could have sold out for £217,600!

Morris fortunately had his various businesses well established before his interest in Devon Great Consols which he had inherited from his father ceased to yield any return. (He had his eggs in more than one basket). He acted as a director of the company from 1871 to 1876, and for the purpose of attending board meetings bought the only silk hat that he ever possessed. Nevertheless he remarked to a friend "You see one can't go about London in a top hat: it looks so devilish odd." This was not a paradox in his case, for it was observed "It was only in conventional dress that he looked really peculiar." Morris solemnly sat on his top hat when he returned home after resigning his directorship.

In our own day, the Devon Great Consols set has seen various concerns attempting to work the mine, so much so the locals have give it the name "Wheal Beeching"!

Just for comparison, a miner's wage in 1844 was roughly £5 for a five week month—before "Subsist" etc. A parish constable's wage was 18 shillings (90p) per week plus 6d (2½p) 'boot allowance'.

Roy Shambrook

Cornish engine being restored

Kew Bridge Engines are busy restoring the 65-inch Maudslay engine dating from 1838, following the award of a grant from the Greater London Council for the purpose. This engine was built in London, by Maudslay Sons and Field of Lambeth, and was the first engine to go to work in the then new Kew Bridge Pumping Station of the Grand Junction Water Works Company.

When retired in the 1940's the engine had worked for more than a century, and is much altered from her original condition. One side of the bob was replaced in 1888—it is a noticeably heavier casting than the original side—and an interesting refinement is twin plug rod gear. Work by Kew's volunteer workforce has begun by the removal of large cast-iron weights from the balance box. It is hoped that the engine will join the other two Cornish engines in the weekend steaming schedule later this year. The work is under the direction of Kew Bridge Engines Trust's technical director, Ron Plaster.

Steaming days at Kew; every Sat, Sun and most Bank Holidays.

Trevithick day

Too late for mention in the February newsletter, British Rail Southern Region invited the Society to participate in a Trevithick Day at Dartford, Kent, on Friday 22 April to commemorate the death of Richard Trevithick there on 22 April 1833. Some members who live locally were contacted, and our Chairman was an official guest. Kew Bridge Engines operated a stand at the event from which copies of Trevithick Society publications sold briskly. A report on the event should appear in the next newsletter.

We have also heard that the newly-formed Camborne Traders' Association have proposed an annual Trevithick Day at Camborne, starting in 1984. The date of 28 April has been proposed. The idea is to put Camborne "back on the map" with stalls, dancing in the street and other events.

Cornish coastal trade

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visit relatives in the town. He was soon seated before a roaring fire with tea in hand and, commenting on the merry blaze, was told that he had brought the coal—cargo jettisoned by the *Marena*—to the delight of Hayle folk.

The second world war brought tragedy. In November 1940 the *Porthcarrack*, having loaded coal for Hayle power station, was caught by a heavy gale after leaving Barry and was stranded on the Nash sands; only one sailor was saved. Three months later the *Kyle Rona* went missing in the Irish Sea, probably the victim of an air attack. Weeks later the *Ross-more* led the *Marena* over Hayle Bar bound for Wales and within a few hours the *Ross-more* was bombed and strafed by a German bomber and sunk off Perranporth. The *Marena* was also strafed but survived and landed the few survivors at St. Ives.

Losses continued and by the end of the war only the *Isleman* remained. She continued the coasting and coal trade until the early 1950's. Portreath, overtaken by modern trends sadly shut down its harbour in 1967. Hayle lasted a little longer but now lies a sad ghost of its former days.

CC&WN

A Cornish enginehouse preserved in South Wales

Close beside the M4 motorway near Swansea is a beautifully restored Cornish enginehouse at Scott's Pit. Kenneth Brown delves into the history of this prime example of industrial conservation, and finds a few surprises . . .

I could only find one fault with the splendid conservation of Scott's Pit enginehouse and site—the wall opening for the steam pipe from the Cornish boiler to the engine has been inadvertently filled in!

However the splendidly restored enginehouse and stack, and the extensive remains of the haystack boiler which possibly supplied steam to the original engine in the 1820s, are well worth the long journey to study and enjoy. The whole site, in fact, is an object lesson in what a local preservation group can achieve, when sufficiently determined and able to exert influence.

The South-West Wales Industrial Archaeology Society, who masterminded the 5-year excavation and conservation project at Scott's Pit, are now trying to promote similar interest in an even older enginehouse in the same area at Gwernllwynchwith. This is reckoned to have contained an atmospheric engine dating from about 1780 and could prove to be the oldest surviving enginehouse in this country, or indeed anywhere. (A note on this appears in the Editorial).

Now to study Scott's Pit, let us turn the clock back to the mid-1870s. (It is not possible to be too precise about dates because documentary evidence is lacking). We would have found a squad of engineers and fitters struggling to squeeze a 10ft indoor stroke Cornish engine, probably secondhand from Cornwall, into too short an existing house. The scheme apparently was to reopen an old pit with a shaft 10ft diameter and 160 yd deep to Church Pit Seam and provide a central pumping function for a group of shallow pits in the area.

Judging by the lack of grease marks on the bob-wall, either the scheme was short-lived or the engine did not get much oil. A photograph dating from about 1900 shows the engine still in position though with a considerable quantity of foliage around. Documentary sources suggest that Cae Pridd, for which Scott's Pit provided pumping and ventilation, worked until 1895.

The enginehouse dates from about 1820 and is of typical North-country rather than West-country construction. The material used was rough-hewn ashlar masonry and the bob-wall is carried up to eaves level with an arched opening for the beam to protrude. The substantial square stack was placed immediately behind the house and abutting the rear wall, and the cylinder doorway, 72 inches across, is in the side (reminiscent of Batters' 80 inch at West Chiverton).

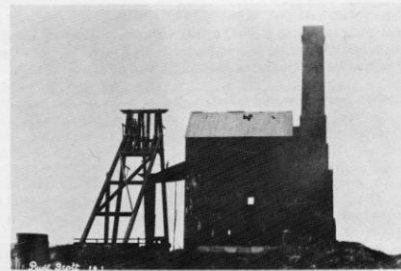
Due to the nearness of the bob-wall to the shaft, the outdoor stroke of the original Watt-type pumping engine could not have been more than about 7ft. Today we cannot tell precisely where the original cylinder stood, but it may be deduced from a pair of brick-arched openings halfway up the side walls of the house which would have accommodated the massive timber main girder across the house. (In a Watt or a Cornish engine, the main girder supported the two spring beams which ran longitudinally through the house, to support the floor each side of the beam. It also took shocks due to the engine over-stroking and provided a direct or indirect anchorage for the parallel motion).

The main girder position corresponds with an indoor stroke of about 7ft, depending on the angle through which the beam moved. The cylinder doorway, too, exactly coincides with a conjectural cylinder in the right position, so we may deduce that the house was built for an equal beam engine with a cylinder of approximately 60 inches (to suit the doorway opening) and 7ft stroke.

The engineers installing the second engine would also have found substantial remains of a large haystack boiler outside the house on the south (or cylinder doorway) side, together with a long flue linking with the stack behind the house. Most fortunately for today's engineering historians, they decided to put their Cornish boiler on the opposite (north) side of the house, leaving the brickwork of the haystack boiler to become gradually entombed in debris.

The trench on the north side for the brick setting of one Cornish boiler was also excavated so it is exposed to view today and is at a low level which suggests that the second engine had a steam case. The old photograph shows a Cornish boiler with a large steam dome standing exposed to the elements outside the house and not even lagged!

Installing the "new" engine in such a wretchedly cramped house must have caused considerable problems. From the evidence still visible, it had a cylinder of not more than 50 inches diameter and stroke of approximately 10ft indoors and 7ft 6in out. The heavy levering strongly suggests that it was an old Cornish built engine bought cheap. The long strokes compared



Scott's Pit about 1900 with Cornish engine and boiler derelict. This was the second or third engine to occupy the house.

with the first engine meant that the cylinder had to be tucked in hard against the rear wall: there would have been no room for a man to squeeze past. The masonry landing, or foundation, of the original cylinder had to be stripped out and rebuilt further back and probably at a lower level, making provision for the four holding down bolts. Three bolts, on a square at 4ft 3in centres, are still visible along with the sandstone bed, now badly cracked. Remains of the original loading, which probably did not extend the full width of the house, may be seen today.

(The old Copperhouse Foundry 50 in 10ft/7ft 6 in engine at the short-lived Rose and Chiverton lead mine would fit: she was for sale in 1874 for £380.)

Other changes made to the house included digging out a pair of recesses for the main girder close to the rear wall and roughly 6ft higher up than the original arched openings. The old photograph shows that the latter were utilised as windows. Holes for the main steam pipe and condensate return pipe were put through at cylinder floor levels on the boiler side. There is a cast soleplate on the bob-wall which is presumably from the final engine: it is set back 6 to 9 inches from the middle of the wall.

In front of the house, an opening was made in the masonry between the bob wall and the shaft collar to accommodate the condenser cistern in the customary Cornish position. The old photograph clearly shows the air pump rod. Due to the engine's being set back, the condenser pit encroached a few inches into the base of the bob wall which was gouged out to suit. Many of the cage of tall bolts which held together the timber planking of the cistern are still visible.

The top of the bob wall may also have been raised at the same time to accommodate a higher level of the beam: either that or cast packing pieces could have been used. The evidence is not, however, 100 per cent, nor has the width of the beam (which could provide a good clue to the engine's parentage) been firmly established. The sole plate, approximately 7ft 6in by 4ft, has no bolt holes, only projecting nibs on it, which do not help us until equipment has been mobilised for measurement to be done.

The SWWIAS have prepared a comprehensive draft report on the excavation of the site, to which I have been able to add some important conclusions concerning the two engines which occupied the house. More documentary research needs to be done, however, if the origins of the engines are to be established.

There is evidence to suggest that George Stephenson had early connections with Scott's Pit and that one of his locomotives was employed for a short time on the tramway. He is known to have visited the pit in the early 1820s, and his influence could explain the North-country style of the enginehouse.

In the SWWIAS report is reference to John Scott, a London attorney who acquired a lease of minerals in the area in 1816 and after whom the pit presumably takes its name. A year later Scott advertised for tenders for sinking "a pit about 130 yd deep, 10ft wide at the Church Pit colliery" which is assumed to refer to Scott's Pit.

Reference has been found in Dr Gutch's "Statistical Table of Steam Power Employed In the Trade of Swansea and its Neighbourhood" 1838-9 to an engine with a 65 inch cylinder and strokes of 9ft and 7ft at Venture Pit. The SWWIAS report assumes this to refer to Scott's Pit but I cannot reconcile any of the evidence in the house to an engine of that size and stroke.

There is also mention in the report of the discovery during ex-

cavation of a 52-inch diameter wrought iron band which could have held the cladding round the cylinder of the Cornish engine. If true, then the cylinder would have been considerably less in diameter than 50 inches, say 40-42 inches, especially if a steam case was provided. Incidentally some rusty pipery passing through the north wall of the house and linking with a valve at the rear of the boiler flue might well be part of the condensate return system.

The site now belongs to Swansea City Council as a recreation area so for safety, the shaft has been concrete capped. Prior to capping, SWWIAS members found evidence of a timber brattice dividing the masonry-lined shaft into pumping and winding compartments. This corresponds with the old photograph which shows a single pulley sheave corresponding with the winding compartment on a simple headframe over the shaft. The pump rod is in the other compartment, nearest the enginehouse. The brattice would have divided upcast from downcast air currents if the shaft served for ventilation.

Only a mound and a few bolts in the grass reveal where the winding engine stood. A stone-lined channel, partly arched over, runs right through the site of the winding engine. The purpose of this channel is not clear. Since the ground on which the enginehouse stands is not much higher than the surroundings, the channel may have carried the water pumped from the pit. Close to it is a short tunnel, probably a fan drift through which fresh air was forced to the shaft.

There are other puzzling features about the surroundings which old maps have failed to explain although the routes of various tramways which formerly served the area are well established. Sections of tram rail of different types were discovered during excavation.

The conservation programme began in September 1976 when SWWIAS members started excavating in small groups. The masonry and brickwork surround for the haystack boiler was a major discovery and is now one of the best features of the site. Later the SWWIAS enlisted powerful support in the shape of the Manpower Services Commission who provided labour, and the Welsh Development Agency who grant-aided the major repairs to the enginehouse. The Royal Commission on Ancient Monuments for Wales, National Coal Board and National Museum of Wales also provided useful comments and advice. The Scott's Pit site was formally opened to the public in April 1981 by the Mayor of Swansea—a former coal miner who at one time worked in the area.

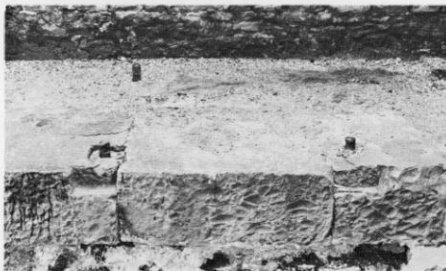
SWWIAS secretary Paul Reynolds would be pleased to hear from any Trewithick member who thinks he might help in further interpretation of the site. His address is 87 Gabalfa Road, Sketty, Swansea.



*Scott's Pit enginehouse—as it was in 1976 . . .
 . . . and as it is today.*



Haystack boiler excavation.



Cylinder bed with bolts in position.

Correspondence

Dear Capt. Tarrant,

Burra Copper Mine, South Australia

Enclosed is a photograph that I took of the Cornish engine houses at Burra, South Australia, which I was able to visit during a very brief stay last December. One of these is undergoing some repairs. None of the engines remain, it being said that they were broken up for scrap during the 1914-1918 War; but there is increasing interest by the local Authority to preserve what mining exhibits remain, as a tourist attraction.

To be seen lying around are several lengths of cast iron rising main, a good kibble, trams and suchlike; all of which are definitely 'period'. Scrambling over a small dump, I was able to pick up a small but nice specimen of azurite.

There is also a 'recent' chimney stack, which a plate bears acknowledgement to the Welsh and Cornish miners who worked there more than a century ago. I was given to understand that the restoration of the engine houses is only to prevent further deterioration.

At the small local museum it was difficult to get any real information of a technical nature, but it seems (from what I saw) that the copper lode was worked down from its back on the surface to deeper underground levels. The very large opencut bears ample evidence of early workings. Just now there is some small mining activity, of little account; but a substantial increase in the price of copper metal might give added impetus.

Burra is in an area of comparatively low annual rainfall. Doubtless the several Cornish engines were to keep the deeper workings in fork and supply water for the treatment plant.

You may use this information as you wish.

Yours sincerely,
W.H.C.Blake,

Orchard Cottage, Dartington, Totnes, Devon.

Editor's note: What is today called Burra used to be called Burra Burra and was a famous copper mine whose name was adopted by two unimportant Westcountry mining ventures. Situated 100 miles north of Adelaide, the mine started with the discovery of a large outcrop of copper in 1845 and was worked vigorously until falling copper prices prompted closure in 1877. It is on record that the Perran Foundry built three 80-inch pumping engines for Burra Burra ('The Perran Foundry and its Story' by W.Tregoning Hooper, Royal Cornwall Polytechnic Society, 1938). The photograph is not suitable for reproduction.

* * *

Dear Editor,

Unusual mining relic

I wonder if I can appeal through you to Society members for some information.

There has recently come into my possession an intriguing mining relic. It is a clear corked bottle, the size of a "Plymouth Gin" bottle into which has been inserted not a ship but a set of miner's tools—pick, shovel, hammer, borer etc.

The bottle is inscribed and dated: "To Mr G Pendry from T Prisk, Marazion May 17th 1938."

Can anyone say how common these things are, or were? Who made them and was it commercially or just for amusement? Indeed are they confined to Cornwall? Any information would be most welcome. My father has seen one similar as part of the decor in the "Miners' Arms" public house at Hemerdon, Devon.

Yours sincerely,
Graham Thorne,

10 Tiberius Gardens, Witham, Essex CM8 1HJ

* * *

Dear Editor,

The Brunel Atmospheric Railway Museum

Thank you for your inquiry. We are converting the Atmospheric Pumping House at Starcross into a museum/tourist attraction and educational resource, which is taking longer and costing far more than anticipated due to the derelict state of the building when we purchased it from British Rail in later summer 1981. We have not so far had any success in obtaining grant aid to restore this building and were intending to write to your Society in the hope that we might obtain some financial assistance towards the restoration and conversion.

However, we are now open and have a working atmospheric railway on site, capable of carrying adults and powered by domestic vacuum cleaners in lieu of the reciprocating pumps which, as you say, were disposed of in the 1850's. We have already had a considerable number of visitors from all over the world and would be happy to see any of your members should they be in

this area. We make a nominal charge for showing people around the building and telling them all about the atmospheric railway, and demonstrating how it worked.

We are well aware that the pumping engines were in fact vertical engines and are currently involved in making reproductions of them. To this end we have acquired copies of the original Boulton and Watt drawings from which to work.

At the site of the next enginehouse at Turf the engine pond is, as you say, still visible. Alongside it are the remains of the foundations of the house which would not require very much in the way of excavation, the engine holding-down bolts still being visible sticking out above the surface of the site, which has become very overgrown.

It may interest you to know that we recently had a visit from Miss Trevithick, a distant relative of Richard Trevithick. We look forward to seeing you should you ever be travelling in this direction.

Yours sincerely,
R.A.Forrester

The Brunel Atmospheric Railway Limited, Brunel House, The Strand, Starcross, Devon, EX6 8PR

Editor's note: Since this letter was written I have paid the Museum a visit and it is attracting a lot of interest. It is open every day except Saturday through the summer, but closes for lunch between 1 and 2.15 pm. Telephone number is 0626-890000. A photograph of the remains at Turf appears on page 8.

* * *

Dear Editor,

Hesley Mill visit

I am taking members of the Northern Mine Research Society to the Hesley Mill mining area, North Molton, North Devon on weekend 20/21 August. Should any Trevithick people wish to join us they will be most welcome.

Meeting place: the Miners Arms, North Molton village Sat 20 August, between 8.30 and 9.0 am, grid ref. SS738299.

Regards,
Roy Shambrook
29 Fairlawn Grove, Chiswick, London W4 5EJ

* * *

Dear Editor,

Who wrote it?

The bit of poetry quoted under the above heading in the February issue of the TS 'Newsletter' comes from Erasmus Darwin's 'The Botanic Garden', Part 1, 1791, p62. It is slightly misquoted, the correct version being:

'Press'd by the ponderous air the Piston falls
Resistless, sliding through it's iron walls;
Quick moves the balanced beam, of giant-birth,
Wields his large limbs, and nodding shakes the earth.'

There is quite a lot more (26 lines) in which Darwin says 'And call'd delighted SAVERY to your aid' (he should have said Newcomen).

The poem also contains the much better known lines:
'Soon shall thy arm, unconquered steam! afar
Drag the slow barge, or drive the rapid car;
Or on wide-waving wings expanded bear,
The flying chariot through the field of air.'

Yours sincerely,
Keith Gale,

19 Ednam Road, Goldthorn Park, Wolverhampton WV4 5BL

Temporary closure of CRO

Cornwall County Record Office at Truro is having an extension to its strongrooms built, and to effect reorganisation when it is completed it is planned to close to researchers temporarily for about three months from 1 November. Members who wish to be notified when the search room is reopened should send to CRO a stamped addressed envelope marked CRO/84.

Society publications

Our Publications Secretary, Eric Edmonds, draws members' attention to the list of titles available which was published on the back page of the November 1982 newsletter. He also has two sets of Brains Trust tapes in stock—first come, first served!

Can readers help with an inquiry, please, regarding mining in the early 1900's. Was it the practice for speculators to pay annual retainers to consulting mining engineers, or merely to pay a fee for each report?

With what mines was a London civil engineer, Mr Frechville, associated? Information to Mr Edmonds please.

Book reviews

The Last of the Sailing Coasters, by Edmund Eglinton.
HMSO for National Maritime Museum. Price £4.95

It is sad but inevitable that most of the many books on the history of the coastal sailing trade have owed their contents to the study of port registers and other written records rather than to first-hand experience of life at sea. But this book is different. As the son of a trow skipper in the Bristol Channel, the author grew up in a world governed by tides and poverty, for in the 1920s coastal freight rates were depressed by competition from the motor lorry. He wrote to Dr Basil Greenhill of the National Maritime Museum having read in his *West Country Coasting Ketches* a 1926 reference to a wreck off Portishead of an Appledore ketch in which he had been serving as mate at the time. Dr Greenhill encouraged him to write down his recollections with the result that his account is based, not on contemporary diary entries but on vivid memories, released in some cases by the stimulus of the NMM's superb photographic archive. The book is thus a particularly lively and lucid record of a way of life that was alternately exhilarating and gruelling.

There are descriptions of summer dawns at sea when the author was reluctant to come off watch, even after a long night at the helm, for fear of terminating the sheer pleasure of seeing the day begin. With the depression deepening, coastal skippers were driven to accept some hard bargains, and it was nothing for the two-man crew of a down-river trow to unload 100 tons of coal by hand after a hard and eventful voyage, and take home less than £2 as a share of the proceeds for the whole trip. But the author, like so many of his fellow Westcountrymen, was always ready to go back for more.

In many cases the poverty of the sailor's life was self-imposed, some of the masters and crew preferring the freedom and independence of working with the ships they loved and which their fathers had built and served in, to the better-paid jobs in steamships or indeed on the motor lorries which were poaching much of their trade. But the rigours of this life produced a resourceful and courageous breed of men; the author is almost nonchalant in his descriptions of being driven ashore in a gale and seeing his recent home broken up, or of him and the skipper lying in their bunks for a week, both struck down by flu, occasionally struggling out to fill and rig the anchor light while they sweated out their illness. Although then anchored within a mile or two of his father's house ashore, where a warm bed and nourishing food would have been available, there was no relief crew to take over the little Penryn ketch *Lily* then bound for Lydney to load steam coal, and they had to stand by their ship until they recovered the strength to continue the voyage.

Editing of the original text has been kept to a minimum. There are occasional grammatical lapses, and errors of fact (the auxiliary Bolinder diesel engine described on page 108 would have originated in Sweden rather than Holland). Read as a consecutive narrative the book repeats itself from time to time. But literary style is rather less important than the immediacy of the experience described and this shines through the text consistently. Cornish readers will look with particular interest at the chapter devoted to the ketch *Garland Stone*, built at Calstock in 1909 and now preserved at Porthmadog on Cardigan Bay, at references to shipping coal into Hayle and to the schooner *Earl Cairns* now lying bereft of planking as a hulk on the Penryn River. To the author's evocative account of his years in a dying but still-proud trade, the Museum has added an appendix listing dimensions and ownership details of all the vessels in which he served. A second edition would benefit from an index, for this modestly-priced book deserves to become a work of reference as well as a lively and affectionate account of a way of life that ennobled those who had the courage and tenacity to follow it.

JR

* * *

The King of Mid-Cornwall by John Keast
Dyllansow Truran, Redruth, Cornwall Price paperback £4.95
hardback £8.50

It is difficult to summarize adequately a book of some 200 pages in a few words. It is an account in considerable detail of the life and work of Joseph Thomas Treffry (1782-1850).

Though perhaps he will always be thought of in connection with the viaduct over the Luxulyan valley, his activities and developments covered far wider fields. He was engaged in political struggles and in the development of many mining ventures. He made use of water power and the transportation of ore from the mines to ports both on the north and south coasts of Cornwall. He was concerned with coastal shipping, and the development of Par Harbour, the lime trade, smelting and the deli-

very of lead and silver to London. He restored Place at Fowey where he lived with his mother, Mrs. Austen, for at that time he had not changed his surname. In 1838 he became High Sheriff of the County, and by the wish of his grandfather took the name of Treffry.

He developed granite quarries, the stone from which was used for many public and private buildings of importance in Cornwall, and he acquired a fleet of vessels for the carriage of the stone round the coast. He installed machinery for cutting and polishing the granite, and from the Luxulyan quarries came the granite used in building Plymouth breakwater and its lighthouse. The Luxulyan via-aqueduct was constructed between 1839 and 1842 as was the rebuilding of Place. Between 1836 and 1850 he developed Fowey Consols and Par Consols soon followed together with many other mines.

In 1836 he acquired Newquay harbour and built the canal from Pontsmill to Par. There followed the Carmears incline, with its great waterwheel, and with his opening up of nearby china clay pits the tramway was continued to Newquay, where he developed the harbour and built a lighthouse and breakwater at Towan Head. He co-operated with Brunel in building the Cornwall Railway and was honoured with a visit from Queen Victoria and Prince Consort at Place after its restoration. At the time of his death he left large estates in Cornwall, together with mining, shipping, agricultural, railways and many other works of great value.

The book is a mine of information connected with Treffry's works and accomplishments. There are 24 appendices and an extensive bibliography. It lacks, however, sufficient maps illustrating the railways, tramways and canals with which he was involved. The few there are appear indistinct and in some cases lack explanatory legends. It is a pity that in the short introduction alone there should be a typographical and a grammatical error.

MS

The St Ives mining district, Vol 1 by Cyril Noall
Dyllansow Truran (address as for
previous review) Price paperback £4.95
hardback £8.50

One might reasonably ask, why prepare a two-volume publication on the mines of an area already well covered by the late Dr. Hamilton Jenkin in his 'Mines and Miners of Cornwall' series? The answer is simple. Mr. Noall has uncovered a great deal of additional information, using the *Cornish Telegraph* as his principal source of reference, as compared with the *Mining Journal* and generally earlier, more academic, sources used by Dr. Jenkin. The result is generally pleasing though there are times when it becomes almost hard to recognise the same mine from the pens of the two writers!

The author mentions that the editor of the *Cornish Telegraph*, A.C. Wildman, was one of the best mining journalists of the period around 1870. This is borne out by a splendid eye-witness account of an underground visit to East Providence Mine, Carbis at Carbis Bay in 1869: "The engine down on the cliff sent a tremendously long arm, called a flat rod, a furlong up the hill and inland to this shaft, and close to us, in the ladder way eight feet up and down, with a rush and a clank as if fifty giants shook their manacles, the huge pump rods work . . ." Then follows a graphic description of what it was like climbing down 122 fm of ladders and up again " . . . now the weight of the body has to be lifted a foot high, seven hundred and thirty times". The visit ended with the "purser's prescription"—a few grapes and a cup of tea laced with cognac at the account house.

Many of the 70-odd mines covered in the first volume's 116 pages have left scarcely a trace due to latter-day building development, and it is as well that the author has put so much more on record. The price may be considered a little high for a book in A5 format, and the map at the back could with advantage have carried more information, but the book should have strong appeal both to the serious historian and to the tourist.

KB

Tolgus Tin

Tolgus Tin, the local Redruth tourist attraction, has changed hands. It has been sold by Peter Young, owner of Poldark Mining Museum at Wendron, to Kernow Tin, the recently formed mineral extraction company. This has raised the question of the future of the Restowrack engine and other Society relics, a matter which is being pursued by Council but details of which must remain confidential at the present time.

It is likely, however, that the Restowrack engine will go to Wheel Martyn China Clay Museum. Tolgus Tin is still open to visitors.

Brunel atmospheric pump house foundation.

Beside the London-Penzance main line and half hidden by brambles lie the foundations of the atmospheric pump house near the cooling pond at Turf (Grid ref 863963). This view looking west shows the base of some walls, left, and an engine bed in the bushes, right. The house, which contained Maudslay built engines, is illustrated in McDermot's 'History of the Great Western Railway' Vol. 2, page 210.



THE GREAT DAYS OF THE SUBMARINE TELEGRAPH, 11 MARCH

The speaker at the Camborne Community Centre was David Kendall-Carpenter. Formerly vice-principal of the Cable and Wireless College at Porthcurno, Mr Kendall-Carpenter joined the company in 1944 when versatility and ingenuity were essential qualifications, and the need to maintain the service was regarded as paramount.

Overland telegraphy was introduced in the 1840's and the first submarine cable of note was laid across the Channel in 1850. The first Transatlantic cable, laid in 1858, failed because of the use of excessive voltages and mechanical stresses induced during laying. This cable was eventually replaced and then a third successfully laid by 1866.

William Thompson, later Lord Kelvin, experimented with a mirror galvanometer to show that sending high voltages was unnecessary. Acidulated water in a silver thimble produced sufficient voltage to transmit a signal across the Atlantic and back. Thereafter, 50-60v were used instead of several thousand. Originally messages were sent in Morse code and received as deflections of light in the mirror of a galvanometer. This required two receiving operators, one to watch the mirror and call out the code and the other to write. To overcome this problem Kelvin developed an ink recorder.

In 1840, Wheatstone, thinking the Morse code too cumbersome, developed the 'Wheatstone Improved Telegraph' which indicated letters on a dial through a system of ratchets motivated by magnetic impulses. The speaker demonstrated one of these instruments which was actually used across the River Plate in 1866. A more effective instrument was the 'Wheatstone Automatic Transmitter' which could send Morse code at up to 200 words per minute from a prepared paper tape. The tape was punched on a hand perforator machine at a maximum speed of 25 words per minute, which Mr Kendall-Carpenter demonstrated. These machines were in use for over 100 years.

In 1869 the Post Office took over the many small cable companies to form a unified network. One of the first companies to be incorporated laid the first cable into Porthcurno. This was the short-lived Mid-Channel Telegraph Company which had the brilliant idea of a telegraph ship anchored south-west of the Scillies to cable advance notice of shipping arrivals. The venture failed due to lack of support and to the almost constant sea sickness amongst the ship-board telegraph operators.

Marconi's experiments in 1901 at Poldhu caused some consternation amongst the cable companies and in 1902 the Post Office set up an aerial on the cliffs near the Minack to intercept Marconi's signals. This must have been the first 'bug'. Parts of this aerial mast remain.

More cables were brought ashore at Porthcurno until there were eventually fourteen. There were other companies operating in the area including French, US and Cable and Wireless, which incorporated the Eastern Telegraph Company and many others,

had the world's largest international network with well over 200 radio and cable stations.

The speaker produced examples of submarine cables—the earliest example having a copper core covered in gutta percha, brass tape, hemp and galvanised wire. Parts of such a cable laid to Lisbon in 1870 were still in use in 1970. Modern cables have a high-tensile steel core in a copper sheath with plastic insulation and reinforcement, and look rather like a TV co-axial cable. Also demonstrated was the first piece of transistorised equipment used by Cable and Wireless—a search coil receiver developed to trace buried cables and to eliminate the need for valved equipment with lead-acid batteries. In addition to the instruments, many of them beautifully made in lacquered brass and polished mahogany, numerous prints and diagrams were used to illustrate the development of the submarine telegraph.

Porthcurno closed as a cable station in 1970 after 100 years. However, with an unbroken pedigree of 113 years, the Cable and Wireless Engineering College still remains as the main training centre today. In part of the underground accommodation built during the war, Mr Kendall-Carpenter is setting up a Museum of Telegraphy.

WN

News briefs

A rock fall in Robinson's Shaft at the end of January caused some temporary lay-offs and an interruption to South Crofty's production. Repairs were effected as a matter of urgency and the shaft was back in commission after Easter.

Carrick District Council has received £700,000 from the Department of the Environment towards a £1 million scheme to cap nearly 1,000 mineshafts in the Crofthandy, Chacewater and United Downs area. It has been reported that the work will provide jobs for 52 people. There are no signs yet that other Cornish local authorities are about to go shaft-capping mad!

The Institute of Industrial Archaeology has sent us its 1983 programme of courses and lectures at the Ironbridge Gorge Museum, Shropshire. It is sponsored by Birmingham Museum and the Ironbridge Gorge Museum Trust. Interested members may obtain a copy of the programme by writing to the Institute at the Ironbridge Gorge Museum, Ironbridge, Telford TF8 7AW, or by telephoning Ironbridge 3522.

It has been reported that archaeologists from the Institute for Archaeo-metallurgical Studies, attached to London University, are planning to turn the spotlight on Devon and Cornwall. They plan to conduct digs in some of the best-known mining areas before modern developments obscure the sites.

The Trevithick Society for the study of the history of Industry + Technology in Cornwall incorporating The Cornish Engines Preservation Society and The Cornish Waterwheel Preservation Society

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