

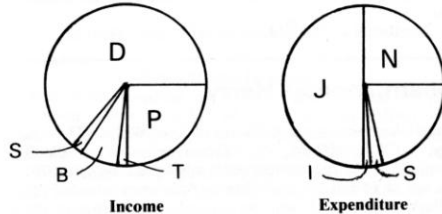
THE TREVITHICK SOCIETY

NEWSLETTER No. 35

Price to non members 30p

NOVEMBER 1981

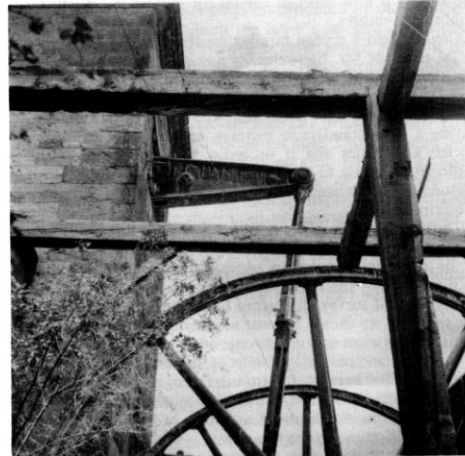
Where your money goes



D - Donations & subs. 63.8%	J - Journal 50.1%
P - Subsidy from public- ations account 24.4%	N - Newsletter 25.1%
T - Tax rebates 2.4%	P - Stationery, printing, postage etc. 18.0%
B - Bank interest 7.0%	S - Sundry (photographs, audit etc.) 4.2%
S - Sundries, sales of ties, postcards etc. 2.4%	I - Insurance 2.6%

The two diagrams prepared by the Treasurer show the proportionate sources of income and expenditure expressed as a percentage of the total in what is considered a typical year — the figures are actually based on the accounts for 1978 and 1979. As inflation has caused costs to rise while the subscription has stayed unchanged, so the percentage of expenditure funded by the sale of publications has also risen, a trend which continued during 1980.

The results of the questionnaire clearly indicate that a large majority of members wish to see the Society's activities expanded rather than cut. The only effective way to increase income is to raise the subscription as agreed at the AGM (see figures on right). This will take the pressure off the publications account so that a greater proportion of the income derived from Mr. Edmonds' highly successful sales drive will be available to fund new publication ventures.



Cornish-built engine in Mexico

Does this rotative beam engine still survive? See story on page 3.

Subscription increases

These increased subscription rates are effective from 1 January 1982:

Single member	£5.50	
Family (man and wife)	}	
Overseas		£7.50
Corporate		

Members who pay by Banker's Order are asked to make the necessary alteration NOW to give the Membership Secretary a Happy New Year!

OFFICERS OF THE SOCIETY

Chairman Rodney Law	Newsletter Editor Kenneth Brown, 5 Chester Court, Chester Road, Northwood, Middlesex. HA6 1BQ Tel: Northwood (092-74) 29575
Secretary Mrs. Mary Smyth, "Coombe Cottage", Callington, Cornwall. PL17 7HJ Tel: Callington (057-93) 3311	Journal Editor The Rev. Dr. R. J. P. Acworth No. 9 The Wharf, Shardlow, Derbyshire. DE7 2GH
Membership Secretary Capt. Michael Tarrant 8 Crossfield Avenue, Coves, Isle of Wight. PO31 8HB Tel: Coves (0983) 293274	Publications Secretary Eric Edmonds, "Newlands", Tarrandean Lane, Perranwell Station, Truro, Cornwall, TR3 7NW Tel: Truro (0872) 863931
Treasurer Marcus Trinick	
Programme Secretary Miss E. M. Rule 3 Treswithian Downs, Camborne, Cornwall TR14 0BX	

IN THIS ISSUE

Editorial	p2
We need more members	p2
Where are they now?	p2
William Thomas Harry	p2
Recording sub-committee formed	p2
Coming events	p2
Cornish-built beam engine in Mexico	p3
Breathless Tales	p3
Tregurtha Downs mine	p3
Tributers	p3
New Sump Shaft, Dolcoath — a re-creation	p4
Dolcoath, Bassets, Grenville field tour	p5
1981 Annual General meeting	p6
News briefs	p6
Correspondence	
Milster timing	p6
Explosives used at Levant	p6
Pen-y-Darren locomotive	p7
Information please!	p7
Book reviews	
A guide to stationary steam engines	p7
Lead mines of the Alyn Valley	p7
Handlist No. 1 — the USA	p7
Society publications	p8

Editorial

Members will read in the short report on the AGM on 26 September that an increase in basic subscription to £5.50 has been agreed. Those who may consider this increase to be too steep are reminded that for some time, the Trevithick subscription has fallen generally below that of comparable societies, the proceeds from sales of publications having been used to keep the Society afloat. As our Treasurer said at the AGM, this is not a good policy for long-term survival because the Society is now short of capital for putting in hand fresh publishing ventures.

Council held a special meeting on the morning before the AGM to study Mr. Stengelhofen's analysis of replies to the questionnaire sent out to members earlier in the year. No fewer than 152 members (out of about 350) took the trouble to respond to the details asked for. Council now sees itself as having a clear mandate to increase, rather than, reduce the Society's activities and if necessary put forward increased subscription levels to meet the cost. Only 3.3 per cent of respondents advocated cutting activities in order to freeze subscriptions.

The main surprise in the results is the heavy preponderance of members who believe the Society should step up its activities in the industrial archaeology scene in Cornwall. No less than 76.6 per cent of the respondents expressed the view that the Society should survey and record buildings and relics, and 73 per cent that we should become actively involved in planning controversies when sites are threatened.

Surveying and recording, whilst undertaken individually by a few members, has not hitherto been recognised as an activity of the Society so Council has appointed a sub-committee to study the question. Members' attention is drawn to a notice regarding this elsewhere on this page.

Whilst the Society wants to increase activities, members are divided as to whether there should be more outings, lectures or social activities, which is perhaps not surprising with half the membership living outside Devon and Cornwall. One suggestion that is to be discussed by Council is to hold a special weekend of visits during August for the benefit of members holidaying in the area, and additional to the outing on the day of the AGM at the end of September. If successful, another special weekend could be arranged in, say, the Spring. Past experience suggests that Society visits to places remote from Cornwall are poorly attended and that local activities timed to attract members from up country are more likely to be successful.

On the question of publications, more than 94 per cent of respondents pronounced themselves satisfied with the Journal and the Newsletter. The numbers willing to contribute, however, particularly to the newsletter, were disappointing. The actual figures are 11.2 per cent willing to contribute to the newsletter and 15.1 per cent the Journal. Copies of the full results of the questionnaire may be obtained by sending a stamped addressed envelope to the Hon. Secretary.

The Society's Journal No. 8 for 1981 was duly published in September and all paid-up members should by now have received copies. Any who have not done so should contact the Membership Secretary immediately. The Journal Editor, Dr. Richard Acworth, would be pleased to hear from members willing to prepare an article for the next issue: his address is on the front page.

Kenneth Brown

WE NEED MORE MEMBERS

The Trevithick Society is anxious to recruit new members in order to improve cash-flow and enable more ambitious activities to be undertaken. Members having friends who may be interested in joining are welcome to pass on their copy of the newsletter; in this event, a replacement copy can be obtained on application to the Newsletter Editor. Members are also reminded that unless otherwise stated, they are welcome to bring visitors to any meeting or visit organised by the Society. All inquiries concerning membership should be addressed to Capt. Michael Tarrant, 8 Crossfield Avenue, Cowes, Isle of Wight PO31 8HB.

Where are they now?

Do any members know the whereabouts of the following members? They are all paying their subs but their mail is being returned as 'Gone Away'. Any information will be welcomed by our Membership Secretary:

- C. J. Blount — Old address, 32 Cherry Tree Drive, Brixton, Plymouth.
 N. E. Chadderton — Old address, 24 St. Michaels road, Ponsanooth, Truro.
 R. W. Humphries — Old address, 32 Palsue Way, Tresillian, Truro.
 P. C. Fitzmaurice — Old address, 5 Lime Avenue, Alton, Hants.
 K. G. Leadbetter — Old address, Sitvel, Garras, Helston.

William Thomas Harry

The death has taken place at the age of 85 of William Thomas Harry, ACSM, MIMM, of "Tremayne", Tolver Place, Penzance. Mr. Harry commenced his mining at Levant in 1910 at the age of 14 and for the following four years attended the Botallack night school, winning an entry scholarship to the Camborne School of Mines. At the outbreak of the First World War, however, he enlisted in the army and served 5 years in Mesopotamia and India, being demobbed with the rank of Captain. Returning home in 1919 Mr. Harry took his place at Camborne CSM until 1922, gaining a first class diploma in Mining and Metallurgy. His travels then took him to the goldfields of Ontario and Quebec, and to Venezuela, also Rhodesia, followed by several managerial appointments in Malaya and Siam. His knowledge and advice were readily available to those in the mining profession, and his death has meant a sad loss to Cornwall and metalliferous mining.

Editor's note: Although not a member of the Society Mr. Harry always spent much time in reading the articles, reports and accounts of earlier Cornish mining according to his brother, H. Harry, who submitted this note. It is published because of its interest to members who knew him.

Recording sub-committee formed

At a special meeting on 25 September in response to the questionnaire, Council appointed a sub-committee "to consider what recording in the field is being done in Cornwall, to look at what other societies are doing, and to recommend what this Society should do, and how such work should be undertaken". It was also felt that where demolition of industrial buildings or sites was imminent, a small group of members should be available to undertake surveys, drawings, photographs, etc. at short notice. Would any members interested, and living in Cornwall, please send their names to the Hon. Secretary.

Coming Events

- 20 Nov. 1981 J. H. Trounson MBE on "The Great Flat Lode District". Ambulance Hall, Redruth, 7.30 p.m.
 22 Jan. 1982 Justin Brooke on "Historical Research: Sources and Methods". Lecture Theatre, Camborne School of Mines (on the campus of Cornwall Technical College, Pool) 7.30 p.m.
 16 March 1982 Joint Meeting with Carn Brea Mining Society. Percy Bonds on "Child Employment in Cornish Mining". Illogan County Primary School, 7.00 p.m.
 15 May 1982 Field Trip to East Cornwall.
 7 Aug. 1982 Field Trip to St. Ives Consols.
 Sept. 1982 AGM (date to be fixed) Mr. Ross Pilkington, "Perran Iron Lode" with the field trip on the Saturday.

Cornish built beam engine in Mexico

These photographs of a rotative beam engine in the patio of the mine manager's residence at Fresnillo, Zacatecas, Mexico, were taken by Alan Probert in April 1950 and sent to the late W. Tregoning Hooper. It is thought to have been one of a pair of 60-inch pumping engines supplied from Cornwall in 1836 and subsequently converted to rotative engines to operate milling machinery for treating the silver ores of Fresnillo. It worked until the early 1900s and is probably still in existence.

According to J. S. Carswell of Mexico City, writing to Tregoning Hooper some years later, the engines were originally installed about a mile from the present site to drain the Belena and Bolanos workings. About 1842 they became inadequate due to the workings having been sunk deeper and were replaced by two 80-inch engines. Around 1846 the original engines were moved to 'Hacienda of Proano'. Conversion to rotative engines was done by ordering crankshafts, flywheels, sweep rods and gearing from England to enable them to drive the rudimentary milling equipment then in use.

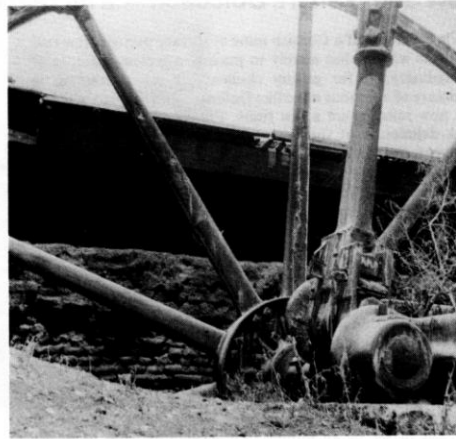
Carswell gave some dimensions: cylinder diameter 34½ in, (believed converted from 60 in with the introduction of Cornish boilers in 1860-75); stroke 8ft 6in; flywheels (two) dia 34ft 6in and rim cross-section 9 by 9in. When he measured the engines there were two surviving though Mr. Probert's photographs only show one. Carswell described the valve gear as 'somewhat disconnected'.

Due to the problems of overland transport from the port of Tampico, the sweep rods and flywheels were supplied as small parts and built up in situ. The joint in the cast iron sweep rod can clearly be seen. Each flywheel rim is in ten sectors which are held together by 'shrunk links' and the ten spokes are bolted to the hub and gibbed and keyed to the rim. A 'drag link' was interposed between the crankpin carrying the end of the sweep rod and the opposite crankpin, resulting in a 15 degree angle between the cranks.

The engine photographed by Mr. Probert is in a house adjacent to manager's residence with the cylinder still in position behind a partition in a space used for storage. Other photographs show a typical Cornish air pump and feed pole worked by rods but not, apparently from the main beam. No tie rods appear in photographs of the bob wall so it is probable the engine was single acting.

Any member visiting the area is asked to see if more information can be gleaned about this interesting survival.

*Photos: Front page, general view.
Left top, cranks showing drag link.*



Tregurtha Downs Mine

Marcus Trinick's excellent article on Tregurtha Downs Mine in the 1981 Journal (No 8) omits reference to an important surviving relic of the ill-fated proposed reworking in the 1920s.

I refer of course to the part-built pumping engine house at Wheal Hampton, at the east end of the Rodney sett and about half a mile west of Tregurtha, which reached about three-quarters of its height before the project came to grief. Now covered with ivy, the house will nevertheless become an interesting landmark to users of the new Marazion bypass when it opens to traffic next year.

Since the architecture appears identical to that of Tregurtha Downs, this house must be added to the list of those provided with slit windows, and also the house of Pascoe's 80-inch engine still standing on the South Frances section of Basset Mines. This makes five that are known — there may have been others.

According to Mr. J. H. Trounson, two 'upcountry-built' Cornish engines believed to have had 80-inch diameter cylinders arrived in Cornwall for the Tregurtha re-working. One, together with a winding engine, lay around the site at Hampton in pieces for some years before being broken up. A decorative cast-iron lintel for the plug doorway of the house came down with the engine, was built into the house and may still be seen.

The other 80 never got further than Marazion station. It was intended to erect this in the present enginehouse at Tregurtha in place of Robinson's 80 but apparently some mistake was made over the strokes and hence centres of the bob and it would have been very difficult to install the engine as planned.

The two 80's are reputed to have come from North Wales and any further information on them would be welcome.

Kenneth Brown

Breathless tales

Another in this series from Justin Brooke

A certain well-known mine not many miles from Camborne or Redruth had been paying dividends for a time. Then the values went right out of the main lode, and the manager, the pursuer and the underground agents became secretly very apprehensive. As the pursuer entered the count-house one morning he found the manager (who happened also to be his brother-in-law and great friend) waiting excitedly for him.

"What's up, Cappen?" says he.

"What's up?" says Cappen, "Pusser, be it true what I eer that theeve be in Redruth last night and ben buyin up a passel of our own sheers what come on the market, and in such times as this too?"

"Well, Cappen, yes I bot the sheers you mention."

"Im off, I'm off," says Cappen, "Send the boy for my ponyjingle at once."

"Why, where ee off to Cappen" says Purser.

"Off to" says he. "I be off to Redruth to buy thy wife a gun to shoot thee with thou durned fool, buyin sheers in our bal. "Tes gun or sylum for thee, choose, choose, man, thee's a disgrace to this bal."

Tributers

The following entry appears inside the front cover of the annotated edition of Collins, 1912, presented by the late Dr. A. K. Hamilton Jenkin to the Redruth Public Library (writes Justin Brooke):

Then down went all the tributers
Upon the ladder road,
And with us went the temberers
To keep the place abroad;
And in we went upon the stopes
And each to work his pitch.
Aw, they was braave an handsome days
When the bal was cutting rich.

Anon.

New Sump Shaft, Dolcoath — a recreation

by Clive Carter

Making a model of a Cornish mine at surface presents few real problems when it has merely to portray a typical example of the industry. A far greater challenge is the re-creation in miniature of a famous mine like Dolcoath, the more so when all that now remains are a few ruins. Plans and maps provide a bleak delineation of surface works, but rarely do they reveal just when the south whim was re-roofed, or how many planks were nailed across the hole in the 'landers' hut. Nor can these vital details be discovered by meditating amongst the brambles and rubbish; the only recourse is old drawings, paintings and photographs.

The first two are very suspect. Artistic licence coupled with lack of knowledge have produced some very bizarre impressions. Similarly photographs have their drawbacks as contemporary photographers often chose the same view point, scenically pleasing but infuriating when trying to discover just what was the brick shed behind the steam whim.

There is also the problem of re-creating in a model the Cornish miners' genius for improvisation both above and below 'grass'. Engine houses, headgears, shear legs and dressing floors were erected by men whose lack of theoretical skill was offset by an intimate knowledge of what could be done with timber, iron and stone. Their methods left an indelible mark on the mining landscape; old borers and chisels sledged home to true up granite quoins, ship's timbers sawn up to make lintels and bridges and the inevitable boilerplate culverts and pump column roof supports.

The heart of Dolcoath lies in the five acres which embraced the main shafts, New Sump, Old Sump and New East. The complex altered considerably during the life of the mine, but 1908 proved the best year in which to base a model as by then Dolcoath epitomised all that was old and new in Cornish mining.

Centrally stood New Sump engine house whose walls were full of copper slag blocks from the smelter erected by Sampson Swaine on Entral Moor in the 1750's. These blocks were an architectural feature all around Dolcoath; many were built into the eastern end of the counthouse, and, as late as 1888 more went into the walls of the new 'dry' beside Wheal Harriet. New Sump house was low and sunk into the ground, the consequence of having been built to take an inverted engine, and was unusual in having a four-tier square section chimney stack, again mostly built of slag blocks. The boiler house was equally ancient with five 10 ton boilers under the low-eaved scantle roof, which was partly rebuilt over the decades when the smithy, engineers' shop and wagon house were added to the jumble of buildings.

In 1815-16 New Sump engine house was somewhat altered to accommodate the celebrated 76-inch engine, erected by James Gribble and Richard Jeffry, Dolcoath's resident engineers who took over the mine after Trevithick's departure. The 25-ton bob was cast at Perran Foundry but the cylinder was supplied by the Fox family's other venture, the Neath Abbey Iron Works. Other parts were fashioned on the mine. There was some comment on the cost of the bob, whose pattern alone cost £19.

Pumping from nearly 200 fathoms, the 76 soon proved the engineers' capabilities with a consistently high duty in excess of 40 millions. The surface layout of New Sump shaft was first shown in 'Cornwall Illustrated' of 1830, though the engraving owes much to the romantic attitudes of the artist. The engine house is too tall and narrow but well displayed are the enormous shear legs of Baltic pine baulks, secured by great iron bolts whose threads were certainly hand cut by hammer and cold chisel in the Dolcoath smithy. Various bal maidens and miners are artistically sprinkled about the foreground.

The temptation to model New Sump shaft at this period is still very great, but, there were to be more fascinating and radical changes. After fifty years of valiant service the 76 could no longer adequately manage the weight of pitwork that resulted from the ever deepening shaft. By the mid-sixties New Sump was over 300 fathoms and during a succession of wild and wet winters the engine barely kept the bottoms in fork. An 85 was ordered from Perran Foundry, but Captain Josiah Thomas, one of the first Cornishmen with a realisation

of the importance of preserving the mining past, was very reluctant to see the historic old engine broken up. It is said that he offered her to the British Museum at scrap price but his gesture came to nothing, probably because of the cost of transport and reassembly. Also her piece-by-piece removal would have stopped pumping and caused flooding.

The 76 was ripped out in day, leaving her old bob in place (see footnote). Beneath it the new 85 was erected and began her long career nine days later, on 23 September 1869. The weather stayed dry during the changeover and the bottoms were hardly affected by water. Captain Thomas reported that the operation had been achieved without hindrance or accident and was very enthusiastic that the mine now had "no lack of engine power to draw up the water if they sank another 100 fathoms deeper (cheers)."

To accommodate the new engine there was considerable alteration in New Sump house; the bob wall strengthened and a large window bricked up. There was no room for the interior flights of stairs, and these were rebuilt inside an octagonal extension built against the rear wall; incidentally blocking the cylinder door completely. Despite its humble purpose the extension had handsome arched windows in the upper storey and very ornate guttering; indeed the whole edifice had more of the flavour of Leadville or Jo'burg than any Cornish mine.

There were no more alterations at New Sump engine house until a common enough accident befell the bob of the 85. At 5 am on 25 July 1891, the engineman ran up the extension stairs to investigate a strange creaking sound and discovered a narrow crack in one side near the gudgeon. The 85 was stopped and an urgent telegraph sent to Loam & Sons of Liskeard. They recommended that the bob be patched and bridled, and next day moulders and fitters from Bartles of Carn Brea and Tuckingmill Foundry began work.

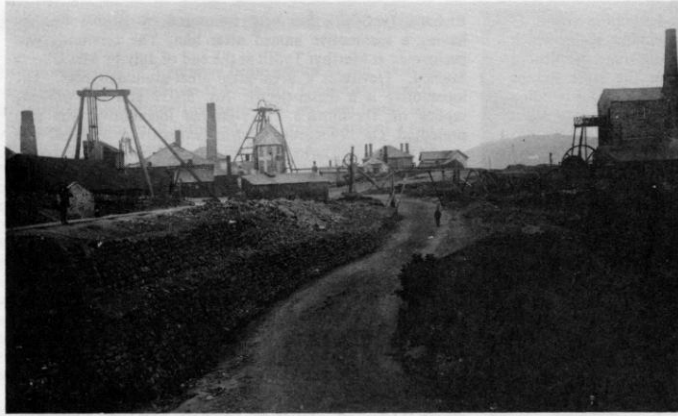
Pumping ceased for the next three weeks and New Sump Shaft was drowned to the 388 fm level. While the bridling of the 85's bob was carried out, Dolcoath masons and carpenters, working at no little speed, re-roofed the engine house, raising the wing walls and back wall by eight feet, and built a wooden clapboard extension out onto the bob plats to accommodate the forward swing of the kingpost.

Other changes took place around the engine, particularly in the period that followed Dolcoath's conversion from cost book to limited liability in 1895. Captain R. Arthur Thomas who succeeded his illustrious father, had spent much of his time on the Rand and was a firm convert to fast 2-cylinder high-pressure winders, straight shafts and cages. The famous Williams Shaft was begun and Valley shaft re-equipped with a horizontal winder. New Sump Shaft was next to be modernised. In the spring of 1896, the old wooden shear legs and headgear were demolished and replaced by a shears of rivetted girders and a steep tripod headgear of the type favoured by collieries. The north steam whim which for decades had wound from both New Sump and New East was superseded by a 16-inch 2-cylinder steam winder, which originally worked on Wheal Cock cliff shaft, and had been bought from the liquidators of Botallack for £400.

The new layout was finished by the middle of July and balanced skips worked by the new winder ran in both shafts; Captain Thomas reported that 'New Sump Shaft now presents a very different appearance to what it was not many months ago'; within another twelve months Wheal Harriet was to undergo similar treatment and receive an identical headgear.

Some of the best photographs of New Sump shaft were taken at this period; the old headgear lies strewn about the shaft mouth and engineers are high up in the steelwork, rigging the big colliery type winding wheel, but the photographer used a primitive wide lens which badly distorted distances and gave the scene a spaciousness it does not possess.

A rock breaker was erected in August 1899 close to the New Sump winder and was connected to the skip dumping plat by a trestle bridge along which were pushed loaded trams. The nearby stamping floors were also reorganised and in August 1902 the Dolcoath Committee ordered a mile and a quarter of 22-inch gauge railway track and a small German locomotive. This line ultimately ran from Stray Park into



Area around New Sump Shaft looking east across Pengegon Road showing, left to right: Tramway embankment, stack for vertical air compressor, Old Sump headgear, stepped stack for New Sump engine, New Sump engine and headgear showing extension at rear of house and, extreme right Old Sump whim.

Wheal Harriet and on to New Sump Shaft, where a wooden trestled ramp was built up to the skip plat to allow loaded trams to descend by gravity and join the train of wagons bound for the stamping floors. The task of laying the track, and building the once well-known embankment and bridge over the road to Pengegon was accelerated by the fire in New Sump shaft in January 1903 when miners unable to go underground were transferred to rail laying gangs.

Patched and bridled, the 85 worked on until replaced by electric pumps in 1912 and in these last years there were frequent mentions of her 'antiquity'. In 1907 members of the Polytechnic Society learned that she had been erected in the days of Trevithick and Woolf, and the 'Mining World' later enthusiastically added that she had been pumping "since the Duke of Wellington and Napoleon Bonaparte were settling differences on the Plains of Waterloo".

The electric pumps took over from the 85 in the last week of August 1912 and controversy over the engine's antiquity erupted into print. The 'Mining World' said that since the date 1815 was on the bob it naturally had been pumping for a century. This was challenged by the 'Cornubian' newspaper which published an interview with an old engineer who had helped erect the 85 in 1869 and he implied the old bob had been left on the bob wall. In 1928 bits of the 85 still lay near New Sump shaft; in 1938 parts of the bob were evidently at South Crofty and now lie at East Pool. The 'Mining World' had an appropriate if callous epitaph for the 85, 'its end was pieces'. However in the coming winter New Sump Shaft will

regain some of its past glory albeit on a 1/30th scale. Can any member say whether a cage and trams ever replaced ships in New Sump and New East shafts?

Editor's footnote The arguments which went on for years over whether or not the bob of the original 76-inch engine was retained in the new 85 arose due to a slip of the pen in Burrows' "Mongst Mines and Miners". He stated that the bob bore the lettering "Williams Perran Foundry 1815" whereas in fact the inscription was "Perran Foundry 1815" (note misspelling), as can be seen from a photograph of the engine being demolished.

As the Williams family did not take over Perran Foundry until 1858, the mistake made people think the bob was new in 1869, despite its old-fashioned profile as may readily be seen from the surviving fragments. To resolve the matter, the late Treve Holman when chairman of the CEPS had a piece of the bob analysed and photomicrographs made. When they were compared with modern cast iron, the structure of the old bob was found to be quite different and typical of the cold blast iron used early in the 19th century. In any case, had the bobs been changed it would have taken the men much longer than nine days before putting the new engine to work.

By 1869, Perran Foundry had adopted a distinctive profile for its engine bobs which may be seen on drawings of the Cathole (Mold) and New Bowson 85-inch engines built 1868-9 held in the Society's drawings collection in County Record Office. It was nothing like New Sump bob.

Dolcoath, Bassets, Grenville field tour

On the Saturday of the AGM, a full coach of more than 50 members attended Jack Trounson's guided tour of Dolcoath, the Basset Mines and Wheal Grenville. First stop was New East Shaft, Dolcoath and here our guide pointed out such features as Valley Shaft, the Californian stamps and the enginehouses of Old Cooks Kitchen to the east and the site of Dolcoath's smithy down in the valley where parts of Trevithick's 1801 loco were reputedly made. The party was also shown the enginehouse on the hillside to the south which contained Morgan's famous traversing winding engine, built by Holman Brothers and not an entire success until fitted with larger cylinders.

Then the party walked to the site of New Sump shaft, now marked by a vent pipe since the shaft has been capped and tipped on. Mr. Trounson produced photographs showing the old 85-inch engine rebuilt in 1869 from a 76-inch of 1816 which worked here until 1912 when its duties were taken over by electric pumps in Williams' shaft; also of the twin cylinder inverted vertical compressor engine whose house still stands nearby.

Next stop was a little way to the west where the house of Harriet's 65-inch pumping engine was admired; but not too closely since the shaft collar shows signs of caving in. Mr.

Trounson pointed out the site of Harriet's whim, a horizontal engine built by Worsley Mesnes of Wigan and used with a single drum. When moved to the New Roskear Shaft it was fitted with a second drum, and was finally the subject of an abortive preservation scheme whereby only half the engine was recovered and sent north. The nearby miner's changing house or 'dry', now owned by Cornwall Technical College, was in its day one of the showpieces of Dolcoath. Man-Engine Shaft nearby is no longer traceable.

From here the coach threaded its way up to a point close to Wheal Buller Engine Shaft (off the road to Four Lanes) which gave a commanding panorama of the Wheal Basset and North Basset parts of the Basset Mines sett. Prominent features are the tall stacks of Cornwall's last smelting works, the twin stamps enginehouse, the count house now a restaurant, the houses of Lyle's 80-inch pumping engine and of its beam whim, the house of the horizontal engine on Miner's Shaft which was altered to pull from Lyle's with a long line of pulley stands, and the 40-inch New Stamps enginehouse on the south slope of Carn Brea. Mr. Trounson explained the lie of the Great Flat Lode on which the mines south of Carn Brea worked for many years, which raises the strong possibility of future prospects at Wheal Uny.

Next move was to the South Francis part of the sett where

the house of the famous Davey compound pumping engine, its boilerhouse and that of the conical drum winding engine which were installed at the turn of the century still stand in splendid condition. Mr. Trounson explained that the large dumps which formerly stood here were largely used as fill for building the new Camborne-Scorrier bypass. The bob wall of West Basset 60-inch, and the houses of Pascoe's 80-inch (which suffered a smash in 1917, a year before the mine closed, and had to be entirely rebuilt) and Pascoe's whim were pointed out, as were the sites of Grenville's 70-inch engine and Bassett Old Stamps to the north of the Marriott's complex.

Last move was to Wheal Grenville where the coach stopped close to the house of Fortescue's 90-inch pumping engine. This later went to Cook's Shaft at South Crofty and ended up with a broken bob in 1950. Mr. Trounson showed photographs of damage done to Fortescue's enginehouse by a lightning strike which brought down part of the stack, also of the men lifting in the new bob of Goold's 80-inch engine just along the road which broke its bob and had a new one cast by Holmans in 1906. New Stamps enginehouse which dates from 1900 was one of many in the area which lost part of its stack in the severe gales of two years ago, while the base of the house of old stamps engine, close to the back of Grenville's bus garage, was only recently cleared leaving just the four holding down bolts sticking out of the ground.

Members agreed that this was one of the most interesting field trips ever undertaken, due in large measure to Mr. Trounson's graphic descriptions of engines, events and personalities.

1981 Annual General Meeting

The Chairman's address covered the results of the questionnaire and the setting up of a sub-committee to deal with the matter of survey and recording of historical relics in Cornwall — see page 2. A proposal to increase the basic subscription to £5.50 was put to the meeting and carried. Substance of the Treasurer's report appears on the front page of this newsletter.

The office of President of the Society, previously vacant, was offered to Jack Trounson, who graciously accepted. Council members retiring by rotation were re-elected en bloc these being Messrs. Bullen, Earl and Edmonds. Full minutes of the meeting, held on 25 September, will appear in the August 1982 newsletter.

News briefs

Apart from one small area, Hayle power station has been demolished. The two chimneys were blown up in June, the button pushing being done by a St. Ives man who had won a draw.

Geevor has won planning permission for reopening Allen's Shaft at Botallack as part of a long-term plan to develop deep tin lodes under the sea. Last used in 1914, the shaft is about 250 fathoms deep and has been recollared. The house which contained the Holman-built winding engine (later to East Pool) has been demolished and the steel headgear formerly at Clemow's Shaft at Wheal Jane is awaiting erection. A new winding house, a compressor house and two workshops are to be built.

South-West Consolidated Minerals' £15 million plans for reopening Redmoor Mine, near Callington, have been approved and a new shaft will be sunk. The 80-inch enginehouse from the 1882-94 working will probably be demolished. South Crofty has announced a £5.77 million development plan to boost output.

The Dean of Truro unveiled a plaque on Truro Station in July; it commemorates the record-breaking run of the locomotive "City of Truro" in 1904 when a speed in excess of 100mph was recorded while descending Wellington Bank with an Up ocean liner express. The Society was represented at the ceremony.

Richard Trevithick has been honoured by British Rail by having a locomotive named after him. The ceremony was performed at Merthyr Tydfil at the end of July by Mrs Cherry Michell, Trevithick's great-great-granddaughter. The locomotive is a diesel-electric No. 56037 and the working replica of Trevithick's Pen-y-Darren locomotive was also presented. On 19 October electric locomotive No. 86247 was named 'Abraham Darby' at Euston by the famous ironmaster's descendant Lady Labouchere, who is also president of the Ironbridge Gorge Museum.

Correspondence

Gentlemen,

Milster timing

Have just (28 September) received the August issue of the Newsletter I hasten to respond to the scurrilous statements by the Editor in writing about his American trip! I quote from the end of paragraph 1, column 2 page 10 ... "typical Milster timing." I protest, gentlemen, I protest. This from a man who drops visitors off at Birmingham New Street Station to catch what is for them the last train of the day just as the station clock hands indicate departure time! I must, in candour, admit that after the train had left he asked a fourth member of the group to "Just pop round the barrier and see if they are still on the platform!"

He comments adversely on New York traffic and yet this same individual has attempted to break the sound barrier with a four wheeled vehicle while tunnelling through back lanes in Devon!

I submit that this rogue should be labelled with a sign that follows:

"H.M. Health Office Warns That Ken Brown Can Be Dangerous to Your Health!"

But we shall be revenged upon him! When next he stays at the 'Cat and Whistle' (steam, of course. The whistle, not the cat!) otherwise known as the Milster residence. No more English Breakfast! No Sally Lunn! No scones! Instead a bowl of typical American tooth rotting sugar coated cereal and *American* style tea!

Further, his schedule shall be so arranged that he experiences the Long Island Expressway (known as the world's longest parking lot) in *RUSH HOUR!* BE WARNED, SIR!

Yours sincerely,
Steamed-up member
Brooklyn
New York, USA.

Editor's note: Readers should understand that the Birmingham New Street incident was due to delay caused by an attack of chocolate gateau — a disease unknown in the USA, apparently — which occurred in a roadside restaurant en route back from Ironbridge Gorge. The concept of using York as a setting-off point for a day trip to Ironbridge was another contributory factor — Penzance would have been easier!

* * *

Dear Editor

Explosives used at Levant

The Trevithick Newsletter breathes new vigour since your takeover — long may these efforts continue!

May I make a comment regarding the fascinating account of an underground visit to Levant by Frank Allum in 1887, published in the May Newsletter (No. 33)? My interest is in the author's remarks on the explosives in use there. On looking through lists of "Authorised Explosives" (that is, explosives allowed by H.M. Inspector of Explosives to be made or imported and used in Britain), I can find no mention of "No. 1 Atlas" although there was "No. 1 Dynamite" — the original dynamite mixture.

However Atlas explosives, with various grade letters were popular in America at that time. These were active base dynamites, made by Du Pont at Reparan. Could it be that the

miner whose work Mr. Allum saw had worked in America and returned to Cornwall where he had confused the names? If so, it is a good example of the mobility of the Cornish miner of the period.

The 'chocolate colour' description in the article is typical of No. 1 Dynamite. If anyone has noted the use of an Atlas dynamite legally in mining, I would be interested to hear.

Yours sincerely,
Bryan Earl,
'Heathercliffe'
Sennen,
Penzance TR19 7AX.

* * *

Dear Editor

Pen-y-Darren locomotive

A brief note prompted by an incorrect statement by your Chairman in Newsletter No. 34. In his account of the Pen-y-Darren Locomotive Replica he states that "The working drawings ... prepared ... by the National Coal Board ...". Not so. The design was prepared by yours truly, in the name of Locomotion Enterprises (see 'The Pen-y-Darren Locomotive', by Dr. Stuart Owen-Jones, p 25, para 3). The NCB introduced detail modifications to suit the available manufacturing resources, the principal one being the substitution of a flat end in place of the 'dished' boiler end.

Also, the reproduction (rather than replica) made three return trips along the plateway, not just one. I reported two return trips in my report to the Newsletter of the Friends of the National Railway Museum, but in fact it was 2.95! Anyway, apart from that, congratulations on the newsletters as a whole. I enjoy receiving them and only regret that I'm too far away to take an active interest in the Society's affairs; and can't manage this year's AGM.

Yours etc.
Michael Satow,
'Tanglewood',
50 Church Lane,
Ormsby
Cleveland TS7 9AU.

Note: Some letters have been held over due to lack of space.

Information please!

Dr. Richard Acworth writes: A friend of mine possesses a penny token of the early 19th century. It is of excellent workmanship, and is inscribed on one side *Tavistock Penny Token*, the words surrounding the three-feather arms of the Price of Wales; on the other side it says *Devon Mines 1811*, surrounding a fine engraving of a waterwheel driving a pump with balance bob, with mine shears and in the background a smoking chimney. The whole scene is represented as being in a valley, with trees or bushes in the foreground. Do any of our members have information as to who or what company issued the tokens? The date, when John Taylor was living at Tavistock, managing Wheal Friendship, driving the tunnel of the Tavistock Canal and developing Wheal Crebor, suggests that he may have been responsible, but I should be very grateful if anyone could let me have any definite information about it. My address is: 9 The Wharf, Shardlow, Derby DE7 2GH.

Book Reviews

A Guide to Stationary Steam Engines by Geoffrey Hayes. Moorland Publishing Co, 9-11 Station Street, Ashbourne, Derbyshire DE6 1DZ. £7.50 hardback, £4.95 paperback.

One of the problems with producing any book with the title 'Guide to' is that readers expect to find it comprehensive. Yet the first thing one finds with this book is that engines which are working commercially, or have until recently like the preserved

triples at Kempton Park, are absent! A problem for the author is that a book like this imposes a tremendous workload in checking and cross-checking a mass of facts, first in MSS and again when the printers have had a go at it. The result is likely to be a less than perfect production despite his best endeavours.

The publisher's claim that the book is the first to give details of virtually all the preserved stationary engines in Britain which can be viewed by the public is probably correct. For most engines, far more particulars are given than in the Stationary Steam Engines checklist produced by our member Colin Bowden. But while in the latter's list any engine can readily be located, the alphabetical arrangement by name of installation in conjunction with a status classification adopted in the Moorland book is confusing and demands some prior knowledge by the searcher.

There are several slips in reference to Cornish engines. The worst is probably in the diagram on page 7 which omits the important anchor links in the parallel motion; it also misleadingly shows this on both ends of the beam in conjunction with a wooden pump rod disappearing down and shaft. However for its sheer mass of facts and photographs, the book will deservedly find a place on the shelves of the growing body of devotees of 'steam engines which don't move'. It is to be hoped that amendment sheets will be printed to tidy up a few errors and keep up to date with situation changes.

KMB

The Lead Mines of the Alyn Valley by C. J. Williams. Flintshire Historical Society, c/o Clywd Record Office, The Old Rectory, Hawarden, Deeside, Clwyd CH5 3NR. £1.30 plus 24p postage.

This is a valuable study of the mines of the Alyn Valley, which lies to the west of Mold in Clwyd, North Wales (formerly Flintshire). It is an account mainly of the 18th and 19th centuries, but it includes a backward glance at earlier mining and brings the story up to the present day, when mining continued at Rhydymwyn. The account is excellently illustrated with maps, and includes black and white reproductions of water-colour paintings of some of the mines, — an unusual but attractive feature already seen in the same author's 'Metal Mines of North Wales' (Charter Press, Rhuddlan, Clwyd, 1980 — price £2.75). 'The Lead Mines of the Alyn Valley' reproduces pp. 51-87 of the 1979-80 issue of the Flintshire Historical Society Journal, and is a model of what such a monograph should be.

RA

Handlist No. 1 — The USA, Maps, Letters, Diaries

Cornwall Record Office, County Hall, Truro, Co. wall TR1 3AY. £1.50 including packing & postage (£2 overseas).

As part of the CRO's contribution to International Archives Week in November 1979, it was decided to provide handlists of documents held by the Record Office but which were primarily concerned with other countries. The first, now published, concerns the USA. It contains more than 30 A4 pages of extracts from letters and notes written by eminent people who visited the country in the days when travelling was much more of an adventure than it is now.

The most detailed entries are the letters of Francis Howell, the diary of A. P. Pendarves-Vivian and the letters of Wellyn Twite. Howell served in the governor-general's office in Canada 1843-5 and made extensive journeys into the USA. Pendarves-Vivian was a distinguished public figure in Cornwall and Glamorgan who visited America on a 'hunting trip' to the mountains west of Denver in 1877-8.

Wellyn (or Harold Llewellyn) Twite was a graduate of the Royal School of Mines who worked as a young man in the mines of Arizona, Colorado and Mexico between 1901 and 1903. His weekly letters to his parents at St. Agnes include many pearls of information, mainly about mining.

As providing an insight into life in America 100 and more years ago, besides being entertaining, the handlist must have a wide appeal, especially considering its modest price. Copies must be ordered from the address above.

KMB

TREVITHICK SOCIETY PUBLICATIONS

Obtainable from E. W. A. Edmonds, "Newlands", Tarrandean Lane, Perranwell Station, TRURO, Cornwall TR3 7NW. Tel: 0872-863931

JOURNAL OF THE TREVITHICK SOCIETY

(All 240 by 180 mm with illustrations)

- No. 1. Includes articles on: Richard Trevithick's place in Engineering History, Bodmin and Wadebridge Railway; Wheal Guskus; The Redruth to Penzance Turnpike Roads; The Liskeard and Looe Canal. £1.25 plus 40p postage. 1973
- No. 2. Includes articles on: History of Camborne School of Mines; The West of England Bacon Co.; The Early Years of Richard Trevithick; Blowing Houses and Smelting Works of St. Agnes and Redruth. £1.25 plus 40p postage. 1974
- No. 3. Includes articles on: Richard Trevithick, some unpublished contemporary documents; Iron in the Cornish Industrial Revolution; The Cornish Beam Engine and Patent Law; Notes on Cornish Industrial Literature. £1.25 plus 40p postage. 1975
- No. 4. Includes articles on: The Hornblower Family; Brea Adit Works, Camborne; A Glimpse of the Cornish Mineral Industry in 1873. £1.25 plus 40p postage. 1976
- No. 5. Includes articles on: Richard Trevithick in Costa Rica; Some Lesser Known Cornish Engineers; The Hornblower Family; Early Cornish Mineral Railways; The Cornish Metal Co. £1.50 plus 40p postage. 1977
- No. 6. Includes articles on: The Cornish Copper Co.; Ore Dressing in Cornwall; Humphrey Davy and the Cornish Contribution to the Industrial Revolution; Holman T100 Gas Turbine Air Compressor; Wheal Owles Disaster; Liskeard & Caradon Railway; Industrial Housing in Cornwall. £1.50 plus 40p postage. 1978
- No. 7. Includes articles on: Engineering Marvels, highlights of Jack Trounson's tour of Britain in 1938; Introduction of the Plunger Pole or Force Pump; Angarrack Smelting House; The Cornish Copper Co. 1693-7; Cornwall Newspapers 18th and 19th Centuries; South Wheal Francis and West Wheal Basset Boundary Litigation; Richard Trevithick as the inventor of Containerisation for Ships. £3.00 plus 40p postage. 1979-80 (pub 1980)
- No. 8. Contains articles on Tregurtha Downs Mine, Marazion; Introduction of the Trevithick Steam Engine to North Staffordshire; Mineral Statistics of the United Kingdom; Man Engines in Cornwall; Diesel Engine Development in Penzance; Cornish Engineering Letters relating to Richard Trevithick & others, and The Cornish Gauge and J & F Pool. £3.00 plus 30p postage. 1981

SPECIAL OFFER TO MEMBERS. Any four or more copies of Nos 1 to 7 at 33 1/3% discount on above prices, plus postage & packing extra — 4 Journals £1.30; 5, 6 or 7 Journals £1.65.

OTHER PUBLICATIONS

CORNISH EXPLOSIVES — by BRYAN EARL

A detailed history of the manufacture of explosives in Cornwall with illustrations. 240 by 185 mm hardback. £8.50 plus £1.60 packing and postage.

INDUSTRIES OF PENZANCE — by PETER LAWS

Illustrated, 150 by 200 mm, 48pp. £1.25 plus 19p postage.

CORNWALL NEWSPAPERS, 18th & 19th CENTURIES — by NIGEL TANGYE

Lists over a hundred newspapers. 175 by 250mm. £1.25 plus 16p postage.

DOLCOATH, QUEEN OF CORNISH MINES — by T. R. HARRIS

The first published history of probably the most famous of all Cornish Mines from its beginnings in 1790 to its final closure, and attempted revival. A5 (210 by 147 mm) 108pp with illustrations and plan. £1.25 plus 30p postage.

SIR GOLDSWORTHY GURNEY, 1793-1875 — by T. R. HARRIS

Biography of the Cornish inventor, best remembered for his steam carriage. Published to commemorate the centenary of his death. A5 (210 by 147 mm) 100pp with illustrations. £1.00 plus 30p postage.

ASSOCIATION FOR INDUSTRIAL ARCHAEOLOGY, Tour Notes for 1978 Conference, Penzance.

Illustrated, 32pp. 210 by 290mm and £1.50 plus 21p postage. Only a few left.

NEWSLETTERS OF THE TREVITHICK SOCIETY

Individual copies of some, but not all, newsletters are still available. Send 25p in stamps for any copy required; if not in stock, stamps will be returned.

BOUND SET OF NEWSLETTERS

Volume II, 1975-77. £3.00 plus 50p postage. Only 30 copies.

INDUSTRIAL HOUSING IN THE TIN & COPPER MINING AREAS OF CORNWALL, LATER 18th & 19th CENTURIES

Reprint of lecture by Veronica Chesher in Newsletter No. 23 November 1978. Illustrated, 24pp, 210 by 290 mm. £2.00 plus 25p postage. Only 25 copies.

REPRINT SERIES

AN ACCOUNT OF WRECKS — by JOHN BRAY

Compiled at the request of R. S. Hawker and edited by the late A. K. Hamilton Jenkin, many aspects of the commerce of the North Cornish Coast in the period 1959-1830 are brought into focus. A5 (210 by 147 mm) 44pp. 50p plus 16p postage (35p plus 16p postage to members). Reduced as staples are rusty.

ILLUSTRATED CATALOGUE of pumping and winding engines and other plant manufactured by Williams' Perran Foundry Co. 285 by 220 mm, 36pp. £1.50 plus 24p postage.

Bound set of the Newsletters 1973-75 and A short history of the Camborne School of Mines by L. P. S. Piper are sold out.

OTHER ITEMS

TREVITHICK SOCIETY TIE

Terylene, maroon with Beam Engine motif. £1.50 plus 16p postage.

GRAMOPHONE RECORDS

Truro Cathedral Bicentenary Service for Richard Trevithick, 13 April 1971. Two sides, 33 rpm, 300 mm diameter. £1.60 plus £1.00 postage and packing.

POSTAGE AND DELIVERY CHARGES

The Publications Secretary will consider any suggestion regarding the means of delivery of orders, in order to reduce the postage or carriage charges. Orders can be sent by carrier, or picked up by the representative of the customer by prior arrangement with Mr. Edmonds. Postage rates are as at April 1981. A charge may be made for delivery by hand.

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
