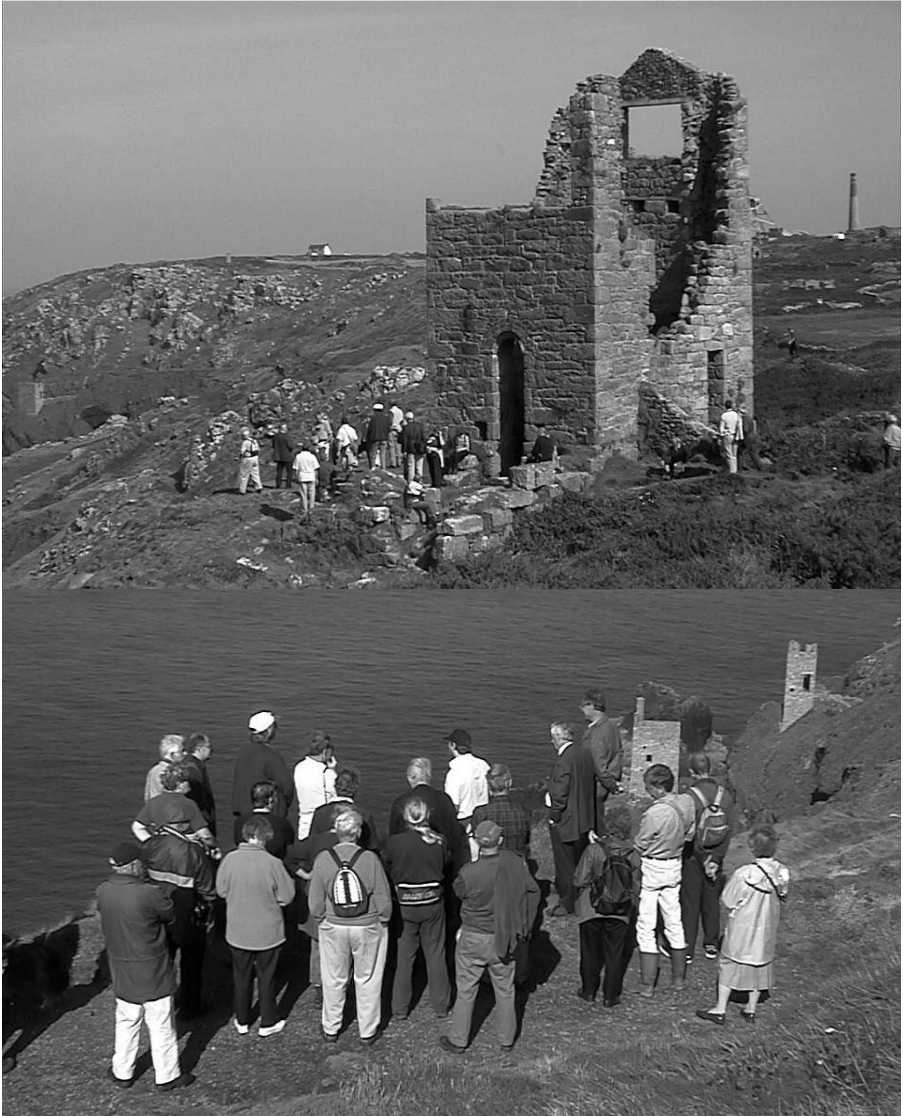
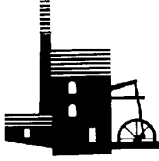


THE TREVITHICK SOCIETY



A memorable field trip led by Pete Joseph wandering amongst the remains of Botallack and neighbouring mines, all in glorious sunshine!

CHAIRMAN'S ADDRESS

At the risk of convincing members that the Council has succumbed to Iraqi president's syndrome, I shall remain your chairman until the next AGM which due to the demands of financial probity must be held on 17th May 2003. Having held our AGMs each September for decades my own reaction was somewhat negative towards the change but a spring meeting does have its advantages; suggestions that we hold merely a brief AGM in May and a 'proper' September conference as usual, cannot be countenanced as this would deprive the majority of members of the opportunity to confront Council at an open meeting.

Further acquisitions and donations to the Society have now made it even more imperative to formulate a definitive policy regarding the preservation and display of our possessions, now and in the future. Much preparatory work has already been done, and though much that we would like to achieve is governed by outside factors, especially financial, the matter is being strongly pursued. To this end a special sub-committee has been instructed to examine the feasibility of establishing a headquarters for the Society, in other words 'Fort Trevithick'. This would be a radical departure for the Society and can only be approached with tempered consideration, but, given that we are increasingly seen as a vigorous and forward looking body that achieves its goals, it would take the Society into a new era.

Among many aims for the new year is a recruiting drive, aimed especially at students and the younger generation through the medium of education. How successful we will be is debatable but we must look towards the future of the Society, particularly as we will have to flourish in what I fear will become a Cornwall devoid of the very industries wherein lie the roots of the Trevithick Society.

Clive Carter

EDITORIAL

I must thank my wife, Sonia, for typing the text of this Newsletter whilst I was poorly. Congratulations to Council Member, Phil Hosken, who was made a Bard of the Cornish Gorsedd in September.

Please note that the Society has a new Membership Secretary, Sue Maunder, who replaces Paul Smith. Thankfully Paul is remaining on the Council.

Two Council members have been in hospital recently. Phil Corbett was admitted to Treliske with a severe chest infection and Vernon Baldry has had abdominal surgery. Both are now home and progressing well, but Vernon has resigned from the Council whilst he undergoes a course of further treatment.

In a recent poll undertaken by the Western Morning News newspaper to vote for the top 100 Cornish people of all time, Richard Trevithick came out on top.



CORNISH INSTITUTE OF ENGINEERS

Invite you to a illustrated lecture by Mitchell Wenger,
Project Consultant and Director of the Steam Car Co.

"THE BRITISH STEAM LAND SPEED RECORD"

Camborne School of Mines

7.00 pm Thursday 23rd January 2003

Copy date for next issue is January 12th, 2003

Colin French

EAST CORNWALL BRANCH

The May field trip by the East Cornwall Branch saw an adventurous assembly gather in the Danescombe Valley for an underground excursion, prior warning having been given that Wellington boots would be required. Bob Le Marchant, the trip leader, had begun to search for the East-driven adit of Calstock Consols/ Danescombe Mine in the valley a few years ago, and seemingly after having shifted half the hillside, had uncovered a level driven East-North-East. This, in fact, was not a true adit (an underground drainage level) but was a trial driven in killas in search of the northern extension of Ward's Mine North-South silver lode, Ward Mine being on the Devon side of the river Tamar.

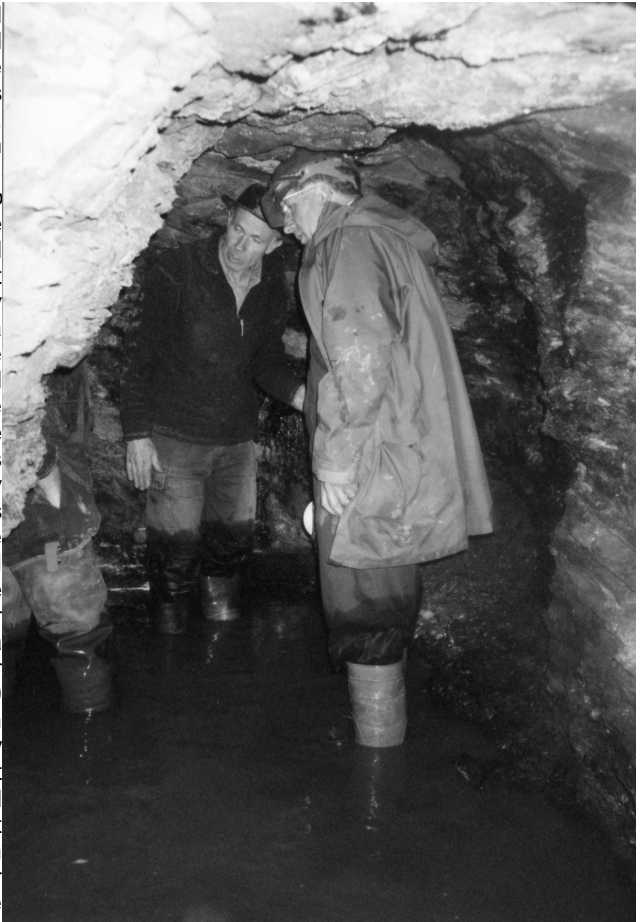
Regrettably for the field trip members, debris outside the trial's portal prevented accumulated water flowing out from underground. As a safety precaution, Bob had fixed a steel grill and padlocked gate to prevent unauthorised access. After unlocking the gate, Bob surprised the members of the first access party by requesting that only the two carbide lamps provided, be used to illuminate the darker reaches. The need for Wellington boots became immediately apparent. Water had accumulated to a significant depth, and after around 50 yards (of the 80 yard total length), the depth increased to mid-thigh. Only two members had brought waders, which resulted in all but two explorers having wet legs. Although ochre was seen at the end of the trial, silver was not evident, Bob may be driving the level further in the future.

The remainder of the field trip involved a walk up the valley, inspecting another East-

driven adit portal (which had collapsed), and West-driven adits on the western side of the valley, in the vicinity of the crusher house, a structure which has been converted into a holiday let run by Landmark Trust. Finally, tea and cakes followed in Bob's front garden, until the heavens opened up – a suitable conclusion to a wet field trip.

Geoff Purcell

Danescombe Mine, Calstock. East 77 yards from portal, at the end bend in the



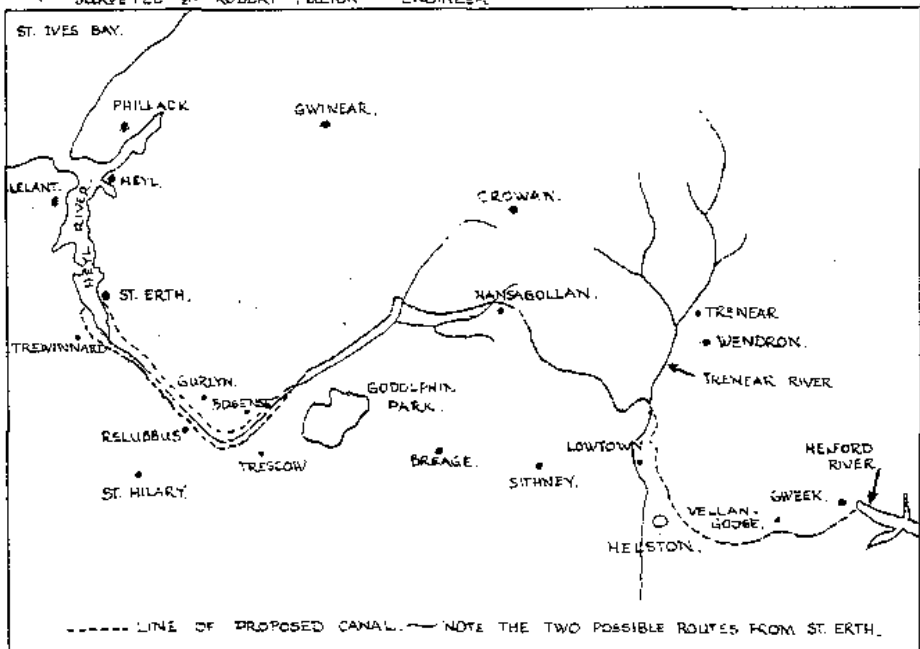
"adit" or trial. John Badger's legs, Bob le Marchant and Kingsley Rickard. Note the water levels on the trouser legs!

PIPE DREAMS OF CANALS FOR HAYLE AND DISTRICT!

Canals did not play a major part in Cornwall's Industrial past. A canal linking the river Camel to the River Fowey was proposed by William Borlase sometime before 1772. The Camel was navigable up to Polbrock, which was near Bodmin. And the canal would then be cut to the upper reaches of the River Fowey, but nothing came of this scheme. An underground canal was found to have been cut at the Carclase Tin Mine c 1730, and was in the form of a tunnel about half a mile in length, on which flat bottomed barges, 6 foot long, was used to carry the ore. In 1773 John Edyyear promoted an act to construct a canal in the Newquay area. This was partly built, and he also suggested a canal linking the North and South Cornish coasts from Bude to join the River Tamar, and then down to Plymouth. A canal was planned to be built, in the 1820s, to transport lead ore

from the old Wheal Rose mine at Newlyn East to the River Gannel and hence to Newquay, with a Branch off to Retyn near Indian Queens. The Bude Canal was first considered in an Act of Parliament in 1774, for taking sea sand inland from the coast to fertilize the land. The Act was not worked, but again a new Act allowed work on its construction to commence in 1819, and it was completed in four years. The final length was 35 miles, and it climbed 450 feet to the 'Tamar Lake', mainly with the aid of spectacular inclined planes to lift the special built sand carrying tub-boats. In the 1770's the Looe Union canal was built in the river valley up to Liskeard. It was finally completed in 1828 with its terminus finally being below Liskeard at Moorswater. It was used for transporting granite, coal, wood, agriculture products, limestone and also copper ore from the nearby mines. Costing £17,200 it was worked for over 80 years before being abandoned. A short two-mile canal was made at Par, which opened in 1847. With only one lock, it

PLAN OF PROPOSED NAVIGABLE CANAL FROM HEYL TO GWINEAR — CORNWALL
DRAWN BY CH^S MOODY IN 1796 FREE HAND SKETCH.
SURVEYED BY ROBERT FULTON — ENGINEER.

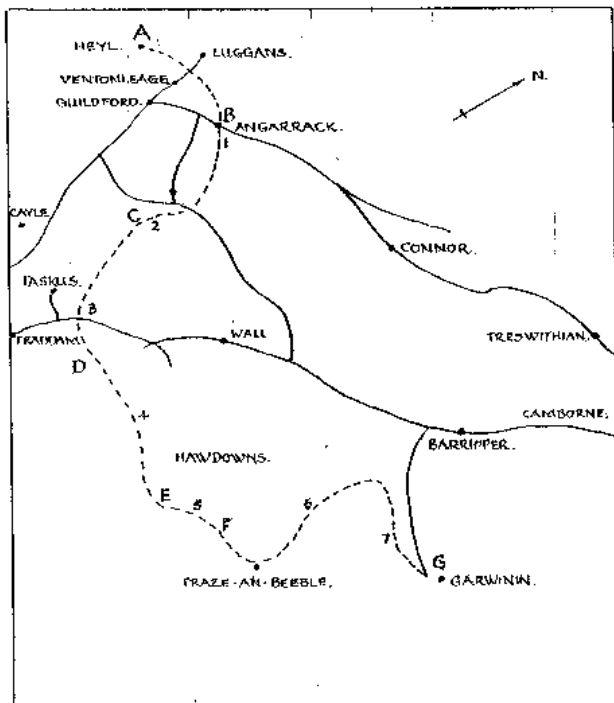


carried copper ore and china clay down to the harbour at Par. In 1794 discussions were held over a scheme to construct a canal from North Tamerton Bridge, in North Cornwall, 30 miles down to Morwellham on the River Tamar, but it was abandoned quite quickly. In 1808, a three-mile section was built from Morwellham quay to Weir Head, which required one lock built of granite. It was called the Tamar manure navigation and enjoyed a long and useful life up until c 1950.¹

In the past, three schemes for the digging of a canal from the harbour at Hayle were proposed. There were many reasons put forward in favour of the canals and why such enterprises would be of benefit to the area.

A proposed canal between the Rivers Heyl and Helford was surveyed by Robert Fulton, The American Engineer.² During August 1796 he visited Cornwall and reported on the proposed canal and presented it to Sir Francis Buller, Bart and other gentlemen interested in the Helston Canal, in November. He surveyed the country with sufficient care to warrant that he had the fullest of confidence as to the practicability of such a canal. A detailed study of the cost of carriage, at that time, paid by the mines, agriculture and other trades was made, with the prospect of increased commerce for the new transport system, it was considered that adventurers on the canal would be soon rewarded for their support, and that the land near by,

PLAN OF PROPOSED CANAL, HEYL TO CAMBORNE C.R.O. X578/B.
 FREE HAND SKETCH --- NOT TO SCALE.
 - - - - - LINE OF PROPOSED CANAL.
 NUMBERS INDICATE DISTANCE IN MILES
 CHAS. MOODY 1901.

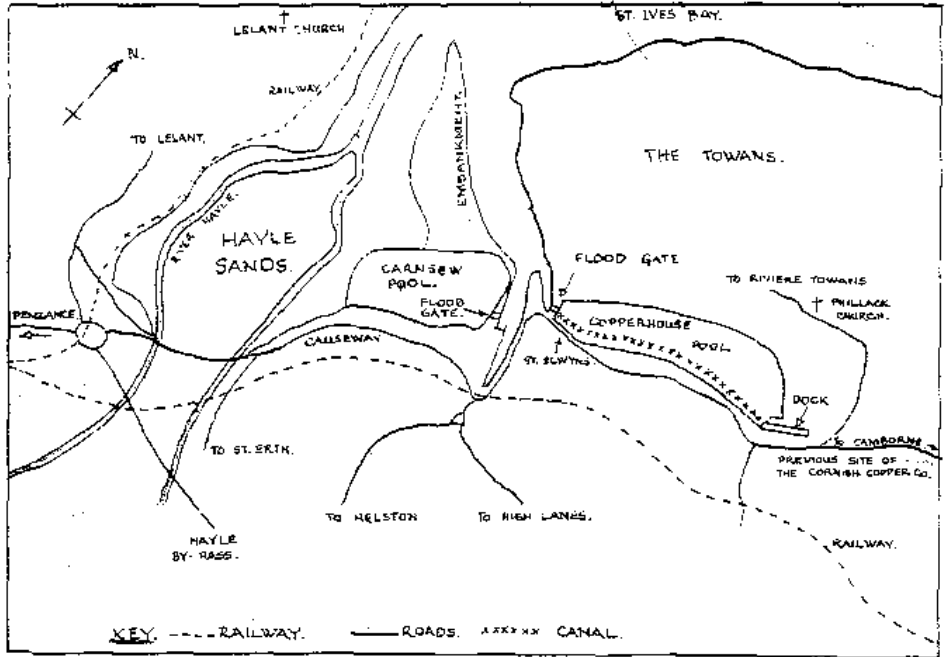


would materially improve.

Advantages to both the canal proprietors and the Cornish Copper Company would arise if the two were to join in building together the necessary wharfage at Heyl. Wharfs, warehouses, and a basin for the barges could be made navigable to St Erth Bridge, where the cutting of the canal would commence.³

A choice of two routes was offered for the first section of the canal. After following the river for 400 yards, the canal would then climb high ground on the left hand side of the valley, passing below Tremellin, Porcullum, Gurlyn, Tregember, and on to Bosense, or, by rising 64 feet on the opposite bank of the river near the copper rolling mills, and then follow a line below Tredrea, Trewinnard, Treveffa, Carbus,

FREE-HAND SKETCH SHOWING THE COPPERHOUSE POOL CANAL — HAYLE.



Pemberthy, Ninnis, Relubbus, Retalack, and Trescow. Whichever route was chosen it would terminate at Bosense. At Bosense there was to be a second plane 105 foot rise, which would mount the second pond near Kerthenwood, passing near Dales, Binner, Godolphin, Pengelly, Gwedna, Hedness and Chywhitta to Drym; where a third plane, 107 foot 6 inches, will rise to the third pond of the canal, which passes near Carrenver and Utfold mines to Nansagollan; where a plane of 73 feet will mount the summit level, passing by Higher and Lower Pospidnick, Tregatheenan, and Trethwell to Trenneck, where it falls by a plane 142 feet, continuing near Lowertown Stamps and within 100 yards of the town of Helston, along Helston Downs to the point of a hill near Vellangoose Mills, where it descends by a plane 125 feet and extends from thence to Gweek; where the last fall of 82 feet 6 inches descends to the Helford River!

The length of the canal would be about 14

miles, with a rise and fall of 349 feet 6 inches.

Numerous small water courses to supply reservoirs were available and was considered not to be of danger to the working mills along the route of the canal. Sufficient water was available from the River Trenear to supply the summit level, where the demand for water would be less due to the fall off of trade at this level than at other parts of the canal. The canal was considered to be of three parts:

Part 1: From Heyl to Binner Vean or Drym, 5.5 miles long, 165 feet rise, estimated cost £10,000

Part 2: Drym to Helston, 5.5 miles long, 322 feet 6 inches rise and fall, estimated cost £13,000

Part 3: The last 3 miles from Helston to Gweek, 207 feet 6 inches fall, estimated cost £9,000

Overall estimated cost £32,000.

Fulton considered the scheme an excellent adventure, and the Part 1 of the canal from Heyl to Binner Stamps should be the first working to allow the neighbourhood to become familiar with such a construction, which would then probably introduce more finance with better prospects of the canal being completed to Gweek. The report ends with a lengthy portion relating to the advantages that the canal would give to the farmers, the hinterland, local people, tradesmen, commerce, the mines, the reduction of horses and mules as carriers, etc. He hopes that the observations would enlighten 'those gentlemen in the West of England, being less acquainted with the utility of canals, than those of the northern counties'. The canal was never dug.

Within five years another canal from Heyl was proposed by Charles Moody in 1801, but to terminate at Carwinin Bridge near Camborne.⁴ It is possible that this Charles Moody is the same person who drew the plan for the canal from Heyl to Gweek in 1796. The dashed line indicates the course of the canal and the numbers indicate distances in miles from Heyl to A. The canal was to run from Heyl for 7.5miles to near Carwinin Bridge and 12 or 13 bridges would be required over the canal.

Section A – B. The ground at Heyl (A) was considered to be very favourable for the departure of a canal, and would be easy to dig to Angarrack at (B). 'The ground is sandy for a distance then in productive ground for the most part, with some orchards and gardens all on a clay bottom, thro which the canal may be easily cut and made water tight.'

Distance in feet 5124, rise 33.1 feet.

Section B – C at the manor mine. 'The top soil is gravel and sand for a few feet deep and unimproved. The bottom or sub-soil is a fine clay mixed with spar or quartz, and the soft bluish killa like slate.'

Distance in feet 5030, rise 71.8 feet.

Section C – D at huel hope. 'The surface soil is unproductive gravel and sand, also some coarse moory ground; with a subsoil of fine clay, is mixed with spar and killas

and is easily cut thro.'

Distance in feet 7250, rise 44.6 feet.

Section D – E near the cross-road leading to Helston. 'The soil is a tenacious clay, uncultivated, and is more or less mixed with spar killas. Here the rise might be divided (also some of the rises above) and the expense considerably lessened, by taking advantage of the hilly ground on the side of the bottom valley.'

Distance in feet 7154, rise 108.3 feet.

Section E – A Stake at F on the summit of the hill. 'Ground same as for section D to E.'

Distance in feet 2414, rise 39.7 feet.

'The above is five mile, one furlong in length, with a total rise of 297.1 feet.'

Section F – G 28 feet below Carwinin Bridge.

'The vegetable soil is clayey loam with a mixture of spar and kilas, and is for the most part well cultivated. The ground in this reach is good, and the line may be continued on the side of the hills, which rise a gentle ascent to ear Carwinin Bridge G, where there is ample supply of water at ..?.., and a canal may be easily conducted to the mines in Camborne, etc.'

Distance in miles 2.5, no rise or fall, but level ground.

Total distance to Carwinin Bridge 7.5miles and one furlong.

No further information was found, and the canal was not constructed.

Much later, in 1921, it was suggested that a canal should be cut from Hayle to Marazion. A project to build a canal connecting St Ives Bay with Mount's Bay was first put forward in the 1860s, but was dropped due to the fact that steam propulsion was rapidly replacing sail, and the problems for sailing shops such as adverse winds, contradictory tides, etc would not markedly impede the progress of steam engine propelled ships around the Land's End.

Another scheme for constructing a canal to be cut from Hayle to Marazion was put forward in 1921, as a way of absorbing many unemployed persons in West Cornwall.⁵ It was suggested that a canal could be cut without any major construction problems, the ground was flat, sandy, and only a short distance connected the bays

and a canal would save vessels rounding the Land's End. The entrance to the Hayle Harbour was quite wide, and at each end of the canal a 400 feet long, by 50 feet wide lock would be built. These would be constructed with reverse gates, and the other gates fitted with sluices for keeping the entrance clear. The width of the canal would be 150 feet, with a depth of 24 feet of water at the neap tides. At the Hayle end of the canal, an entrance to the port would be provided, and at Marazion a hydraulic lift-up bridge with railway lines would allow the trains to pass over the canal. The sides of the canal would be built with concrete blocks made at Camborne. Although the project would be costly, it was considered it could be an immediate revenue maker. The cost of taking a steamer through the canal would be £5 in dues, and to take the same ship around the Land's End would cost between £20 and £25. It was considered that the construction of such a canal would be beneficial to the shipping trade. A ship bound from a South Wales port to an English Channel port, like Dunkirk or Southampton would save 20 miles without any risk, and would save the difficult journey around Land's End. Once again a canal was never built.

In spite of the three proposed canals not being constructed, Hayle already had a canal of its own. It was not long, large or of the usual design, but one of great influence and ingenuity. The Cornish Copper Company moved its smelting works from Camborne to Ventonleague, near Hayle. There beside the small Loggans and Angarrack rivers, they erected the furnaces, built a quay, and their own ships. The rivers ran into a large shallow tidal flats, which became a lake at high tide, now called the Copperhouse pool, and to enable ships to reach the works, the bed of the river on the southern side of the pool was deepened and widened in 1769. This formed a 'canal' like channel, one half mile long about 100 feet wide in the sand and mud. A lock was constructed at the eastern end, to enable vessels to berth, unload, and leave on the next full tide. The floodgates and sluice at this dock allowed the trapped water to flush out the sand

brought into the canal with the incoming high tide. Ships could only be moved at full tides and to ensure the canal was sufficiently deep, later a weir was built across the mouth of the pool at the western end. The retained full incoming tide in Copperhouse pool, when released at low tide, would remove much of the sand that had entered the harbour channel leading out to St Ives Bay. Later Carnsew pool and its constructed weir was built to aid this sand clearance scheme in the harbour. **6**

References

1. The introduction relies heavily on the information found in *Industrial Archaeology of Cornwall* by A C Todd and P Laws. Also see - *The Bude Canal* by H Harris and M Ellis *Industrial Archaeology of the Tamar Valley* by F Booker *The Liskeard and Looe Canal* by M J Messenger. *Trevithick Society Journal*, No 1 – 1973.
2. Robert Fulton (1765-1815) An American and a descendent of emigrants from Ireland, was an artist, who later became an engineer soon after arriving in England. In 1794 took out a patent on 'A machine or engine for conveying boats and vessels and their cargoes to and from the different levels in and upon canals without the assistance of locks or other means known and used for the purpose'. He also wrote 'Treatise on the improvement of canal navigation in 1796'. Foulton built a passenger boat 150 feet long, with a Boulton and Watt engine powering 15 feet diameter paddle wheels. In 1807 this vessel completed the 150 mile run from New York to Albany along the Hudson river in 32 hours.
3. The prospectus of the proposed navigable canal, from Heyl to Gweek, Cornwall by Robert Fulton – engineer, held at the CRO Reference DDX 578/58.
4. The plan (CRO x 578/58 is approximately 27" x 15" and gives detail of the terrain, length of canal, and the rise and fall of the various

sections. Also see Ref No 7.

5. *The Cornishman* 28th September 1921.

6. The Cornish Copper Company was formed in 1754, and moved from its original site near Camborne to Ventonleague, East of Hayle, in 1758. Wharves and a dock to receive coals from South Wales were built and in 1769 the 'canal' was dredged from the wharf and sluice gates held back the



water, which was then used to sluice out sand and silt from the canal. Brian Sullivan of Hayle, has taken some excellent photographs of the dock and canal. See pages 43 and 44 in *The History of the Cornish Copper Company* by W H Pascoe. NOTE – the large number of scoria blocks used which were made from the waste slag produced during the copper smelting process. Also see the plan of Copperhouse inside the front and back covers of *The Book of Hayle* by Cyril Noall. Shown are the dock and the Cornish Company's buildings.

7. See RIC 528-4-007 for a list of estate plans and tin bounds surveyed by Charles Moody in Cornwall.

Russell Webber

16 Vicarage Gate
St Erth
Cornwall TR27 6JB

What Council members do in the privacy of their own home is not normally publicised, however, when Phil Hosken's daughter caught him on camera, it was felt an exception had to be made. Phil was cleaning the Society tent of a season's grime, largely from the road locomotive. It must be pointed out that this sartorial elegance does not extend to Council meetings!

Vacancies currently exist for assisting with

SITUATIONS VACANT

the Camborne Road Locomotive.

Applicants must have a sense of humour and also have the ability to get filthy dirty quickly and to stay in that condition for up to twelve hours. Other qualifications – none, although a PhD in hindsight would be extremely useful.

If you feel you can spare some time or wish to talk it over, ring **Kingsley Rickard**, on the Society chatline 01209 716811.

MERRYWEATHER

Would any member having any information on Messrs Merryweather, the fire pump manufacturers, please contact:

WFJ Trevaskis, 15 Seton Gardens,
CAMBORNE TR14 7JS

PUBLICATIONS FOR 2003

We have pleasure in sending you the list of current publications of the Trevithick Society. These are all available from Willow Books of United Downs Industrial Estate, Saint Day, Cornwall TR16 5HY. (Tel: 01209 822011) (Fax: 01209 822321) Email: sales@willowbooks.co.uk Web: <http://www.willowbooks.co.uk> .

Willow Books provide the following services to Members.

- Any book that is currently in print, on any subject, non-fiction or fiction and in addition those listed in the Publications List will be available to Society members at a discount of 10%.
- A book search service for out of print titles at a cost to be negotiated with the individual enquirer.
- Payment can be made by cheque/postal order etc and all credit/debit cards (Ex American Express)
- Orders can be placed in writing or by phone, fax, e-mail or on their web site
- Orders placed 7/10 days prior to Society Evening Meetings can be at the meeting with no charge for post or packing. (Please advise **for collection** when ordering)

These are the details for ordering and how to contact Willow Books.

- Please provide full details of the books you wish to order: Title, Author, ISBN (where known)
- Postal address. Willow Books, Unit 2A, United Downs Industrial Estate, Saint Day, Redruth, Cornwall, TR16 5HY
- Telephone. 01209 822011
- Fax 01209 822321
- E-mail anna@willowbooks.co.uk
- Web <http://www.willowbooks.co.uk>
- Personal contact Anna

Should you need additional information on the content of the various publications this is available from the Trevithick Society Publications Secretary, Vernon Baldry, 2 Moorfield, Pink Moors, Saint Day, Cornwall, TR16 5NL. Tel: 01209 822311 e-mail. vernon.stday@btinternet.com.

Books of The Society

Mine Accidents in the St Just District - 1831 -1914 - by Peter Joseph. New in 1999. A book concerning the men who worked and died in the mining industry. The hazards of mining in Cornwall are compared with the conditions in which the mining community lived in the 19th and early 20th century. 78 pages with 7 illustrations. £4.99.

Drawings of the Levant Whim - by Courtney Rowe. This volume records the details in engineering drawings of the Levant Whim Engine as it was at the end of its working life prior to restoration. Also includes a description of the parts and some observations. 83 pages. £6.99.

Cornish Pumping Engines and Rotative Beam Engines. A reprint of the 1953 report of the Cornish Engines Preservation Society that listed the beam engines then in Cornwall. Also included is the present-day status of these engines. 44 pages with 30 illustrations. £2.99.

Levant - A Champion Cornish Mine - by John Corin. A view of an extraordinary and fascinating human enterprise. A history of Levant mine - the mine with the most dramatic views of the Cornish Coastline. 92 pages with 22 illustrations. £5.99.

The Cunnack Manuscript. First-hand information from the late 19th and early 20th centuries on the mines around Helston from the contemporary records of R J Cunnack. The book, edited by Justin Brooke, contains much additional information provided by him. 76 pages with 16 illustrations. £5.50

Michell - A Family of Cornish Engineers - by F Bice Michell The history of one of the families of engineers at the heart of the Industrial Revolution in Cornwall. An

insight into mining over four generations. 76 pages with illustrations. 145 pages. £3.50

Marconi at the Lizard by Courtney Rowe. The history of Marconi's 'first miracle', his radio communication over the horizon from the Isle of Wight to The Lizard in January 1901. Full details of this achievement together with a description of 400 years of communications at the southernmost point of the UK. 83 pages: 38 illustrations. £7.99.

Trevithick First in Steam by Colin French & Phillip Hosken - The full detail of the planning and construction of the Trevithick Replica Road Locomotive. A book that celebrates the achievement in creating the replica told by those that did it, together with anecdotes and detail of how this was done and the history of the original and its contemporaries. 32 pages: 36 illustrations. £3.99.

Trevithick First in Steam - the CD All the detail in the book with additional material and illustrations of the Trevithick Day Run 'Up Camborne Hill'. £7.99

Cornish Engineering 1801 - 2001 Two Centuries of Industrial Excellence in Camborne by Clive Carter The history of Holman Brothers told by one who not only worked there but one who has studied the history of the company. Full of fascinating facts and anecdotes. 110 pages: numerous illustrations. £9.99

Harvey Catalogue—as a unique publication a reproduction of the Harvey Engineering Office copy of their catalogue, dated 29th September 1884 has been produced as a limited edition of 200 numbered copies. Under a hard cover with gold blocked lettering this is a collectors item. This publication will only be produced once. Running to 64 pages, a number of them for notes, and priced at £12.99 (ISBN 0 904040 55 0) this is available from Willow Books or your usual bookshop.

Mr Lean & The Engine Reporters by Bridget Howard. Full details in the

November newsletter. Available mid to end November. £9.99

Society Notepad. Tear-off notepad bearing the Trevithick Society's engine house motif. 210 x148 mm. £1.50 + VAT

Postcards of Geevor Mine. Postcards showing internal and external views. 15p each + VAT.

Postcard of Parkandillick Engine House. Which still operates, on compressed air. Black and white. 15p +VAT.

Journals of the Trevithick Society

The Society Journals are a source of extensive knowledge and detail of industrial archaeology. They do not confine themselves to mining but embrace the whole gamut of human endeavour in the industrial field. They constitute a unique library of important information.

A number of early journals have now sold-out. Society Journals are £6.00 each.

Number 5. 1977. Richard Trevithick in Costa Rica. Some lesser-known Cornish engineers. The Hornblower family. Early Cornish Mineral railways. The Cornish Metal Company.

Number 16. 1989 The Great County Adit. The Haarlemmermeer steam engines. A Cornish windmill. West Goldolphin mine. Notes of a collier's visit to a Cornish copper mine 1864. The travels of a Cornish engine. William West on the Austen 80.

Number 20. 1993. The introduction of compressed-air rock drills into Camborne mines. The Virgin Gorda Copper Mine. Discoveries at Dolcoath Mine. The Westcountry Miner AD c1500-cl700. Further investigations at Criff Farm. Not as a general rule. Bronze age copper smelting in N Wales. Polrose Mine. Book Review.

Number 21. 1994. The Belowda Beacon clay workings. The most travelled Cornish pumping engine. The vice-warden and the Truro files. Wheal Hermon 1560-1976

Parbola Mine. Threat to historic tin streams and mine sites.

Number 22. 1995. The 25th anniversary of the Trevithick Society - The Happy Wanderer. Drawings of the Levant whim. Tregaseal river. The Crift Farm project, report. Georgia Consols. The Richards family of Tavistock and Mary Tavy.

Number 23. 1996. Drawings of the Levant whim, Part 2. Bronze age mining in North Wales. Ding Dong. Wheal Fortune. Industrial archaeology at Botallack after the fire. St Germans quay railway.

Number 24. 1997. Drawings of the Levant whim, Part 3. St Just United Mine 1862-66. James Watt in Cornwall. Ding Dong, nineteenth century and beyond. Who were the tanners? - studies of early Tudor tinworks.

Number 25. 1998. Before the flood - the story of Drift Dam. Rutways and stone tram roads. Cornish iron foundries and allied works. Early engineers around Camborne. The Boscawell United Merton furnace.

Number 26. 1999. Mining the sea. The duty on coal. The Cornish vanning shovel. Mines around St Agnes. East Bosorne mine. Great Western Mines. Tin streaming.

Number 27. 2000. The Severn Tunnel Pumping Engines. St Michael's Mount Tramway. History of Morvah Consols. Chipping Department at Harvey's Foundry 1851-1856. Giew Mine Revisited.

Number 28. 2001. Exporting the Industrial Revolution. Holman Brothers at war. Richard Trevithick's 1801 Road Loco. Benjamin Sampson. Durfold China Clay Works. The West Country & London in the Evolution of Steam Power.

Number 29. 2002. Camborne & Redruth Tramway. St Ives Consols. Carn Galver & Morvah Hill Mines. Mining the Sea - a Race against Time, Pre-history of West of England Mining & Metallurgy. Early

watermill Techniques. Was the Bushel 84 or 94 lbs. Smelters Marks.

Journal Index - No's 1 (1973) to 27 (2000). A full index by Volume and Subject. £6.00

Newsletters of the Trevithick Society

The Society Newsletters contain a wealth of detail on the Industrial Archaeology of Cornwall and are excellent value for money. For an indication of their contents look at the mini indexes in newsletters 85 and 86. The following issues are available at 25p each.

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| 1983 | 40 - 43 | 1997 | 96 - 99 |
| 1984 | 44 - 47 | 1998 | 100 -103 |
| 1985 | 48 - 51 | 1999 | 104 -107 |
| 1986 | 52 - 55 | 2000 | 108 -111 |
| 2001 | 112 - 114 | 2002 | 115 -118 |

Video Cassettes

The following three video cassettes are supplies in PAL VHS. They can be obtained in NTSC at extra cost.

Kitty to the Cape by Spink Publications. Describes most of the mines along the coast from Wheal Kitty near St Agnes to Cape Cornwall. £10.00

The Cornish Engine by Shell International Limited. Black and white with comments and diagrams of principles. Shows views from various angles of running Cornish Steam Engines. £18.00

Cornish Engine Record Films by Shell International Limited. Films of six working steam engines. Black and white silent. The engines are Robinson's, Taylor's, Cook's, Parkandillick, Goonvean and Rostowrack. £18.00

The AGM weekend began with the Hamilton Jenkin Memorial lecture given by Dr. Tom Greaves who spoke about 20th Century tin extraction on Dartmoor. In keeping with Hamilton Jenkin, who was a great exponent of Social History, Tom Greaves brought his paper to life by reference to many observations collected from people who were actually involved in the industry.

The following day began with a guided walk around the surface remains of Botallack (see front cover). This tour was

SOCIETY AGM

ably led by Pete Joseph, who has spent many years researching and mapping the remains along this stretch of coast.

The afternoon was then spent at Geevor Mine, which was closed to members of the public for the day, and Society members had the run of the place. Guided tours were given through various parts of the site including the winding house, mill and underground in 18th Century workings. There was a demonstration of tin smelting and in the museum footage from the Holman-Trevithick archive was on show.

Phil Corbett, the Hon. Sec., was not present at the AGM through illness, which meant that the minutes of last year's AGM could not be presented to the meeting. In consequence, an extraordinary meeting will be called to accept last year's minutes. The main business of the AGM was to discuss the new Constitution, which has been rewritten in close collaboration with the Charity Commission. This has now been adopted.

In the evening the Society Dinner was held in the restaurant at Geevor. This had a wonderful vista with the sun setting as the meal was served. Geevor should be congratulated for the excellent strides they have made this year at this visitor attraction. This was very evident from the atmosphere pervading the site and the way they made everyone feel welcome. The food was excellent quality too!

Sunday was another perfect morning for Pete Joseph's field trip at Cape Cornwall. After an explanation of the local mining



West Wheal Owles

landscape the party set out across the top of Priests Cove to look back at the adits and workings of St. Just Amalgamated Mine and then at the remains of Cape Cornwall Mine. The party saw the base of the whim engine in its very cramped cliff-side situation before climbing to Cape Cornwall stack—one of the few brick-built stacks in Cornwall. Later in the Kenidjack Valley the huge water wheel pit of Wheal Call, the pelton wheel, the arsenic calciner and mills were examined. Very enjoyable!

LEVANT REPORT

After a busy summer the visitor numbers are reducing and the engine house is only open the usual two days per week, later this will drop to Fridays only. The engine has run well through the summer with few interruptions. There has been some interest among visitors as potential volunteers, a very necessary complement to our operations, they are always needed.

The newly printed copies of John Corin's book on Levant are now available. The National Trust has produced a new revised leaflet about the site. Local management has provided a new set of improved operating instructions, which includes a changed blowdown schedule for the steam boiler.

Work has continued through the summer refurbishing the electric winder and its associated control gear. An automatic air compressor has been installed to provide air for the electro-pneumatic control of the winding drum brake. The electrical circuit of the control gear has been well investigated and overhauled in order that the winding drum can be operated safely and reliably for visitors.

The electric winder house would be an ideal location for the model of a beam pumping engine, which I understand the Society has been offered. There are all the facilities and services required in the now dry and protected winder house, including staff who would be competent to erect and operate the model. It would be more interesting for visitors who now have to visualise the operation of the 45" steam pumping engine, which once stood at the head of engine shaft.

Items to be worked on this winter are being finalised. The work to be carried out on Man Engine Shaft should be completed before the start of the summer season.

During the summer Milton Thomas and Kingsley Rickard were both involved in separate television programmes concerning Levant.

W E H King

LOCAL GOVERNMENT LIAISON

Three major planning matters have progressed recently, as follows.

CARVEDRAS SMELTER, TRURO (CDC)

In spite of reasoned and repeated representations to Carrick District Council this body decided to give approval to the proposals. Bearing in mind the uniqueness of this building and the fact that it was listed for possible inclusion within the Cornish Mining World Heritage Site Bid, it is quite amazing that the decision concerning this building has not been deferred until such time as its inclusion in the World Heritage Site was decided.

HALLENBEAGLE (CDC)

Carrick District Council Planning Referrals Committee have, once more, deferred their decision on this case. Having commissioned a report on the viability and need for the proposed Food and Energy Park (Industrial Estate) they have deferred to await a written response from their consultants to questions raised by the applicant. The next meeting of the Planning Referrals Committee is in November (date yet to be fixed) and, providing a decision is reached at that meeting the case will be referred to the Full Council on 10th December. The report by the consultants was not in favour of the proposals and the Case Officer recommended refusal.

HOUSING DEVELOPMENT AT PENEGON (DOLCOATH) (KDC)

A proposed residential development at Pengegon included the site of the engine pond to the south of the main railway line, the property of Kerrier District Council. A number of representations were made by the LGLC together with others from outside the Society. The upshot of these is that Kerrier District Council have decided against selling the land for development.

AIA 2002 CONFERENCE

The AIA's 2002 conference was held at Heriot-Watt University, Edinburgh, from 6th – 12th September, and was probably its' most successful to date. One hundred and forty-seven sat down to the annual dinner, 81 delegates (a record), stayed on for the following week's all-day field trips and evening lectures.

On the Friday of the conference weekend, the seminar day was held, as is now traditional. This was organised by Dr Miles Oglethorpe of RCAHMS on the theme of "Scotland's industrial heritage and National identity". He completely trumped all the previous conference seminars by having, as the last topic of the day, "The iconic power of the Scotch whisky distillery", accompanied by the tasting by all present of no less than three 10 year-old malts, courtesy of Glenmorangie!

In a break with tradition, Professor John Hume OBE, delivered this year's Rolt memorial lecture on Friday evening, following a reception hosted by Professor Roland Paxton, Vice-Chancellor of Heriot-Watt. Professor Hume also gave the introductory lecture to the region on Saturday morning.

Theme of the conference was "Forth and Clyde", and a very wide range of field trips was on offer – three choices on Saturday and Sunday afternoons, and two choices every day of the following week until the Thursday. The area and its' industries, both past and present were very thoroughly covered, ranging from the spectacular millennium Falkirk wheel, which restores the severed link between the Union and Forth and Clyde canals, to a trip "doon the watter" on the Calmac ferry from Wemyss Bay across to Rothesay on the Isle of Bute. Other notable sites to be examined in detail included the World Heritage site of New Lanark, the Scottish mining museum at Newtongrange, and a tour of the enormous (three square miles) BP oil refinery at Grangemouth, which is the terminus of the Forties field oil pipelines. Edinburgh and Glasgow, Fife, Falkirk and also the Border areas were not neglected.

There were two lectures every evening

from Sunday onwards, mostly dealing with the antecedents of what the delegates would see on the next day's trips, and the conference was greatly enjoyed by all present, thanks to tremendous organisation on the part of the Scottish Industrial Archaeology panel.

Next year we go to Cardiff from 5th – 11th September 2003 – a date not to be missed.

Roger Ford

LECTURE PROGRAMME

Cornwall College have asked the Society to stage a series of lectures to encourage the use of the new Community Hall at St. Day, as a part of their adult education programme. The five week course starts on 30:01:03 followed by a field trip. Society members Tony Brooks, Kenneth Brown, Allen Buckley, Kingsley Rickard and Charles Thurlow will be the Society representatives.

TO ALL MEMBERS

Agreement has been made with the Trevithick Trust that all sites under its management are open free to Society members, upon production of a membership card.

In addition, members already enjoy free access to Geevor and Levant.

PARKANDILLICK ENGINE

The Parkandillick Engine will be in operation on Saturday 28th December, by kind permission of Imerys Minerals.

NUMERICAL TRIVIA

Your last Newsletter arrived with a larger than normal Journal, coupled with a copy of the new constitution. The total weight of the Society posting that day was 196 lbs (14 stones or 88.9kg).

CAMBORNE ROAD LOCOMOTIVE

The Camborne Road Locomotive has been put to bed for the winter in the CompAir Holman factory. There are a number of jobs to be undertaken, such as a drain hole for the exhaust blast pipe and the fitting of a filter to the water pump inlet pipe (there were several times in the summer when the water pump got clogged for want of such a filter).

There will probably be one festive outing for the engine this winter. It is hope to run it in Trelowarren Street in Camborne on the engine's 201st anniversary, Christmas Eve. There will also be a miniature traction engine and fairground organ playing Christmas music in Commercial Square.

As part of a television series the BBC produced an eight minute item on the Holman Trevithick archive featuring cine footage of Holmans in its heyday, photographs from the archive, a specially mounted demonstration of Holman Projector firing and the Camborne Road Locomotive in steam to reinforce the Trevithick—Nicholas Holman connection. Local reaction has been good to this snippet, but many people feel the story of

Cornish Engineering and Holmans in particular is deserving of a programme in its own right.

During the summer the Society was approached by an American television company who wished to produce an educational programme about Trevithick. They particularly wanted to include video footage of the engine. This has been provided, along with a good deal of background information, and we are now eagerly awaiting a copy of the finished product.

Again, the Society must thank CompAir UK for its unstinting support which continues to be immense.

CNF.



The Camborne Road Locomotive at the Boconnoc Steam Rally in 2001

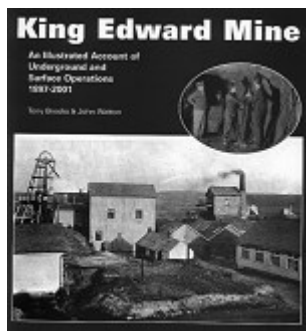
BOOK REVIEWS

King Edward Mine: An Illustrated Account of Underground and Surface Operations 1897-2001 by Tony Brooks and John Watton, St Austell: Cornish Hillside Publications, 2002. 132 pp, 127 plates, 18 figs. ISBN 1 900147 27 0 hardback £20.99. ISBN 1 900147 26 2 paperback £17.99.

This is a timely publication in the year that the King Edward Mine was officially opened (29 April) as a museum after many years of preparatory work by a dedicated group of volunteers. The book tells the story of the search for a practical teaching mine by the Camborne Mining, Science and Art School (later, the world-renowned Camborne School of Mines). The abandoned eastern part of South Condurrow tin mine on the Great Flat Lode was taken over in 1897 to teach mine surveying, underground mining techniques and surface mineral dressing. Indeed, the mine became the 'most surveyed place on earth' according to the authors.

Because the King Edward Mine was established for educational and training purposes, the new mining gear and ore dressing plant were acquired over the years whenever the School could afford it. A great strength of this well written book is that it describes in a clear manner, how such equipment and processes worked. This is accompanied by many informative illustrations.

The book is dedicated to the memory of William Thomas, Head of Mining and Surveying, who established the King Edward Mine, and his friend John Charles Burrow, the famous underground photographer who took many of the early pictures down to 1905. The photographs show the setting up of the mine's headframe and winder, the Californian stamps, calciner, etc. Underground, we see hand-drilling (which was still practised in some mines) alongside compressed air rock drills using water sprays to keep down the dust. These can be compared with views of later drill types at work in 1968. Views illustrating underground surveying and all its difficulties are also of interest.



When neighbouring Wheal Grenville closed in 1920 and the King Edward Mine flooded, the Camborne School of Mines moved to

underground workings at Great Condurrow Mine, which are still part of the School. The surface mill and associated buildings at King Edward Mine were retained and altered over the years before becoming surplus to requirements in the early 1970s when the new CSM complex was opened at Pool.

Since 1987 work has progressed on turning the historic mill into a museum to demonstrate the traditional working methods of tin ore dressing. A chapter describes this work and illustrations include the reconstruction of a round frame rescued and dismantled by the Trevithick Society back in 1974 and held in storage ever since. Many of the buildings are recognisable from a 1906 postcard view; the headframe is missing, but there are plans to restore this in the future.

A final chapter discusses the problems of early underground photography at King Edward Mine and other Cornish mines. The photographs used in the book are deemed significant enough to be listed with names of photographers and, importantly, the location of negatives of prints.

This is also a history of the Camborne School of Mine's practical activities and it gives a fascinating insight into an unusual, albeit vitally important, aspect of Cornish mining. Students graduating at Camborne were, and are, found all over the world. We are also shown the nearby Holman test mine where students were given access to practise rock drilling, no doubt in the hope they would travel abroad recommending the firm's equipment! Fortunately, some careless proof-reading does not detract from the text and the superb assemblage of photographs.

PS.

James Watt, volume 1: His time in Scotland, 1736-1774, by Rev. Dr. Richard Hills. ISBN 1-84306-045-0. Landmark Publishing. 480 pp. Price £29.95.

This scholarly, well-researched, book pulls together the wealth of information about the early career of James Watt, fills in gaps in our knowledge and corrects a few previous misconceptions.

The period covered by this book is probably the least known in Watt's life and it will undoubtedly astound many readers to discover the range of activities that were undertaken by him, including surveyor, scientific instrument maker, shopkeeper, civil engineer and laboratory technician. He was a 'jack of all trades', and no doubt, had he been a 'master' in any of those fields of endeavour, he may not have ventured into the world of steam engineering for which he is universally known.

Watt was a very talented man and could be considered ahead of his time for the very diligent and scientific manner he approached problem solving. Typically he would read all the available literature and then seek to make improvements by careful experimentation. Thus he was able to make many incremental advances. This aspect of Watt's character is particularly well illustrated by the section dealing with steam engines and his quest for a 'perfect engine'. Certainly there were a multitude of experiments before Watt was able to create an effective and reliable separate condenser system.

Many of Watt's ventures were not financially successful and in these years in Scotland he owes much to his own ability to impress others. Certainly, he was reliant on a few affluent local people who acted as mentors and benefactors, sustaining him at critical times. This says much about the character of Watt and how he was able to lead such a varied and multi-disciplinary life.

Throughout the book the author includes much helpful background information to place Watt's activities in context. This will prove particularly useful for those unfamiliar with the geography of Scotland or have

little knowledge of Watt's contemporaries.

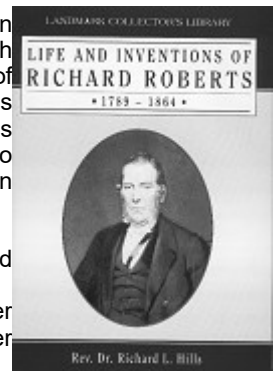
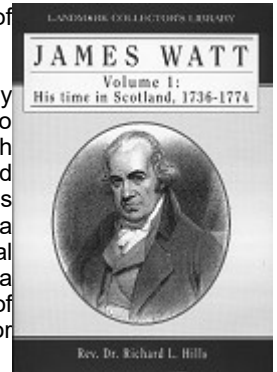
This biography goes a long way to explain the path that Watt followed leading to his immortality. It is a detailed factual account with a minimum of conjecture or interpretation, which focuses on the different careers pursued by Watt rather than a chronological account of his life in Scotland. In consequence, it is left to the reader to draw his/her own conclusions about Watt's character and the varied life he led. Overall, it is a very solid account of Watt's early career, and it is amazing to think it is the first new biography of Watt for over sixty years.

Life and Inventions of Richard Roberts, 1789-1864, by Rev. Dr. Richard Hills. ISBN 1-84306-027-2. Landmark Publishing. 256 pp. Price £29.95.

As the title of this book suggests, it deals firstly with the life of Richard Roberts and then describes his inventions in the remaining three quarters of the book.

Richard Roberts was a veritable engineering genius, and made many outstanding contributions to the fields of machine tools, automation in textile manufacture and locomotive design, to name but three. He was also an important figure in improving the quality of engineering, bringing precision to the batch production of components, thus enabling his inventions to perform better than previous engineering standards would allow.

This is the better written and better



illustrated of the two books. Despite a relative paucity of available information to draw upon, the author has succeeded in compiling a well-rounded appreciation of the character of Roberts, his achievements and the well-deserved respect he commanded amongst his peers. There are many instances where author's thorough knowledge of nineteenth century engineering developments place Richard Roberts' inventions in context, and this greatly assists the reader's understanding of the narrative. Coupled with descriptions of contemporaries and events, one is left with an appreciation of the immense social changes that were underway in Manchester and how Roberts' innovative contribution not only met many of the industrial needs that were driving the changes, but he inadvertently accelerated the whole process. Like Trevithick, Roberts certainly deserves greater recognition. This worthy biography provides ample justification to anyone wishing to pursue that cause.

It was certainly an interesting task to review two books concerning two key people of the Industrial Revolution, written by the same author. Perhaps inevitably comparisons of both subjects arose, leading to that most vexing of questions. Why is it that James Watt is universally known and Richard Roberts remains hidden in obscurity? After all, Watt, comes across as being little more than a glorified technician, whilst Roberts was a true mechanical genius and certainly did the greater service to the development of the modern world. Perhaps the answer lies in the fact that they belonged to different periods of the Industrial Revolution. Watt was part of the pioneering stage when there were few others like him, whereas Roberts belonged to the age when Britain was at its inventive peak and he was one amongst many.

CNF.

A NEW BOOK BY THE SOCIETY

Mr Lean and the Engine Reporters by Bridget Howard. Published by the Trevithick Society. Pp. 110, several illustrations. Price £9.99. Contact Willow Books.

Lean's *Engine Reporters* are familiar to most of us with an interest in industrial history, and yet we know very little about their compilation. This new book from the Society reveals how and why they came into existence (which is not as we have been led to believe!), and describes the personalities behind the dry statistics. It brings the Lean family vividly to life, and provides new evidence about the other characters closely involved with the *Reporters*: John Taylor, Arthur Woolf, William Browne, William West, William Tonkin and Stephen Eddy. Some of these men were corrupt, others totally honest. The *Reporters* were advertising for a fierce competitive industry, and the interplay between the personalities makes fascinating reading. The book is the result of ten years original research, and the author, who regularly contributes to our *Journal*, supports her case with hard facts and the opinions of those who were alive at the time. I believe our members will find this book a good read, and there is much in it to argue about. It should be available before Christmas from Willow Books.

JAB.

2003 SUBSCRIPTIONS

All members are reminded that their subscriptions are due on January 1st 2003. The subscription rates remain unchanged. It is believed that the last time they went up was seventeen years ago. Please check you are paying the correct amount to ensure you receive all your publications and information.

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TREVITHICK SOCIETY EVENTS AND CONTACTS

NOV 8th — East Cornwall

Devon Great Consols: The Last Days.
by Dr. John Goodridge.

NOV 22nd — C.S.M.

Present problems from an old industry.
by Derek Morgan.

JAN 17th, 2003 — C.S.M.

Cornwall's Lighthouses.
by Alan Renton.

FEB 21st — C.S.M.

China Clay in the Cotton & Paper Industries in the 19th Century.
by Charles Thurlow.

*Meetings are held in the Lecture Theatre,
Camborne School of Mines at 7pm.*

*East Cornwall Branch meetings will be held
at the Public Hall Complex, Liskeard at 7.30pm.*

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The Trevithick Society, a registered charity, is a recognised body of the study of industrial archaeology in Cornwall. Membership is open to all who are interested in the region's great industrial past, whether or not they live in Cornwall. The Society takes its name from one of Britain's foremost inventors and pioneers of the Industrial Revolution, Richard Trevithick, a Cornishman whose name is inseparable from the development of steam power.

This Newsletter is published quarterly and, together with the annual Journal, is distributed free to members. Letters and contributions are always welcome and should be sent direct to the editor. The views expressed in this Newsletter are those of the authors and not necessarily those of the Trevithick Society.

Subscriptions 2003:-

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|-------------------------|-----|
| Single members | £15 |
| Family (husband & wife) | £18 |
| Overseas members | £18 |
| Corporate members | £18 |
| Student members | £5 |