



THE TREVITHICK SOCIETY

KOWETHAS TREVITHICK

NEWSLETTER 184 SUMMER 2019



The streets of Camborne were adorned with flags on Trevithick Day. Glasson's Garage kindly allowed the Puffing Devil to use their forecourt to steam up. Photo: Molly Oliver

Reg. Charity No. 1,159,639

NEW HONORARY MEMBERS

Congratulations to the following members who were unanimously voted as Honorary Members. Each of them has been a member of this Society for fifty years.

- Rev. Richard Ackworth
- Charles Daniel
- Arthur Furze
- Robert Gunn
- Richard M. Heard
- James B. Lewis
- Mrs Lesley Michell
- William A. Morris
- Mrs Pat Penhallurick
- Paul Rawstron
- Rev. Colin Short
- Ian Thompson
- Mrs Rosemary Thurlow

KTJR

NEW MEMBERS

The Society gives a very warm welcome to the following new member and looks forward to meeting her at any Society events:

Mrs S J Davis

Camborne

TINCROFT SHARES



Following the inclusion of the above scanned image of a Tincroft share certificate in the last newsletter a surprise package arrived from Lincoln James in New Zealand, which contained a compendium of reports about Tincroft between 1912 until 1924. It has been a fascinating read. Thanks.

CNF

WILLIAM CARTER (BILLY)

It is with deep sadness we record the death of Billy Carter, a cousin of our late Chairman Clive Carter, on April 19th aged 80 years. Although he was not a Society member he was part of the Puffing Devil's original crew and always very reliable and willing and the quality of his work was legendary. After education at Redruth Grammar School he trained in engineering with Holman's at Camborne and in later years he joined Camborne College as an engineering lecturer, a job he loved.

Copy date for next newsletter:

September 15th 2019



Established 1935

CORNISH MINING HISTORY DAY

New Year 1939, South Crofty miners went on strike over pay, conditions and lack of union recognition. August 1939 with the impending onset of WW2 the strike is successfully concluded with miners in Cornwall for the first time having their unions recognised.

80 years on a *Cornish Mining History Day* will be held in commemoration. This free event (including free parking) will be on 31st August, 2019 10.30am - 4.30pm. Activities for all generations will include bouncy castles, archery, NERF arena (the kids'll know what this is!) music, dancers, dialect stories and local historians helping us proudly celebrate Cornish Mining and Miners, near and far... Even the Puffing Devil will be in steam.

The strike was a huge deal back in 1939 with workers from St Austell and all the way down to St Just and Pendeen being affected for the best part of 8 months while the men were out. So, it would be wonderful, if we can gather any first or second (or third or fourth...) hand accounts of what this strike meant in privation and/or success for the miners and all the ancillary businesses and their workers. From the material collected we intend to make posters or, if we can, make a video/presentation from them. Either way, we will use whatever we obtain on the day to share with others. Thank you to all of those who have already started looking, and please can we encourage others to speak to relatives, look through the old photo albums and memento boxes, and rummage through the attic!

FREE tickets available now on Eventbrite, with free goody bags for first 50 showing their ticket or just turn up on the day, free parking, usually £3.00 per day. <https://www.eventbrite.co.uk/e/south-crofty-39-tickets-6244>.

Look at the above web page for more details or contact:

southcrofty39@gmail.com

Mark Newman and Sandy Easterbrook

A LEVANT MYSTERY

In Newsletter 183 we asked for any information about the connection between Giles Oats, of the well-known Penwith family, and the explosive works at Trago Mills where he was living in 1923. Our thanks to member, Diane Hodnett, who has found a number of references via the British Library; these are further pieces of the jigsaw but not yet the full story.

Oats' residency at Trago is confirmed in August 1923 by an announcement in the Western Morning News of the birth of his son. He appears again in April 1924 as the instigator of a "Major Sale of Equipment" at Trago. Most of the items for sale were what one might expect from an industrial site, but they did include 'a tennis net and 50 pullets'. In July of the next year, a list of mourners at the funeral of the Penzance solicitor and mine adventurer J. Vivian Thomas includes Oats and his wife 'of Falmouth'. The following November he is listed as the vendor of the Trago Mills site. It would be interesting to know if the purchasers were the Burrows brothers, who began to trade there from around 1931. By March 1926 the Oats family seem to have been settled in Falmouth and were advertising for a cook.

We already knew that Oats died in May 1938 at Barton on Sea; his obituary in the *Cornishman* notes that "for a time he was manager of the Cape Cornwall Hotel". The hotel was of course the grand family home built by Giles' father, Frank Oats. This seems something of a come down. The picture of Giles which emerges appears that of a restless soul, trying his hand at this and that. His elder brother, Freathy, was occupied until 1930 with running Levant, perhaps leaving Giles to make his way elsewhere, although Giles was also a director of the mine.

Pete Joseph and Graham Thorne

TREVITHICK DAY

The weather forecast for Trevithick Day was dreadful with such strong winds that the Trevithick Day committee had to cancel the fun fair, street stalls and the various outside stages. Despite this setback there was still plenty for the crowds to enjoy including the traction engines, miniature steam engines and classic cars, the various indoor exhibitions, street entertainers, the Bal Maidens & Miners dance (photograph below), culminating in the magnificent parade of steam past the Trevithick statue.



As with previous years this unique spectacle attracted visitors from all over Britain and abroad. Indeed, soon after the crew assembled on the forecourt of Glasson's Garage at 6.30am, an Australian man appeared unannounced. He then spent the next two and a half hours chatting to the crew and watching and photographing the steaming of the engine, and that was before the day had officially started. Later in the day a German couple approached the crew. They had specifically come to see the Puffing Devil as the gentleman had made a working model of another Trevithick Engine, which was on show at an exhibition in Germany, and he wanted to model the Puffing Devil. To that end he quizzed the crew and took intimate photographs of the engine from every conceivable angle.

The Puffing Devil was stationed in Basset Street

and every twenty minutes or so we would drive the length of this level straight street. Between these outings, queues formed so children and adults alike could stand on the engine and have their photographs taken. Sean Oliver was particularly adept at getting the children to pull on the steam whistle chord lighting up their faces with the surprise.

Trevithick Day is a celebration of Camborne's industrial heritage and of the achievements of Richard Trevithick himself, especially the invention of the high pressure steam engine. Not only



does the Puffing Devil provide tangible proof but also enables the crew to explain its significance as the true beginning of mechanised transport. Yes, there were attempts to build viable steam locomotives beforehand, like Nicholas-Joseph Cugnot in France and William Murdoch in Redruth, but these were impractical designs and consequently were evolutionary dead ends. It was Trevithick's high pressure engine which became the basis for motive power during the nineteenth



century and beyond, on road, rail and water. Not only that, this small compact, eminently portable, powerful engine meant factories no longer need to be tied to waterwheels or coalfields. They could be sited just about anywhere. Trevithick's high pressure engine and developments of it undoubtedly changed the world and the people of Camborne (and Cornwall) are rightly proud of that pivotal moment in history, on Christmas Eve 1801, when Richard Trevithick and a small band of pioneering engineers went 'Up Camborne Hill, Coming Down'.

Trevithick Day was a success, but for the Puffing Devil it nearly didn't happen at all. The second part of the boiler test was scheduled to take place four days before the event. Unfortunately, during this test, the bar, which sticks out of the crosshead beam and helps to control the motion of the valve gear, sheared off at its base. The steam test had to be abandoned.



Thankfully John Sawle had the time, the expertise and the workshop facilities to repair the broken part and the



steam test was able to recommence the day before Trevithick Day, this time without any problem.

During the course of one of the runs up Basset Street a woman and a child carrying a balloon were walking along the pavement. As we approached the balloon escaped and drifted across the street. The Puffing Devil ended the balloon's bid for freedom with a surprisingly loud bang!



The BBC gave good coverage of the event featuring on Radio Cornwall during the day and on the Spotlight television news, with me being interviewed above.



Not only was the town bedecked with the new Trevithick Day flags (see front cover), but the shops were dressed with appropriate displays including a 'Puffing Devil on rails' in Rowe's the baker. Camborne Library also organised a town trail, the last question of which involved asking the crew when the Puffing Devil replica was completed.



The festivities ended with the parade of steam past the Trevithick statue and then down through Cross Street and up Trelowarren Street.



The Puffing Devil was not part of the parade. Instead we waited until it had passed the town clock and then drove through the massed crowds lining that part of the town and headed back to Glasson's Garage. The next photograph shows the engine crossing the main road into Glasson's forecourt.

One of the pleasing things that



has happened for a number of years is the appearance of young lads whilst we are steaming the engine in the morning. One such lad watched us for an hour again this year. What was unusual was the arrival of a boy about eight years old at the end of the day, who quietly stood there and watched the crew take the fire out and get ready to load the trailer. This young man had a walkie talkie with him and every so often would chat on that. He did not say a word to us, so I think we all assumed he was just patiently waiting in the car park for his transport to arrive. We were waiting too for John Sawle's tractor to load the trailer, when fortuitously a tractor and trailer drove into the car park hoping to purchase a pasty from the Cornish Oven pasty shop. Sadly for him the shop was shut, so instead he decided to have a chat with the crew and lucky for us he was more than willing to load the engine on the trailer. This was done with the young lad watching the entire performance, and then his mother arrived and immediately thanked the crew for looking after her son explaining "all he wanted to do on Trevithick Day was watch the Puffing Devil and particularly wanted to see it at the end of the day".

Special thanks are due to the crew Ralph Ingham, Sean Oliver and John Woodward; John Sawle for his immense assistance in getting the engine ready for the big day and for transport, together with his son Olly; Dave Wothers and his son (boiler inspectors) and to Charlie Daniel who put so much time and effort into ensuring the success of the steam section.

CNF



Society member Charlie Daniel aboard his ploughing engine.



The grand parade of traction engines approaching the Trevithick statue.

AGM WEEKEND

This year's AGM weekend began with a trip to A & P Falmouth Docks, which is situated in the world's third largest natural deep water harbour. It is the largest ship-repair complex in Britain with three large graving docks - the largest of which was empty on the day of our arrival, so we were lucky enough to see it from within (photo below).

The visit began with a talk and video explaining a bit about the 160 year history of the docks and the work undertaken. The yard undertakes repairs and conversions to about 100 ships a year with the Royal Fleet Auxillary providing core business. They also service ships for the oil and gas industry and offshore windfarms, install technology to reduce toxic emissions and have a sideline manufacturing concrete pontoons.

After this informative introduction, by Jez Littlejohns, the motley crew were then togged up in case of seagull attack, before going on a guided tour of the site. Thankfully the seagulls were too busy in St Ives maurauding tourists to be bothered with us.

With 36 members present there were too many of us to wander through the



workshops where the massive fabrication takes place, so instead we were taken around the three docks to see the two vessels being undergoing refit and repair.



The highlight of the trip was to go down to the floor of the dry dock, which the guide said was the Panama dock - so named because it had the same dimensions as





the Panama Canal (though clearly not as long). We were told not to photograph any of the 'grey ships', so as you can see the gargantuan RFA ship that was in dock is missing from the photos. If you want to know what it looks like view the A&P website which has plenty of photos of RFA ships or visit Falmouth as there are plenty of vantage points where you can photograph them.

That evening there was a fascinating talk by Peter Ledingham, at King Edward Mine, about the deep drilling underway at United Downs to test and tap the geothermal energy from a fault zone

deep withing the granite, where heated water flows. The deepest well, 4,500 metres depth, had just been completed and the second due to reach 2,500 metres had just started. Hot water will be pumped from the deep well then fed through a heat exchanger at surface, which would in turn drive turbines to generate electricity. The underground water will then be sent back down the shorter injection well, where it would permeate through the fault zone to create a continuous 'closed' cycle. If all goes to plan this site will generate up to 3MWe for the next 25 years, and although that is a small return on such a significant



As you can see the Torpoint Ferry is being converted into a hovercraft!



investment, the whole project is a valuable test of concept which has the potential to unobtrusively provide a significant percentage of Cornwall's future energy needs. This talk was followed by a site visit after the AGM weekend on 24th May.

Saturday morning saw the AGM attendees assemble at Poldark Mine ready for an underground tour of the ancient Wheal Roots workings. Again we were kitted out with fluorescent jackets

and hard hats, this time to protect us from any bats flying around, and following a short talk about the workings 29 members proceeded underground. Poldark Mine is a tourist site so the railings, cut steps and large amounts of iron fencing might give many visitors a false impression of what Cornish mining was really like, however, there was still plenty of genuine stonp to see, and water dripping, to counteract the artificial Health and Safety paraphernalia.





One point of interest for me was the incredible amount of moss growing underground due to the electric lighting. After returning to grass, we were free to wander around the site and view the large machinery, including the Greensplat engine above, plus the artefact-rich museum.



Thanks are due to David Edwards, the owner of Poldark and member, who so generously hosted us. He also kindly stored our shipping container full of memorabilia.



Saturday afternoon saw the members assemble again in Falmouth, this time at the Prince of Wales pier ready for a guided tour of the town, led by Alan Cox, a well known town guide.

This stroll around the streets took us to the original main street of Falmouth, High Street, past the former brewery dray yard to a vantage point overlooking



Flushing. On the way, the guides' friend, in his nineties, took us on a detour down a narrow alleyway to see where he lived as a boy and give us an insight Falmouth life during his childhood.

The AGM itself and Annual Dinner were held at the Penmorvah Manor Hotel on the outskirts of Falmouth. This was a very convivial affair within pleasant surroundings.



The AGM itself re-elected the officers and the existing management committee, plus honorary membership was bestowed on several members who have completed fifty years membership.

The final event of the weekend was a visit to the Kennall Vale gunpowder mills at Ponsanooth led by Kinglsey Rickard. This extensive site has lots of building remains, leats, blast walls, and some iron work to view and ponder about. Black Powder was milled in the valley prior to 1813. The milling machinery was powered by overshot waterwheels fed by an extensive network of leats, with all the gearing and iron parts kept below the floor of the milling equipment itself. The other noticeable feature of the site is the large number of small isolated buildings where the various constituent manufacturing and ancillary operations were carried out, helping to minimise the omnipresent threat of explosion. This strategy worked as the aperiodic explosions tended to be restricted to single buildings and thus caused minimal disruption to production. The manufacture of gunpowder ceased

in 1898 and the refinery abandoned, however, it was re-opened in the 1920s by Bickford-Smith to assist with the production of gutta percha for safety fuse manufacture.

Special thanks are due to Kingsley Rickard, Sheila Saunders and Pete Joseph who organised the weekend and again to Pete who compiled the excellent Programme Notes.

CNF





The remains of the overshoot waterwheel which sat between two mills massively constructed of granite blocks. The remnant gearing seen below was in a room below the mill bed, to reduce the risk of explosion. The roof of these mills was flimsy so any such explosion was directed to the heavens.



MAINTENANCE AND RESTORATION WORK TO LEVANT WHIM III

For the past 3 years any maintenance/restoration work carried out on the Levant Beam Engine has required a written report. The reports are then forwarded to the National Trust Archives, in both paper and digital format, to form part of a permanent record of the engine. The National Trust has now kindly given permission for The Trevithick Society to reproduce them in its newsletters.

The individual reports have been amalgamated into sections to cover their engineering assemblies. The work featured in the previous two newsletters was completed during the 2016/17 winter lay-up, with the work shown in this edition being carried out during 2017/18.

All the large parts were machined by Robin Statham (proprietor of Chapel Engineering at Leedstown) together with his fellow engineers.

All work on site was carried out by myself and Michael Penberthy.

John Woodward

CONDENSER INLET VALVE HORIZONTAL CROSS BAR

Original and made from wrought iron. Holes reamed out and bushed with iron. Bar not repainted. Fitted with new square bronze nut and pivot bolt. Secured by brass split pin.

VERTICAL HANGER FOR CROSS BAR (B)

Original wrought iron hanger attached to modern mild steel bracket which in turn attached to floor joist by coach bolts. Cross hole reamed out to take new pivot bolt. Hanger not repainted.

FOOT PEDAL ASSEMBLY (A)

Surplus weights discarded and apart from a new adjustable stop, the assembly was returned to the arrangement as illustrated on restoration. New square bronze nut and pivot bolt fitted. Since the assembly is now correctly in balance, the four lengths of knicker elastic, used to return the foot pedal to battery, was discarded. Assembly not repainted.



SWEEP ARM REPLACEMENT

The top wedge had come loose on the landward side. The taper was incorrect and required a large chamfer on its edges to clear corner radii cast into the slots of the iron beam. Wedge made from 25mm square black mild steel bar stock.

DISMANTLE AND REASSEMBLE AIR PUMP VALVE

During service, a slight judder could be observed on the air pump rod which was clearly noticeable when looking vertically downwards from the bob loft. This only occurred at the bottom of the stroke where the beams arc of travel together with any misalignment between the beam and the air pump would be at its greatest. On stripping, it was found that both the valve and the gland casting had been fouling the rod. In addition, the 1" sq. P.T.F.E. stuffing rope in the valve casting was too rigid to allow for any movement.



AIR PUMP GLAND CASTING

Brass clamping bush had been fouling rod. Clearance increased from .040" to .080". Brass masked off before shot blasting and painting with two pack paint.



AIR PUMP SLEEVE CASTING

Modern stainless steel turning with four tapped holes to take M20 studs. Pattern made and new iron casting poured. Machined, shot blast and painted with two pack polyurethane paint. New 7/8" Whit bronze studs fitted together with 38mm A/F sq. nuts and washers. The stainless M12 Allen screws used for locking have been replaced with bronze 1/2" Whit sq. head screws.



TIN MOULD DISCOVERY



Whilst surveying a stamps site recently I came across a small tin mould in a garden wall. I realise that a lot of what is growing across it must post-date the construction of the wall, but can any member give an estimate for a possible age for the stone? Unfortunately I don't know the age of the property; it is on the 1st series OS map but I don't have the tithe map for the area (Nancledra). The earliest streaming in the area is currently 1501, but it must predate this by some time. Currently there is no record of any blowing or smelting.

Pete Joseph (Curator)

KING EDWARD MINE

Would members please note that the KEM museum directors have recently conducted a review of their finance arrangements and Society members will still enjoy free entry on production of a current membership card but discount on sales will in future be 10%.

TREVITHICK DAY

Trevithick Day is normally the busiest day in the Society's calendar and the income is a huge boost to the Society's funds. This year, for the first time ever, the weather forecast was for very strong winds and a last minute decision by the organisers was taken to cancel the fairground and all the stalls for health

and safety reasons. The steam side of the event and dances continued as normal as did the undercover sections and despite the forecast there was a large public turnout. Due to health problems within the regular canary crew an appeal was put out to help with the tent erection and general lifting and also packing away at the end of the day. The result was very pleasing with several volunteers wanting to help, some for the early turn, which starts at 7.00am so many thanks to those volunteers who unfortunately had a telephone call or e-mail to inform them of the cancellation at quite short notice on Friday evening. See you all next year!

KJTR

ST IVES MUSEUM

St Ives Museum was started in 1924 and it is well worth a visit. To be accepted, all of its exhibits must have a connection with St Ives in some way. Given the large mining and fishing connections, plus the railway and other factors, it has amassed a wealth of interesting artefacts. The museum has just reached a milestone in its history, as it has now been situated in its current home at Wheal Dream close to the harbour for fifty years. The Society has a close relationship with the museum, as the curator Brian Stevens and his wife Margaret are members. The Trevithick Society was represented at a celebration held at the museum on Friday 24th May.

KJTR

PUFFING DEVIL

The Puffing Devil will next appear at:

- W.E.S.E.S. *Cornish Steam & Country Fair*, 16th, 17th, 18th August 2019 at Stithians Showground. TR3 7DP.
- Cornish Mining History Day, 31st August 2019 at Heartlands, Pool. TR15 3QY.

LEVANT REPORT

The Levant Report in the last newsletter by Ron Flaxman prompted four letters from people associated with Levant, a meeting between Kingsley Rickard, Brian Jones and The National Trust manager and considerable discussion at the Society AGM under Any Other Business.

Levant Whim has long been a core issue for the Society since its formation in 1935. Not only did the Society preserve that engine as one of its first activities, but in the 1960s gifted it to the National Trust together with, Trevithick's Cottage at Penponds, the East Pool engines, Robinson's at South Crofty, an engine house in Devon, plus a substantial dowry. This gift did not see the end of the Society's involvement, as the restoration of the Levant Whim back into steam was a Society Project led by Milton Thomas and the 'Greasy Gang'. In addition members have long played a key part, as volunteers, at Levant and at East Pool (Cornish Engines). As a consequence, a Levant report has regularly appeared in the newsletter, written by Ron Flaxman, since July 2008 and by Eric King for many years before that. The last report was unusual in that it was critical of the National Trust management and highlighted issues which have led to the loss of volunteers.

The four letters received expressed a range of opinions. For example, Jan Bearé stated "I became a member of the 'Greasy Gang' in 1986, 33yrs ago. I was forced to leave in September 2017 due to the new management being totally ignorant of steam engines and refusing to take advice, thus endangering a unique asset." and continued with a number of important technical points concerning recent restoration work (which will be passed on to the relevant people) and ended with "I am very worried about the situation at Levant as there are no experienced volunteers available to advise the engineer". Two other letters expressed the opinions that the Society newsletter was the wrong vehicle to express grievances and personal opinions

and should never be used for criticism of another organisation and its staff, as that might imply that the Trevithick Society endorses the opinions.

The fourth letter from Doug Murphy stated:

"I am one of the newer volunteer engine drivers at Levant Mine, having qualified some eighteen months ago, and I was very concerned to read Ron Flaxman's report in the last Society Newsletter.

Firstly, I should state that I am completely aware of all the work that Ron and many other volunteers have done at Levant over many years; they should be applauded for that and it should not be forgotten that, without their efforts, there is little doubt that we would not now have a working engine. However, times move on and work that was once carried out (quite capably) by volunteers can nowadays only be done by those who have the correct "tickets". We live in a litigious society and, quite rightly, The National Trust must protect themselves from and possible claims, from wherever they might come.

I very much regret that a number of volunteers have felt that they could no longer offer their services to Levant. We will miss them, and we thank them for their service in the past. It is a disappointment to me that they cannot see themselves volunteering under the current management structure as, in my opinion, The National Trust has the best interest of Levant Mine at heart. The development plan that they are working on seems to me the correct way of ensuring Levant's future, and the current management are committed to this.

There is no doubt in my mind that the future of the engine is in good hands; John Woodward is obviously a competent engineer, and among the drivers who are continuing to volunteer is a core of engineering experience which will stand us in good stead for the future. (I should make it clear, that doesn't include me!)"

Clearly there are issues at Levant for the National Trust to address. The views expressed above are those of the authors and not necessarily those of the Trevithick Society.

BOOK REVIEWS

Steam South & West by Michael Messenger, Twelveheads Press, 2019, 978 0 906294 95 6

Michael Messenger is a familiar name to Society members, as Life Member, Office holder, Publisher and Author. His latest offering, published by his Twelveheads Press, is a collection of his own railway photographs. *Steam South & West* roams the rails west of a line from Bristol to Southampton with a diversion to the wonderful lines of the Isle of Wight. He began taking photographs in the late 1950s and the book effectively covers around a decade which saw the end of steam in the west of England.

Railway photograph albums are hardly a rarity in the bookshop but this one is genuinely distinctive. The reader will search in vain here for endless images of 'The Limited' on the sea wall at Dawlish. Michael seems to have photographed whatever took his fancy and produced, in his own words, "a personal selection of photographs that I think are interesting or simply those that I like". The journey from Gwinear Road to Ventnor begins on the cover with a classic Western Region branch train on a Southern Region level crossing; we immediately sense a photograph of real interest.

The author has also described this volume as a vanity project. This reviewer begs to differ. *Steam South & West* is a splendid survey of its area by one with a keen eye for its quirks. It is also excellent value at £16, produced to the publisher's usual high standard.

GT

The Archaeology of Underground Mines & Quarries in England by John Barnatt
£40.69 Hard back/£26.40 Soft Back

This book is a comprehensive examination of the underground mines and quarries of a large part of England.

However, it is mostly concerned with the north of England, and consequently there is little coverage of mines in the south-west, particularly, Cornwall. It covers aspects as varied as the prehistoric period, early historical period, medieval period, the Tudor, Stuart periods and the 18th, 19th and early 20th centuries. It deals with many different types of working from the earliest and most primitive methods to the fairly sophisticated techniques and technology of the 19th century. Barnatt covers most types of access, methods of ore removal, driving the levels, sinking shafts and stoping. Some of the descriptions apply to the north and midlands and sound foreign to those of us brought up in Cornish mines. The author describes drainage systems, pumping methods, lighting and ore dressing.

Undoubtedly, the book is enormously enhanced by the photographs taken by Paul Deakin, perhaps the finest underground photographer of the last few decades. It is also enhanced by the many maps, plans and lode (vein) structures.

The northern emphasis is shown by the rather strange definition of 'Adit' in the glossary. An adit was always a drainage tunnel. Throughout the south-west it was rarely used for access and even more rarely used for ore removal. In his *Survey of Cornwall* (1602), Richard Carew gives the Latin origin of the word 'Ab aditu ad aquas' - an approach to water. They are not 'usually horizontal', but always have a slight slope toward the portal, to allow a free flow for the water. During the 18th and 19th centuries, when the mines in the south-west were mainly for copper (which required less water for dressing) the adits were used as 'pumpways' to which the water was hoisted to save being taken to surface.

This book is a valuable addition to the large library of books now available to those fascinated by all things underground. Despite its northern bias, I'm sure that most interested in the archaeology of English mines and quarries will benefit from reading it.

JAB

SOCIETY MEETINGS PROGRAMME

KEM: 7.30 pm start at King Edward Mine, Troon, Camborne TR14 9DP.

Liskeard: 7.30 pm start at The Long Room, Liskeard Public Hall PL14 6BW.

Monday 8th July (Liskeard)

Cornish Branch Lines - "Now and Then".

By Dave Ager

Friday 12th July (KEM)

The "Married Widows" - the wives left behind.

By Lesley Trotter

Friday 9th August (KEM)

Goldolphin Mining

By Steve Polglaze

Monday 12th August (Liskeard)

The Crossings of the Tamar

By Bruce Hunt

Monday 9th September (Liskeard)

The Murder of Neville Norway

By Chris Batters

Friday 13th September (KEM)

The King Harry Ferry

By Dave Naylor

Friday 11th October (KEM)

Talk on Wheal Kitty

By Roger Radcliffe

Monday 14th October (Liskeard)

The China Clay Industry: it's history and probable future

By Ivor Bowditch



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For up-to-date news check:

<http://www.trevithick-society.org.uk>

<https://www.facebook.com/trevithick.society/>

Non-members are welcome to attend.

Non-members £2.00 please.

MEMBERS' BENEFITS

Trevithick Society members are entitled to free entry (on production of the membership card) to the following attractions:

- King Edward Mine
- Cornish Engines at Pool (East Pool Mine and Michell's Whim)
- Levant
- Geevor Museum
- Poldark – free entry to site and reduced fee for underground mine tour

Also:

- 10% off book purchases at Tormark.
- 10% off purchases at KEM shop.

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