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All articles, notes, comments, reviews and news items are welcome and should be sent to the Newsletter Editor. Authors are responsible for the contents of their articles which do not necessarily reflect the policies of the William Pengelly Cave Studies Trust.

ISSN 0309-9180
Welcome to the first Newsletter of 2021. Like everyone else, we have been constrained by the coronavirus restrictions of the last 12 months but we are attempting in this Newsletter to keep you in touch with what has been happening since the last issue in November.

We have recently been trying to look forward to the time when activities and events in the Trust and at the Centre get back to normal. As part of that we are trying to develop our contacts with a wider range or organisations and people in Devon and more widely. So we have printed extra copies of this Newsletter which we are distributing to people who may or may not be aware of what the William Pengelly Cave Studies Trust does and what happens at the Studies Centre at Buckfastleigh. If you are receiving this Newsletter but have not previously been aware of what we are and what we do, we have put together a short description of the origins and work of the Trust and of the activities at the Centre. This is on pages 2 and 3 but you will also get a picture of the work of the Trust from other items in this Newsletter.

If you are a Trust member we draw your attention to the items about the 2021 AGM, the work of the Council and activity at the Centre during recent months; these are on pages 4-10. Then, on pages 12 to 13 you will see that some members are aiming to produce virtual materials for us at the Centre, online via the website and at suitable sessions elsewhere. We have limited experience of this type of activity; if you have expertise that we can use we’d be delighted to hear from you.

In recent years the Trust has been very focused on its work at the Centre and this has resulted in extensive improvements to the services and activities that we offer there and in the immediate locality. But the Trust, when Antony Sutcliffe first created it, had a much wider vision—he even spoke of developing other study centres elsewhere in the UK. That never happened, but for many years the Trust did offer programmes outside Devon and published a substantial and well-regarded journal. We should, I think, aim to be developing a vision that is wider than simply operating the Centre.

John Wilmut
The William Pengelly Cave Studies Trust is a charity whose origins were in 1962 when Higher Kiln Quarry at Buckfastleigh was purchased with the intention of creating a cave studies centre. The quarry contains a number of caves, one of which (Joint Mitnor Cave) contains the remains of many species such as elephant, bison and hippopotamus dating from the period between the last two major glaciations (between 120 and 80 thousand years ago). This cave is internationally recognised as a type site for this period.

The organisation is named after William Pengelly who was a local man who, in the mid 19th century, excavated a number of cave sites in Devon, most notably Brixham Cave and Kents Cavern at Torquay. He was also responsible for establishing excavation methods and records that became a model for all modern archaeology.

Joint Mitnor Cave was first entered just before WW2 when bones were found and identified as the fossil remains of animals that had been present in the area in the warm period between the two most recent ice ages. The cave was excavated in the 1940s and 50s but a large part of the deposit was left in place and this can be viewed by visitors. The picture shows a tooth from a juvenile straight tusked elephant and bones from bison and red deer.

Other caves at the Studies Centre are closed to visitors either because of their fragility or because they are used by hibernating bats. Elsewhere in the local area are also caves that are used for recreational purposes. The picture shows a small and particularly vulnerable formation in one of the caves.
The Trust is committed to promoting the study of caves, to providing information through educational programmes and to cave conservation.

**Research**
The Trust supports a wide range of research at the Centre and elsewhere. There has been a variety of large and small projects in areas such as cave water percolation, cave location techniques, palaeontology and bat studies.

**Education and conservation**
Much of the work of the Trust is concerned with providing information about cave studies through lecture programmes and publications. Displays in the museum at the Studies Centre cover many aspects of cave studies and are specifically concerned with cave conservation. The management of the quarry and caves at the Studies Centre is directed towards good conservation practice.

Current publications are listed at the back of this Newsletter. The Trust maintains an international cave studies library at the Centre.

**Centre visiting**
The Centre operates a visitor programme open to all comers on specific days in the summer. Visitors either take guided walks or may guide themselves round the site, following a printed walks guide.

Groups of many kinds visit the Centre by special arrangement. Some are school or other children’s groups, others are student or special interest groups. There is accommodation for about 20 people at the Centre.

**Support for the Trust**
This comes from members and from sponsorship for specific aspects of the Trust’s work. We have a good working relationship with the Devon Wildlife Trust which maintains the quarry as a local nature reserve, with local and regional caving bodies and with the British Caving Association. We have also benefited from support from our local councils and the Dartmoor National Park and from personal support from many local residents.

We welcome all interest and support. If you would like to know more or to get involved in or support the Trust’s work, please contact any of the officers listed on the inside back cover of this Newsletter or visit [https://pengellytrust.org/](https://pengellytrust.org/).
The 2021 Annual General Meeting

In accordance with Charity Law, members wishing to make nominations (or volunteer) for positions on the Council need to do so by **19th March 2021** so that the AGM Agenda can be finalised at the March meeting of Council.

In relation to nominations all officers retire each year but are eligible for re-election if they wish to put themselves forward. Also other members of Council normally serve three years at the end of which they are eligible to stand for re-election.

The following have been nominated by Council for officer positions at the AGM, which will take place at The Centre, Russet Lane, Buckfastleigh, Devon, TQ11 0DY, on **Saturday, 5th June 2021**, at **2.00 pm**

- **Chairman** - Dave Warne
- **Treasurer** - David Jean
- **Secretary** - Alan Finch

The following have been nominated by Council for re-election as a Council member.

- Patrick Boylan
- Keith Coventry
- Richard Vooght

Any member may make other nominations (including themselves) in writing or by e-mail it the Secretary of the Trust:

Alan Finch, Zennor, South Zeal, Okehampton, Devon. EX20 2QA

[alan@alanfinch.net](mailto:alan@alanfinch.net)

Next Council meeting

The December 2020 Council meeting was postponed until January 2021 and then cancelled because of the lockdown; Council members consulted by email and telephone and minutes of that consultation have been generated. The next meeting of the Council will now be held on 20th March 2021 and may take place wholly or partly online.

It is, perhaps, noteworthy that the December/January meeting was the 200th since the creation of the Trust as a charity and limited company in 1970. Before that, of course, there were meeting of the Association created by Antony Sutcliffe in 1962.
New members of the Trust will always be welcome. If you are reading this but are not a member, or know anyone who might be interested, please contact the membership secretary (details on the inside back cover) or go to the Trust’s website https://pengellytrust.org/

Membership subscriptions for 2021 are now due. Many members already pay by Standing Order but if you don’t do this you can either
- pay by BACS direct into our bank, sort code 20-68-10, account 50962805 being sure to include your name
or
- Pay by cheque payable to William Pengelly Cave Studies Trust and sending the cheque to Hon Treasurer, William Pengelly Cave Studies Trust, 13 Tor Road, Hartley, Plymouth PL3 5TE.

Membership rates are

**Joint** ................................................................. £17.50

*Two people living at the same address. Both may vote at General meetings, use Trust facilities such as the Library or Centre but only one set of publications is provided.*

**Individual** .......................................................... £15.00

**International** ....................................................... £20.00

Whilst a short period as guest editor for this Newsletter is reasonably enjoyable I don’t see it as a job for life. When I agreed to do the last issue I said that I’d do that and one more, so you are reading the ‘one more’.

We need a new editor. I am glad to help out and to write pieces but I don’t want to go on editing. So, if you fancy producing 3 of these a year, with the opportunity to stamp you own ideas on the publication, please get in touch — my contact details are on the inside front cover.

*John Wilmut*
What has been happening at the Centre?

Visits programme
We have taken bookings for several special interest group visits for later in 2021 though clearly subject to the lifting of some restrictions and the willingness of volunteers and visitors to participate. Sheila Phillips, who organises this programme, remains in contact with organisations that normally use the Centre or whose visits were cancelled in 2020.

Guided walks programme
The expansion of the summer guided and bat walks programmes, planned for 2020, fell foul of the Covid restrictions at that time. At the time of writing there is a commitment to run walks programmes in 2021 (subject to restrictions which may still be in place) but whether these will use the existing or a new expanded pattern is to be decided. Whichever happens there is a need to increase the number of volunteers who can act as walks guides. The planned guide training programme that should have happened last year may be reinstated at some stage though no details are available at present. If you are interested in becoming a guide (it’s a most enjoyable and rewarding way of spending a summer’s day) please get in touch with David Jean (details on the inside back cover).

The museum
Displays and equipment in the museum have not suffered unduly during the closure of the Centre. Apart from some cleaning and tidying it should be ready to reopen as soon as visits resume. The only change will be improvements to the display of bat photographs, taken by the late John Hooper, which lined the staircase. They are part of a wider collection of photographs which were deposited in the library some years ago and which have recently been found, but for which we don’t have any negatives. As part of the rejuvenation of the display John Wilmut is making digital copies of the whole collection.

Quarry boardwalk
The boardwalk, installed in the quarry some years ago, has been a major improvement to the educational work of the Trust, making visits and guided walks much easier and more
flexible, especially with the provision of information boards along the route. However, over the last few years there have been signs of deterioration with quite a large amount of the timbering requiring replacement.

This culminated in a serious collapse a couple of years ago of the staircase that links the quarry floor with Joint Mitnor Cave entrance (pictured left). There was then an extended period during which the Trust sought financial help with the costs of replacing this staircase with a better designed and more durable structure; there have been several very welcome contributions to the costs but not sufficient to pay for the whole of the work. Finally the Council agreed, late in 2019, that the replacement would be funded with £9000 from the Trust’s reserves and a design was approved and a contractor appointed.

Covid and steel shortages have intervened but it is expected that work will start very soon. The slope has been cleared of the original staircase (see right) and we hope that this section of the boardwalk will be open for use this summer.
Monitoring and maintaining the Centre
The quarry area and the buildings are vulnerable to intrusion and there have been signs of trespass (and at least one case of intrusion of the buildings) in the last year. It is impossible to maintain 24-hour monitoring of the site but there have been progressive improvements in our security, alarm and surveillance systems. Where the Covid restrictions permit, the Centre has been visited and checked on a regular basis and there have been several checking and maintenance sessions. These will continue over the next few months with a number of urgent maintenance tasks already identified.

Ash die-back and Dutch Elm disease
In common with many other sites in Devon we have now begun to suffer ash die-back so, in discussion with the Devon Wildlife Trust, the dying ash trees, together with two elms which have Dutch Elm disease, will be felled before the nesting season at a cost of about £800.

Accommodation
We continue to take a few provisional long-term bookings.

Recent work by the Council
Not having met since the publication of the last Newsletter (see page 2), the Council has made relatively limited progress on matters not directly linked to the work at the Centre (reported on pages 4—5).

Conversion to a CIO
Covid restrictions appear to have hit the Charity Commission as hard as everyone else. Patrick Boylan made a final submission of documents early in November last year but, at the time of writing, there has been no response from the Commission. We hope for better things.

Finance
Full accounts will be published for the AGM in June. Since the last Newsletter (where the treasurer provided an interim report on costs during 2020) the secretary applied for and received the December Covid grant of £1300 and will endeavour to track down any further government grants that we may be entitled to. Although the Trust’s
finances remain healthy there has been almost no recent regular income and none from residential groups in the last 12 months. Since we cannot be sure that there will be accommodation income in 2021 the Council is limiting expenditure to essential or already agreed items.

**Higher Kiln Quarry Management Committee**
The furloughing of Devon Wildlife Trust officers has prevented any meetings of this Committee in the last 12 months.

**Trust policies**
There has been an increasing expectation that organisations such as the Trust will develop, maintain and implement appropriate policies on a wide range of matters, with particular pressure on organisations that involve public participation. To that end the Council has already agreed policies concerning the Safeguarding of children and of vulnerable adults and a thorough revision of our existing Health and Safety policy is in hand. There is a continuing discussion of the implementation of these policies in the context of our guided walks and visitor programmes and in relation to what we expect from residential groups that use the Centre.

**Caves at the Centre**
COVID restrictions in 2020 and the present lockdown have meant that there have been only a couple of trips to Reeds in the last 12 months, both lead by Richard Vooght. One of the trips was with Plymouth Caving Group (PCG) and this was a familiarisation with one of the PCG members becoming a leader in 2021 or perhaps 2022. The other was another PCG trip which was based on the upper series and a bit of route finding to try and find the notorious Micron Squeeze.

In Bakers Pit there is a joint project with Devon and Cornwall Underground Council (DCUC) and Devon Speleological Society (DSS) to re-tape the cave. This project has now been running for two years and has been hampered by the lockdown. But the aim is to replace the current tape and to decide whether there are other locations in the cave which need taping. Another aim of the taping has been to find a way of lifting the tape off the cave floor and formations, as in some places it was being calcified into the formations.

If anyone would like to help with the taping in Bakers to contact the conservation officer at DCUC (via [http://dcuc.org.uk/](http://dcuc.org.uk/)) for more details.

Thanks to Richard for this update.
The Trust Library

At the present time the library is managed by Richard Vooght. It is housed in two secure rooms at the Centre but access was limited in 2020 and the whole Centre is presently closed.

The growth of the library since it was moved from London to Devon has meant that a complete reorganisation of storage and a re-cataloguing has been needed and this process is ongoing. Richard has sent the following note about recent work in the library.

“Over the last six months I have been very busy in the library sorting out and cataloguing the various items within it. I have been trying to be at the Centre sorting the library and other things once every two weeks. Currently I have been through all the boxes in the library which were on the main shelves and sorted out all the publications which were periodicals from various clubs or organisations around the world. In the library there are currently items from thirty-eight different countries not including international or regional publications.

Whilst cataloguing, I have adopted the same cataloguing method as BCRA Library does. This consists of the library being split-up into different countries, regions, if UK based or different disciplines like General Geology and Palaeontology. These are then added to a multiple of spreadsheets which makes it easier looking up documents into the future, also having the potential of future trading any duplicate documents Pengelly has with the BCRA. From the spreadsheets I have created a labelling system which can be added onto the document folders. As there are a multiple of periodicals stretching back decades, I have placed them into document folders for ease of storage and ease of finding a document.

“I have now started with the general publications, which I have left after I completed the periodicals. This seems to be a challenge due to the vast range of items in the Library ranging from books of caves, to
the photographs of John Hooper’s, through to mineral and fossil specimens. In late December, I emailed Alan, David, Dave Warne and John when I found a whole box of John Hooper’s photographs of various things. I asked what would be the best way of recording and preserving them in the future as currently they are in envelopes, which are labelled with a name or activity of what is happening, these include stills of the ‘Squire of Penn Recca’ film he made. We decided that each photo will be scanned with a note on where it is. The original being stored in an acid free envelope in an archival photo file which could hold up to a thousand photographs in one go.

“Finally, I have asked Alan for a list of the periodicals that Pengelly receives on an annual basis. These include newsletters from the national speleological society in America, the Grottan newsletter from Sweden and many more. Over the years the list of periodicals which Pengelly receives per annum has dropped due to a few reasons. These include the switch from paper (Hard Copies) newsletters to electronic, the change of address when the library was transferred from Harry Pearman’s House in Kent to Buckfastleigh, and even that an organisation is not around anymore. However, luckily there is a way around finding missing or electronic newsletters which the library is missing. As now some clubs and organisations are now putting past and current publications onto their websites as PDFs to be downloaded. This has made it easier for keep up to date with organisations around the world, as the Australian Speleological Research Association and the Fédération Française de Spéléologie seem to have a good digital libraries of their periodicals, with the former only producing electronic newsletters.

“As I have been sorting out the library there has been a lot of duplicate material. I think in the future we could offer a trade with local clubs on what duplicate material we have with maybe items Pengelly does not have. When we have exhausted this idea with the local clubs, I may approach the BCRA Library on the idea of trading with them on items they have.”
Developing virtual materials

One of the principal objectives of the Trust is to provide education facilities and programmes related to cave studies. In the past this has been done in a number of ways which include talks and lecture events, the production of booklets, leaflets, a journal and a newsletter, the maintenance of a museum at the Cave Studies Centre and the conduct of guided walks, most of which incorporate (as a central element) a visit to Joint Mitnor Cave while others are to view bats during evening walks close to the Centre. The Trust also maintains a considerable reference library of printed and other material related to cave sites around the world. Most of the Trust’s publications directly support these activities. There are leaflets and booklets that relate to the various features to be seen at the Cave Studies Centre and in the surrounding area and there is a list of these at the back of this Newsletter. The Trust has recently commissioned a new booklet that describes in details the bat species to be found in the area close to the Studies Centre; this should be published in the early summer of 2021.

Alongside the exhibits in the museum at the Studies Centre are information panels that expand the showcase exhibits. There are also two audio-visual displays and visitors on the guided walks programmes are given introductory presentations that use conventional Powerpoint displays. These walks programmes are deliberately designed to be flexible and informative, with experienced and knowledgeable volunteer guides going well beyond scripted presentations, encouraging questions and discussion. In consequence the Trust gets a very positive response from visitors who very frequently stay on after a guided walk to browse in the museum.

The Trust also provides bespoke programmes to children, students and special interest groups who visit the Centre by prior arrangement. In support of these, volunteers have built up
an extensive collection of learning materials and equipment that can be adapted to meet a wide range of needs. Within these programmes there is a strong emphasis on the conservation of caves and the Trust works closely with the National Park, Devon Wildlife Trust and others to deliver strong messages about this.

The whole of the Trust’s education programme has been seriously undermined in 2020 by the Covid restrictions. While volunteer work has been restricted to improvements to and maintenance of the fabric of the Centre it has become clear that a more diverse collection of support materials needs to be produced; a number of approaches have been considered.

*Video snippets.* These would be short video clips covering specific aspects of cave studies. One example would be a basic presentation about bats – perhaps a specific species such as the greater horseshoe bat which is found at the Centre. Another might relate to the lime kilns and the burning of limestone from the quarry. Short presentations of this kind could be accessible through the Trust’s website, viewed in the museum, or shown to visiting groups.

*Introduction to the Centre.* This already exists in Powerpoint form but could be turned, with appropriate commentary, into a stand-alone presentation discussing how the limestone formed, how the caves formed in the limestone and how the bone deposit got into Joint Mitnor Cave.

*Virtual guided walks.* These would be a much longer videos which could include walks away from the Centre (such as those included in the Trust’s limestone walks book) as well as those at and near the Centre. These could be accessed via the website.

The Trust has some experience of the use of virtual reality sequences that were produced by a unit at the University of Birmingham a couple of years ago. While we don’t expect to develop this type of material immediately it will clearly be valuable to develop experience in this field, in both production and use of videos for educational purposes.

There have recently been some offers of help with developing this experience and we have applied for financial help with the purchase of suitable equipment that can be used underground as well as on the surface. At the time of writing we are waiting to hear whether we have been successful; if so we will be starting to develop some materials as soon as the current lockdown eases.
The north European steppe dates from a time when the current UK was a peninsula of Europe joined to the mainland across what is today the North Sea. Rivers like the Dart meandered across this steppe providing a water source for the many animals which inhabited the steppe. These included, at various times, mammoths and straight tusked elephants which form part of the fauna of Joint Mitnor cave along with many other species such as bison and hippopotamus dating from the Ipswichian Interglacial. The richness of the fauna preserved in the cave has led to this becoming a type site for this stage of the Ipswichian.

David Jean

Recent Survey of Joint Mitnor Cave

Since its discovery and subsequent investigation just before the Second World War by Joint, Mitchell and Northey (Caves in Buckfastleigh Quarries, 2012) a great deal of palaeontological work has been undertaken in Joint Mitnor but very few plans of the cave have been produced. The first was by Antony Sutcliffe who carried out excavations and created a demonstration site within Joint Mitnor. He followed this up by being part of the founding of the William Pengelly Cave studies Trust in 1962.

Since then Ali Neill of the Plymouth Caving Group created a survey as part of funding from the Nature Conservancy Council. Minor
investigative work continued and in the summer of 2019 Prof Andrew Chamberlain from Manchester and John Stewart from Bournemouth University carried out some further sampling.

Towards the end of 2019 the Trust received a call from Don McFarlane and Joyce Lundberg who had previously visited the site to say that they had access to a scanner from Faro Technologies in Florida and would like to use it to carry out a scan of the main parts of Joint Mitnor. It turned out they could carry out this work in early 2020 while carrying out other work at Kents Cavern. Just a morning would be needed and this was facilitated by the Trust.

A 3D T-Lidor scan was created starting at the bottom of the steps outside the cave, moving into the main chamber and talus cone. The scan included the first of the lower level but did not include the New Extension which remains to be done. The data was sent to Guy Van Rentergem, who we did not meet, in Belgium to create the map.

Further information and the map will be available in a future Newsletter.

From road to church via the Centre

A public footpath runs steeply up Russetts Lane from the old A38 road, past the limekilns and the Cave Studies Centre and then becomes a stony path that ends outside the churchyard. 

Sheila Phillips reports that she has completed a self-guided walk of the footpath for a Buckfastleigh Town Council community programme within its ‘B Buckfastleigh’ scheme.

It consists of photographs of locations and objects of interest covering geology, local history, dialect, flora and fauna. A great deal of the written content goes back to research Sheila did with Squeak (Wilfred Joint) in the West Country Studies Library and Record Office and it will be linked to ‘Active Devon’ and ‘Walking for Mental and Physical Health’ and is one of the ways in which the Trust maintains links with the local Councils and supports their initiatives.

The design is by John Walters. When published the leaflet will be distributed by ‘Be Buckfastleigh’ through ‘Be Active’ and ‘Be Well’ schemes. Information about B Buckfastleigh is available on https://bebuckfastleigh.co.uk/
World’s oldest animal cave painting

Archaeologists have discovered the world’s oldest known animal cave painting in Indonesia, believed to be drawn 45,500 years ago. Painted using dark red ochre pigment, the life-sized picture of the Sulawesi warty pig appears to be part of a narrative scene. The picture, which measures 136cm by 54cm, was found in the Leang Tedongnge cave in a remote valley on the island of Sulawesi. The age of the painting has been established from a calcite deposit that had formed on top of the painting: Uranium-series isotope dating indicates that the deposit was 45,500 years old; the artwork could be much older.

The painting depicts a pig with horn-like facial warts characteristic of adult males of the species. There are two hand prints above the back of the pig. Whilst the painting may be the world’s oldest art depicting a figure, it is not the oldest human-produced art. In South Africa, a hashtag-like doodle created 73,000 years ago is believed to be the oldest known drawing.


BCRA cave symposium 2020

The website Darkness Below (https://darknessbelow.co.uk/cave-scientists-travel-the-world-from-their-armchairs/) reports the proceedings of the virtual 31st Cave Science Symposium of the BCRA held in November 2020. The meeting was arranged and hosted online jointly by Northumbria University and the British Geological Survey and was joined by more than 100 delegates from 30 countries. With the BCA’s Hidden Earth conference and other research conferences being cancelled, this was a valuable event—a full day of nine lectures on a variety of cave science subjects. You can read a review on Darkness Below.
Grotto 45 minutes from London

Found hidden within Painshill Park at Cobham in Surrey is a stunning crystal grotto located with shimmering, bubbling water, rough rock and stalactites covered in sparking crystals. If seen on a sunny day, visitors will see shafts of light which pierce the calcite, quartz and fluorite inside, through carefully placed apertures.

This amazing design was one of the pieces created by Charles Hamilton in 1738. After travelling around Europe, he sought to fill his own plot by Renaissance architecture and natural caves. The Grotto is normally open for visitors Tuesdays to Sundays, from 10.30am until 4.30pm, and entry is included in a general ticket to Painshill Park. Trust members may like to visit this site—it is one of the many underground sites in an area explored and reported for over 40 years by our late chairman, Harry Pearman.

Long caves in Slovakia

Speleologists exploring the Demänovská Ice Cave have discovered 250 metres of new corridors and halls. This cave system is 43km long and the longest in the Carpathians.

Earlier in 2020, 350m of new corridors were found and 3 months later in the Ice Cave, cavers entered new passages 250m long. Many bones of extinct cave bears were found.

There are many other caves in this area, covering a total length of 80km and the research is still ongoing with the prospect of connecting the Štefanová and Demänovský Cave systems to make in a cave longer than 60 kilometers.
Most people would be excused for thinking that Carnglaze Slate Cavern near the village of St Neots in Cornwall was the only slate mine in Devon and Cornwall; it isn’t. With a length of 348 metres and a depth of 22 metres there is a substantial hole in the ground lurking almost forgotten in the northern end of the parish of Staverton, South Devon, where there is a slate mine called Penn Recca, with nearly 1.5 kilometres of passages and subterranean chambers up to 30 m high. Slate mining is very rare in the West Country; however slate quarrying was relatively common. Penn Recca dates back to about 1388 when owned by the Dean and Chapter of Exeter, Staverton being one of their manors. They decided to lease it to Lord Dartington for roofing buildings at Dartington Manor. Mentioned again during the reign of Charles I, it was noted for providing local building material operating then as surface quarrying concern. Over the years the “pits”, as seen on early maps, appeared to operate on two adjacent sites divided by a trackway leading to Ashburton.

Between 1823 and 1845 slate was sold in reasonable quantity but in the later years speculators approached the Church with a view to expanding the abandoned flooded workings. Various letters were exchanged with Exeter’s Chapter which eventually led to an amalgamation of the two top quarries, Penn Quarry and Recca Quarry: they simply became Penn Recca. Negotiations on rent and tithes were agreed and a push to construction an adit from Combe began.
in 1845. At nearly half a kilometre long it runs north, dead straight, on a gentle downward gradient towards Combe, 40 metres lower than the quarries. Along its length can be seen the remains of three shafts where they dug down from the fields above. Drill marks indicate that once the correct depth was reached each began to tunnel, north/south, to meet up. It is thought that the adit was completed by 1847. The shafts in the fields were later filled in and now there are no traces. There is a series of connecting tunnels in the upper quarries on the same level. It is believed that this was a cheaper way to explore for quality slate rather than removing the overburden. From these tunnels two vertical shafts were driven downward eventually meeting up with two being driven upward from the adit below. They obviously missed slightly as both have a dog leg in them. At the end of the adit good slate was found and three large interconnected chambers were excavated, known as main chamber. To the east, a further 75 m, another chamber was created about 30 m high, near the roof of which is the entrance to a third tunnel leading into the upper quarry. Known as Echo Chamber, due to the reverberation it can give off, it presents a very impressive sight. This chamber is the only one with access to the surface quarry above. There is little evidence of how exactly the chambers were mined but it is likely they cut upwards, the slate taken out on a tramway which ran the length of the adit to Combe. Here there are remains of buildings that suggest they received the slate for onwards transportation by road. The last record of the mine operating is from 1908. Today little can be seen except the chambers and tunnels; all machinery has been removed and access is restricted. The mine remained the property of the Church Commissioners who until recently allowed it to be used as the fresh water supply to Staverton. The entrance at Combe was partially bricked up and a locked metal door fitted causing the water to build up in the adit to a depth of about ¾ metre. Inside the mine the chambers now stand silent but imposing. Access from the old abandoned quarry above is also gated but the vertical shafts are open and unguarded in the floor of the tunnels. Penn Recca is no Llechwedd at Blaenau Ffestiniog, in North Wales, but it would be nice to think it could have a future.

Much of the information about Penn Recca Mine comes from the work of Pengelly Trust member Dr Trevor Shaw who explored and surveyed the mine in the early 1950s. Copies of his surveys are reproduced overleaf with references to two publications about the site, and followed on page 22 by some photographs by Dave Warne.
MAP II

PLAN OF MINE
SUPERIMPOSED ON
SURFACE FEATURES

PENN RECCA QUARRY
TUNNELS
HIGHER PENN
PENN RECCA QUARRY
LOWER COMBE

FT. 200 400 600
For more information:
Devon County Geological Sites - site reference SX76NE2
Penn Recca: some more photographs

Above and right: Two views of Bell Chamber—part of Main Chamber

Below: one of the shafts in the mine

Above: Echo Chamber

Left: Remains of the railway in Combe Adit

Photographs by Dave Warne
Trust publications

Publications of the Trust may be obtained from Alan Finch at ‘Zennor’, Throwleigh Road, South Zeal, Okehampton, Devon EX20 2QA. Telephone 01837 840259. Here is a list of the books, booklets and leaflets available; please contact Alan for information about others. Prices include postage and packing.

Articles from back numbers of STUDIES IN SPELEOLOGY are available.
Please contact the librarian for an index and for copies.

A Self-Guided Walk on Buckfastleigh Hill
This is one of two guides for use at the Centre. Over 14 pages it describes a self-guided route that starts at the Centre and introduces the walker to the principal features, structure and geology of the hill and its caves. It is well illustrated, has a map and is a valuable summary of the more detailed information in other Trust publications and in the Centre museum. £2.50

A Walk through Higher Kiln Quarry and Joint Mitnor Cave
This is the second of two guides for use at the Centre. Over 12 pages it provides a summary of the principal features that visitors see in the guided walk through the quarry, in Joint Mitnor Cave (the bone cave) and in the Centre museum. It forms a companion guide to the self-guided walk, limekilns and geological garden publications. £2.50

The Limekilns
Wilfred Joint and John Wilmut (2005)
This is a 4-page supplement to the information boards at the Centre. There are four main quarries in Buckfastleigh Hill and all are in the coral limestone. Much of the stone taken from these quarries was burned for making lime in the kilns at Higher Kiln Quarry. This factsheet describes the kilns and the traditional lime-making process that was used at Buckfastleigh. £0.50

The Geological Garden
Bob Symes, Sheila Phillips and John Wilmut (2007)
This is another supplementary 4-page leaflet. In the courtyard of the Centre there is a group of rocks from the local area, set out as a geological garden. They give some idea of the range of rocks that visitors see on and close to Dartmoor. The leaflet gives detailed information about the rocks and where they came from. £0.50

More publications on the next page
Kents Cavern: A Field Guide to the Natural History
Joyce Lundberg and Donald A McFarlane (2008)
Over more than 150 years researchers at Kents Cavern have discovered a sequence of deposits that cover a half-million year history, making this cave one of the most important cave sites in the world. Here the authors show how the cave first formed and developed and they describe the excavations by William Pengelly. The Guide then takes the visitor on a tour of the show cave. At each stop the authors describe the evidence on which our understanding of its development is built. £4.50

The Geology of Buckfastleigh Hill
Nigel Trewin, David Jean and John Wilmut (2007)
The origins of Buckfastleigh Hill go back 350 million years and its story embraces tropical seas, volcanoes, coral reefs and the building of a massive mountain chain. Caves in the hill’s limestone provide evidence of ice age erosion and of warm periods when lion, elephant, hippopotamus and other animals roamed the Dart valley. This illustrated booklet provides a detailed description of the geological history of the hill. £3.50

Caves in Buckfastleigh Quarries
Edited by John Wilmut (2012)
This booklet has been produced by the Trust as an updated and extended replacement for two of its earlier publications. It includes descriptions of the history, geology and exploration of the caves that will be of interest to anyone who has visited the area and particularly for those who have seen some of the caves at the Centre. £5.50

Exploring the Limestones of South Devon
John Wilmut, Chris Proctor and David Jean (2014)
Created when Britain lay south of the equator, Devon's limestones are as exciting and interesting as any rocks in Britain, as are the caves which have been formed by the action of water over thousands of years. Research in the last two centuries has yielded much information about our past climates and about the people, animals and plants that once inhabited this area. The walks are described in great detail and the book can be used to combine the walks in ways to suit the walker. £7.00

Bats in the Buckfastleigh area
Colin Wills (2021)
This will be an illustrated handbook about the bat species to be found in the local area of the Centre. It will provide information about their physiology and habits, and is designed to support the regular bat walks at the Centre.
Early days at Joint Mitnor Cave

Once the excavation and documentation was completed it was a matter of preparing Joint Mitnor for visitors. That involved the removal of a great deal of debris and the building of pillars to support parts of the roof. The photograph by Antony Sutcliffe is from 1965: two workers, four observers and a photographer, a not untypical situation.

Items on pages 16-17 have been taken from information kindly supplied by Herman de Swart in the Netherlands; we are grateful for his help. The front cover photograph was by Antony Sutcliffe in Bunkers Hole, taken in the mid 1960s. The photographers for those on the rear cover aren’t known.

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EARLY BAT STUDIES

Above: Packing live greater horseshoe bats in Spider’s Hole Cave. They appeared on BBC TV with John and Win Hooper in November 1949. On return to Buckfastleigh they were released.

Above Right: Win Hooper and Tom Thompson of BBC News recording the squeaks of a bat. Taken at the entrance to Joint Mitnor Cave, March 1949.

Below Right: Pathé News filming in Reeds Cave in November 1950; preparing scales for bat weighing.