

SOUTH WALES CAVING CLUB NEWSLETTER

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MINES AND MINING

Mines were made to go down, but they were not necessarily made to last. The decay which was already progressing when the mine was abandoned has been allowed to proceed without check. In spite of this many cavers are being attracted to the idea of exploring these other types of holes, but it will be obvious that the dangers are greater.

The mines fall into three main categories:- the coals, the salts, and the metaliferous. Of these, the coal mine should be recognised by its spoil and left entirely alone. Coal is usually found associated with shale beds and clay and the roof timbers are vitally important. Once abandoned they fall in rapidly. In addition, there is usually gas, both fire and black damp.

The salts include common salt NaCl mined only in Cheshire now, and Gypsum which is mined in several parts of the country, Staffordshire in particular. Both these deposits were originally sedimentary and are mined in a similar fashion to coal. Most of the mines still open are being worked but visits can sometimes be arranged.

Slate is also mined and provides some of the largest cavities I know of. Here the native rock is weak in tension and sheets often fall from the roof. Otherwise the mines are attractive and are occasionally very large. They are easily recognised by the large spoil heaps, waste from the dressing shed.

The major part of this article is devoted to metaliferous, however, as this group provides examples of all the problems met with in mining. They also provide the largest group still accessible to cavers.

The metals mined in quantity are lead, zinc, copper, tin, iron and barium. The ores can often easily be recognised. Lead occurs as Galena PbS and is a shiny, lead-coloured, very heavy metallic ore, which tarnishes slowly to dull grey. Zinc as Black Jack, ZnS and is dark brown almost resinous looking but it may be black or yellow. It is easily crushed. Copper ores can often be best recognised by the green secondary deposits associated with it. Barium occurs as Barytes BaSO_4 and is used directly (the metal has no use). It is a white, heavy mineral which can just be scratched with the finger. All these minerals can be found together.

Iron is also a major ore and has been mined extensively in the Forest of Dean and in South Wales. Its colour varies dramatically from yellow through bright red ocre to black and grey. Haematite is the chief ore. The deposits are often sedimentary but the type is complicated in the Forest where it occurs in bodies loosely interconnected with the others.

The lead, zinc, copper ores occur in 'lodes' which have been deposited by hydrothermal solutions rising from below. These hot solutions fill natural fissures, faults and cavities in the country rock and the result is an ore body which is long and thin and is, typically, nearly vertical. The method of mining is to drive a level at the lowest convenient point, into the lode, thus draining the mine and providing the first rail level. This level is called the day level and all other levels are normally measured from it. The ore was then won by digging upward using the technique known as 'verhand stopping' and at convenient intervals timbering floors as they crossed the slope which is often only a few feet wide. When the surface is reached these levels are abandoned and mining progresses downward pumping when necessary. This means these levels are now flooded. A discovery today of an adit (level) does not therefore tell one if it is the day level or is an intermediate one. Water on the floor is therefore useful to indicate the soundness of the floor, provided it does not sink suddenly. At least, the biggest danger is a sudden soaking.

Timbering is common and presents the biggest hazard. Its outer two inches or so are usually rotten. In spite of this, timbering holds back large amounts of deads, the waste rock, and it should not be touched or disturbed. Timber was used to bridge holes in the floor and the wood was then covered with rock and soil. They may, therefore, be almost invisible and care is needed to watch out for this. The hollow sound may be the first indication of the drop below.

Gas is sometimes met but in my experience the only common one is black damp CO₂ and is usually detected with an acetylene lamp which smokes when the concentration builds up. If a candle will not burn then the gas is at a dangerous level. It is not possible to rely on observing one's own reaction to the gas since the senses become dulled first, but any undue difficulty in breathing may be due to this cause. The gases are all produced by rotting vegetation, wood etc., and it is when these are associated with poor ventilation that the gas builds up.

Shafts are now a usual method of entry but some were never designed for climbing, but were used as air shafts only. These are generally smaller, four to five feet in diameter, and do not have any surface buildings. In either case the walls should never be used and a pole across the shaft with the ladder central, is the normal technique. The shaft often goes the full depth of the mine but there are levels off at several points.

MINES

The previous discussion illustrates some of the points needed to be understood when contemplating a mining trip and the following descriptions are of actual mines we have experience of. They have been used to illustrate some of the problems mentioned and are not a full description of the mine itself. The four mines are all metaliferous but other mines could have been used.

GWYN FFYNEDD

The Gwyn Ffynedd was one of the biggest gold mines in the Barmouth gold reef. It was worked successfully in the last century and produced several ores besides gold. It is sited near the fork of a river at ref(737281) and on the fork is the old treatment plant, using the river as motive power. The entrance is an imposing level by the mine buildings. The route passes the loading shute where ore was trucked out. The slopes overhead are concealed as yet. The bottom level now has some fine formations. The higher levels can be entered at two points, near the far end and near the loading shute. At the end access up a side passage leads up a very steep shute with a ladder at one side. The timbers are rotten and should one near the top come away it may demolish the lower ones. Any falling debris will be dangerous on this route. From these top workings one can see the shutes leading to the loading points. These are timbered channels, now rotten. In the bottom level, by the entrance, the route leads to a chamber where the roof at one side is a neat timbered overhang. The way on rises steeply and turns back until a hole in the 'rock' floor shows the same chamber below. The timbering is almost invisible from above.

These platforms were built as railway levels as well as working platforms. The rock on the floor should never be taken to prove that the floor is sound.

SNAILBEACH LEAD MINES.

The mines are in South Shropshire and were worked until 1920, bringing up lead, zinc and barytes. The mine was reputed to have produced the greatest volume of lead for area worked in the world. The workings extended to 1600 ft. below Ladder Shaft but are now almost certainly flooded to the drainage adit at 336ft. The shafts are mostly in a poor condition, although they are open. The best access we have found is via Perkins Level at (379,022). This is an exploratory crosscut but it crosses an open slope.

The slope is at about 80 degrees and is worked to at least 350ft. The route down is hazardous because the road above is slowly falling into the open pit. The rubble then uses the ladder pitch for a time. The worked area cuts through the normal levels at 100ft. intervals. At 250ft. such a level can be entered by swinging with the ladder and the series explored. The mine tool room was found to be intact, if inaccessible now. The way was clearly down but it has not been explored as yet.

The ladder pitch shows clearly the technique of bridging the open drops to enable the railways to operate as mining takes place. Such materials have now fallen except a railway line.

OLD HAM PIT (CLEARWELL MINE)

This is one of the larger iron mines in the Forest of Dean. Entrance is now afforded by an old working used as an escape route, ref. 579085. The mines, for the underground workings connect several pits, closed around 1925-6 after producing nearly 1000000 tons of ore. The ore occurs in 'Churns' in the Crease limestone. These are large masses of ore interconnected with very small stringers. In the older workings the iron was won by pick and shovel and hand carted to the surface, often by boys. The mine at present is therefore a complex system of passages with few of the 'normal' hazards of loose roof etc. The tunnels are level and often very large when in the Churn. Narrow tight passages connect the churns, leading off from under slabs or part way up the walls. Sometimes there are a dozen side passages, all apparently identical, all leading to fresh churns. The size is unknown as yet but the passages must be in excess of 7 miles. Any expedition

should bear this in mind and take adequate precautions and food to reduce the danger if the route is lost. GSS and the RFDCC will often provide leaders necessary if a specific section is to be visited.

FRON GOCH

Mine situated in Cardiganshire near Devil's Bridge (724744). Large quantities of lead and zinc were raised in the last century but work was suspended due to the cost of pumping.

The mine consists of a number of shafts which are drained by an adit running through the Wymes Mine. This adit cannot be entered through its portal but a few yards from here, a slope can be descended which gives access to the adit. Great care is needed because the adit is partially blocked by debris. Even a minor fall would increase the water level and completely flood the passage.

The passage carries a surface stream which, like a cave, is prone to flooding. The adit leads into extensive workings which are not, as yet, fully explored. If the need arose, one of the shafts could be used for rescue purposes.

These descriptions are not intended to be comprehensive or fair but the particular hazards met underground are illustrated in many of them.

When the dangers are appreciated and allowed for, the mines still provide a source of interest and satisfaction without the dangers being excessive. The interest is the same as in caving with the added thrill of seeing the working conditions of the old mines, their tools, candles and clothing. The machinery is often still there but perhaps in unlikely places such as pumps in the roof of the newer mine. Finally, there are the miners themselves, who can often still be contacted and met.

Details of the mines can be obtained from books, especially the Special Reports on the Mineral Resources of Great Britain, Vol.X on the Forest of Dean, SRMR Bulletin No. 14. on Shropshire, Denbigh and Mendip. SRMR Bulletin on the mines of Cardiganshire and Montgomeryshire.

Wellington 1965.
Cardigan

SOME NOTES ON NEOPRENE

In the past few years, wet suits have become part of standard caving equipment. Many people choose to make their own, and everyone who has done this has encountered considerable difficulty in sticking the machined 'skin' surface of neoprene.

Neoprene was the first commercially successful artificial rubber; the manufacturing process, like most in the plastics and polymer field, was developed by 'Dupont' of America. It is marketed under a variety of names the most common of which, apart from neoprene, are: 'isoprene', 'poly chloroprene' and 'duprene'. The major advantage of this material over natural rubber is its superior resistance to sunlight, oil and organic solvents.

Those of us who own a wet suit know that it is an easy material to handle. Seams and joins can be made by butt joining edges of the material, using 'Evostick' or 'Bostick' impact adhesive. Many people will also know that it is almost impossible to make a satisfactory join with the smooth manufactured 'skin' surface, and either another such surface or the cut cell surface on the reverse of single skin neoprene. As two freshly cut surfaces can easily be exposed when making seams, this is of little significance; but when you wish to attach knee or elbow pads or make your tapes effective in strengthening the seams, instead of just looking sexy, the problem assumes greater significance.

There are three possible reasons for this phenomenon:

(1) the skin surface is so smooth that the adhesive is unable to bond on to it; (2) the release agents used in the preparation of the skin surface prevent the adhesive bonding; and (3) the adhesive is not wetting the neoprene and is not making a bond. In this latter case, this can only be overcome by using special neoprene cement, which is both expensive and difficult to obtain. The remedy for the first two cases is to attach the skin by solvent or mechanical means.

After making extensive enquiries about neoprene, I carried out some modifications to my wet suit, which was in a serious state of disrepair, and my findings are outlined below.

It is imperative that all surfaces to be 'stuck' should be scrupulously clean and, if possible, freshly cut; also Evostick (which is the adhesive I use), is too thick and slow-drying for most purposes. After a suggestion from Bryn Thomas, I tried using petroleum ether (lighter fuel) as a diluent; this

was moderately successful. A better diluent I have found is a 2:1 mixture of toluene and ethyl acetate, (using this mixture drying time can be cut to about 4 minutes). Toluene is also a very good solvent of dry evostick, and by careful application of this solvent I was able to open one or two of my original seams, by then eight months old.

In the manufacture of the neoprene the moulds have to be coated with a thin layer of some release agent to allow removal of the finished sheet. These release agents can vary from talc to complex stearates or silicones, and as far as I could discover there is no way of telling which is used where. The effect of these agents is, to say the least, unhelpful in sticking this type of surface, so I then investigated solvents for neoprene and tried mechanically removing the 'dirty' layer by rubbing with fine emery cloth. To my horror I discovered toluene is quoted as the best solvent for neoprene, closely followed by: benzene, M.E.K. cyclo hexane and xylene whilst tri chloro ethylene (tri chlor) Carbon tetra chloride (C.T.C.) and ethyl acetate are good solvents. That evening I closely inspected the new seams of my wet suit and to my relief they were exceptionally strong. Provided that you exercise care and moderation, any of the above solvents can be used with safety. i.e. Don't stand your wet suit in toluene overnight and expect it to be there in the morning!

The final test of all these enquiries came in sticking the elbow patches onto my wet suit. I scrubbed both elbows with soap and warm water to remove the dirt which had collected there in eight months use. Then I rubbed one elbow vigorously for about ten minutes with toluene. The other elbow I attacked with emery cloth. This latter effort I gave up as a bad job after twenty minutes' rubbing and treated this elbow with toluene also. The cut cell surface of the pads was cleaned by lightly rubbing with toluene and the pads were successfully stuck by applying two coats of full strength evostick in the normal manner. (A previous attempt with dilute evostick failed!) I have also found that cleaning neoprene tapes with toluene before applying adhesive considerably improves their adhesion.

All the seams, elbow pads and tapes stuck in the manner described above, have been tested by three eventful trips in Ogof Ffynnon Ddu and one very wet trip in Dan-yr-Ogof: to date they show no sign of failing.

Editorial note.

If anyone has any further information about wet-suit mechanics, please send it along; we can then publish it in the next news letter.

Editor.

WATER TRACING CARRIED OUT IN WALES

HARVEY, P.I.W., 1948

Notes on water tracings carried out from Pwll Byffre and Sink-y-Giedd. C.R.G., N/L 15. 35 oz. of fluorescein placed into Sink-y-Giedd appeared at Dan-yr-Ogof 50 hours later. 6 oz. placed into Pwll Byffre appeared at Ffynnon Ddu 48 hours later!

HUNT, D.

Digging prospects by C.Jones S.W.C.C. N/L 44. Proved connection of Waen Fignen Felen to Dan-yr-Ogof. In wet weather the dye took 18 hours.

JENKINS, D.W., 1956

Fluorescein test in the Nant Byfre S.W.C.C. N/L 16. 8 oz. placed in the Nant Byfre sink on the opposite bank below the farm near Pwll Coediog was seen after 15 hours in the first Tawe rising below the Gwyn Arms.

HARVEY, P.I.W. Private Comm. Proved connection of Bridge Cave stream to same rising as Pant Mawr.

HOLMES, I. 1962

Field tests of Rhodamine B in Ogof Agen Allwedd. C.R.G., N/L 84 also B.C. 35, pp.67, also H.C.C. N/L 14. Proved connection of Midsummer stream to the far end of Coal Cellar Passage and then into the Clydach river. Proved connection of Swiss passage to Draught passage of the old series.

DAVIES, M. 1962

Use of Durasol Orange - nylon detectors C.R.G., N/L 84. 10-lbs of dye proved the connection of Agen Allwedd water to the river Clydach, 80 yds. upstream from Devil's Bridge. One pound in Eglwys Faen did not register in the Cliffs of Dover in Agen Allwedd. 12-lbs in Mynydd Llangattock Swallet did not register at any of the nine risings.

DAVIES, M. 1962

Water tracing in Agen Allwedd B.C. 36 pp.22. Mentions HCC success proving Swiss passage Draught passage connection and B.N.S. test proving Agen Allwedd connection to Clydach Gorge risings.

DAVIES, M. Private Comm. Two attempts using Durasol Orange-Nylon method have failed to prove a connection between Ogof Fawr and the Hepste.

de GRAFF, B., 1960
and Gammell

Two Divers in South Wales S.W.C.C. N/L 33. White Lady to Cwm Pwll yr Rhyd. This connection has been proved by several people using dyes and has now been traversed by divers.

HOLMES, I., 1964

S.W.C.C. N/L 46. $1\frac{1}{2}$ oz. of fluorescein took $2\frac{1}{4}$ hours to travel from Ystradfellte sink to Porth yr Ogof.

HOLMES, I.

H.C.C. N/L 15 pp. 14. Proved that the Cliffs of Dover stream flows via Trident passage and reappears at the first inlet on the left of 'Southern Stream Passage'. Also that the small stream at the far end of St. Paul's flows to Midsummer Passage via Shamrock Passage.

BRYNMAWR C.C.

S.W.C.C. N/L 46 pp.13. Proved that Agen Allwedd water comes out of all the springs approx. 80 yds. upstream of the Devil's Bridge i.e. The Pothole, the two mushroom springs and the Elm Hole resurgence.

HOLMES, I.

S.W.C.C. N/L 46 pp. 10 and 13. In times of heavy rain water flows from the pool up above Agen Allwedd entrance towards the cliff face, sinks just over the edge and reappears in Stream Passage in the entrance series.

JONES, J.C. and A. Private Comm. One pound of fluorescein placed into Pwll Derw, Ystradfellte was not detected in either the Mellite or Hepste rivers.

ANON.

1963 A Radio Survey of Cwm Dwr Jama. S.W.C.C. N/L 44. 3 oz. of fluorescein placed in the horseless carriage dig was observed in both sections of the stream in Cwm Dwr Jama.

DUERDEN, M. and
HARTWELL, J.M. 1963.

Another fluorescein test in Cwm Dwr S.W.C.C. N/L 45. A few ounces of dye placed in the drain was not seen in the new extension. It appeared in Ogof Ffynnon Ddu.

Will's Cave stream which sinks via Ogof Goed-y-Ffrynau rises in the Byrwi, a pool at the confluence of the Mellite and the Sychryd. This connection has been proved by the muddy water from the Silica Mine.

BAYNTON, R. Private Comm. A $\frac{1}{2}$ -lb of fluorescein was put into Pwll Byfre and charcoal detectors at the first and second stream risings in Cwm Dwr Jama were negative. Dye seen in O.F.D. after 18 hours, the detectors in Hush Sump were positive.

BAYNTON, R. Private Comm. One ounce of fluorescein placed into the sink at 598888 on the Gower Peninsula. The detectors in the risings near the engine house at NGR 597878 were positive after three days.

LLOYD, N. Private Comm. The connection of the Bishopston stream sink 577897 near the quarry to the risings further down the valley at 574884 was proved visually using $\frac{1}{2}$ -lb of fluorescein. The dye took five days to appear.

Private Comm. A highly concentrated solution of fluorescein was dribbled into Llethrid stream sink, 532913. Two hundred gallons were used but no colour was seen at the Well Head Rising 539896 or other nearby risings.

BAYNTON, R. Private Comm. The connection between Murton Sink at 587892 and the Caswell Bay rising at 597878 was proved using an ounce of fluorescein and charcoal detectors. The dye took 5 - 6 days to appear.

BAYNTON, R. Private Comm. A $\frac{1}{2}$ -ounce of fluorescein placed in the Llethrid sink at 532913 did not produce a positive result with charcoal detectors at the Well Head rising at 539896.

BAYNTON, R. Private Comm. The 4 oz. of fluorescein dye placed in Ilston Sink was not seen at the Trinity Well rising near the ruin in Ilston Valley. Another trial using 2 oz. of dye and charcoal detectors was also negative.

DAVIES, M. B.C.41 pp.68 Llanelly Quarry Pothole Sink dye test negative.

DAVIES, M. B.C.41 pp.88 Dye placed in the Taff Fawr Caves, Merthyr appeared 100 yards down river.

FLUORESCEIN

Small amounts of fluorescein dye can be bought from:

Pronk, Davis and Rusby, Ltd.,
44, Penton Street,
London, N.1. Terminus 6682

at 21/- per pound, postage extra (about 1/2d per lb.). Always state that water soluble fluorescein is required and state that it is for stream tracing. With this firm the grade number is D379. Quantities of 10 lbs. or more can be bought from:

Williams (Hounslow) Ltd.,
Hounslow,
Middlesex.

Their grade name is 'Fluorescein extra'.

I.C.I.,
Dyestuffs Division,
P.O. Box 42,
Hexagon House,
Blackley,
Manchester, 9.

I.C.I. produce fluorescein LTS for stream tracing. They also make Rhodamine B500 and Rhodamine Lake Red B500 which are both suitable for water tracing.

The price of fluorescein in quantities of 10 lbs. is 20/6d per lb. postage paid, so there is little saving in bulk buying.

J. Hartwell.

Lewis's Pot SN 904155

This very small pothole was shown to us many years ago by Mr. Lewis of Blaen Nedd Farm.

It is situated on the edge of Pant Mawr where the moorland starts to slope down to the river Nedd Fechan, two miles south of Nant-yr-Moch.

It is best approached from the Nedd Fechan. Half way between the farm and the junction with Nant-y-Moch the river divides and rejoins at a double bend. A small tributary stream enters here from the west bank and the source rising of this stream is marked on the 6" O.S. Map. About 150 yards north west of this rising is Lewis's Pot.

The entrance, 4' x 6', is partly hidden by heather and there is no conical depression associated with the shaft which is 20 feet deep. There is about 30 feet of level passage at the bottom and a stream that sinks just outside runs through the cave. The shaft has been used as a dump for mortar bombs.

In this area there are several small streams which run just below the surface in very small channels and they appear and sink again many times depending on the recent rainfall.

J.C.Jones and J.Hartwell.

On Sunday, July 25, a party consisting of Derrick Holt, Tony Ives, Alan Coase and myself were reported overdue in Waterfall Series, Ogof Ffynnon Ddu. As very heavy rain had fallen during the afternoon the conclusion was obvious. Returning from Crystal Pool Chamber, we found Upper Flood Passage taking a heavy flow! and failed in our attempt to reach Lowes Chain. We were then forced to spend four hours waiting for the water to go down, crouched in a small tube in Upper Flood Passage. We eventually got out 11½ hours after entering with one compensating fact! we had discovered Tiger Aven.

This incident prompted the questions:- how good are the rations in Waterfall Series? Bill Little doubted their value and thought it a good idea to remove some of them for examination. So on September 4 I brought out one of the small cylindrical tins and one of the tins of U.S. Coast Guards Life Boat Rations. The former contained malted milk tablets which, although they had gone soft, showed no signs of putrefaction. The Life Boat Rations, when opened, were in perfect condition and the tin had only one tiny spot of rust showing inside at the end on which it had been standing. There are two similar tins of Life Boat Rations still in the cave but the other rations had best be considered duff.

The origin of these life boat rations had puzzled me for some time. But Charles Freeman, who was with me when I removed the samples, related their history to me, as we sat in Boulder Chamber. He had purchased a load of them as scrap from a ship in the early days of the Club! The date inside the tin was 1946. How long they have been in the cave, no-one seems to know; estimates vary from 14 to 9 years, but whatever their age, they certainly put Horlicks M.R.O./60/3 packs in the shade.

A summary of the congress held at Penwyllt in July.

CAMBRIAN CONFERENCE.

As our members will remember, at the time we declined to join in with the Nationalising tendencies, we promised to keep an eye on the situation to see if it later becomes necessary to participate in these activities. It was considered that a meeting of interested Clubs would serve a useful purpose and may well standardise policy within Wales. Thus the idea of the Cambrian Conference was mooted.

On July 17th, we invited all the Clubs who have an active interest in caving in Wales and the Marches to a congress at the Club to discuss items of mutual interest. Twenty-three clubs were invited although some were found to be defunct. Of these no-one refused and, on the day, fourteen clubs were represented.

Under the chairmanship of W. Little the conference debated informally several issues. On the subject of a National Body, the present situation was discussed after hearing the minutes of the latest joint meetings. The topic was considered quietly and it was seen that no-one was strongly in favour of the formal body but that an informal conference, held infrequently, would be the most useful. No action was, therefore, undertaken by the meeting to advise its member clubs to join in the various bodies. The present "status quo" would be maintained.

Records and information proved a more lively topic. All the Clubs agreed with a suggestion to set up a registry of caves and digs in Wales on the lines of the Mendip Cave Registry. No objections were presented to the idea of freeing Club records for this purpose. This is, therefore, to be set up and J. Hartwell, A. Williams and D. Jenkins have all agreed to help in this project. This will be set up before next year.

Other items provided interesting discussions on ladders, insurance, access, and ropes. Rescue was also discussed in some detail.

The conference ended after deciding to invite a CRG observer to the next meeting to be held in North Wales when the Shrewsbury Caving Club would be host. The meeting showed that we can consider ourselves as a region, without any great differences of opinion, and that problems can be discussed sensibly without a formal body. The next meeting is to be in a year's time.

Hon. Secretary.

RADIO - TELEFUN

Radio-telephones have been tested underground before and it has usually been reported that they do not work, full stop! One of the problems being tackled for the Balinka Pit expedition is communications up the shaft should the telephones fail. For this reason it was decided to try the 'walkie talkie', since the statements seen in print seem to be unqualified. Two Ultra transmitter-receivers type 3A4-AB3 operating on 84.6 mc/s were borrowed for the test. These have 180 mW output and an endurance of 7 hours in normal use. The range is claimed to be 5 miles and the unit is FM modulated. The complete set slips into one pocket.

The tests were done in OFD firstly and we went to the Cathedral to start. One set stayed here and the other was moved steadily along the passage to the step where the reception was still perfect. The distance is 300 feet direct and 500 feet by the shortest passage. The set was then kept at the step and the other was moved towards the entrance. As soon as the Cathedral was left, reception was lost and was not regained until the second set was brought back to the Cathedral. The fault that crosses this chamber seems to act as a complete block and further, that the waves do not use the passage but take the most direct route. Staying near the Cathedral I listened to Bill as he then left the cave and went down to Y Grithig where a group of cavers were arguing with Mrs. Barrows. They were trying to convince her that the secretary had given them permission to visit the cave without leaders. Much to their astonishment Bill handed over the radio and a discussion direct into the cave brought the sec. rushing out of the cave to do battle. This test showed that the radio did work and that it took the shortest route, but that faults deflected the beam.

We then went to Cwm Dwr since this cave is as long as the main shaft of Balinka Pit. The arrangement was for Bill to take one radio and go towards the Yama. When we lost contact I would follow and we would then test it in the large passages.

We listened, lying in the sun, to Bill crawling down Blasted passage, into sand crawl where he transmitted, lying flat out. We found we needed to hold our aerial horizontal over this period. By the time Bill reached the Jama, we were quite tired but reception was still perfect. Even at the far end of the Jama we were still able to converse ordinarily. We then left the entrance shaft and walked over the quarry to the Club with perfect reception until we crossed the end of the cottages, when we lost him entirely, (due again to a fault?). Jill was able to converse with her husband some 200 feet below her feet.

We then experimented with Bill still in the Jama and the other transmitter was taken above the quarry. It was found that the

quality fell off but as soon as a hillock was positioned in line with the end cottage we lost everything. Now Bill was almost directly below the end cottage at this time. Conclusion:- the radio waves pass easiest through air but will pass through several hundred feet of rock rather than follow a bend. It was noticed that the aerial had to be fully extended at all times for any reception.

Thus, we have shown that far from not working underground, the radio-telephone will operate over useful distances and would provide direct communications into most of the caves in South Wales, provided there were not too many faults. In such an application the procedure would be to track the underground station on the surface.

J. V. Osborne
Hereford 1965.

Book Review

'The Mellops Go Spelunking' by Toni Ungerer. Harper & Row, 16/6d.

This profusely illustrated, hard hitting story starts when Mr. Mellops loses a golf ball down a crevice. This is such an interesting hole that it is decided to mount a full-scale expedition to bottom it. Ladder is made, a dinghy obtained, supplies of food packed up, lamps tested - in fact, all the usual preparations are made.

The entrance pitch is descended without incident, and the team, father and four sons, explore the cave, surveying as they go. They soon meet an underground river and come eventually to an area showing signs of prehistoric occupation. They camp for the night, and next day they find that the river has become a raging torrent. They make good progress until their dinghy is holed. They survive, and after more adventures eventually reach the surface again.

Sample dialogue:-

"Deposits from dripping water have created these shapes", explained Father. "Stalagmites go up, Stalactites come down."

To sum up, I recommend this book to our younger cavers - under 8 perhaps. Oh yes, the Mellops are a family of pigs.

B.J. Woods.

CLUB NEWS

E.G.M.

At the E.G.M., attended by fourteen members, the proposed constitution was presented by Laurie Galpin, seconded by F. Baguley. The copy as circulated to all the members was accepted after a full and careful examination of the contents. The Rules will now be revised and the whole presented to the members in a permanent form at a later date.

The only significant alterations are as follows:-

Article (6) Part C - Alter 'are eligible' to 'shall be eligible'.

Article (7) Part C - Alter 'circulated' to read 'posted'.

Article (9) Now reads:-

'After reasonable consideration of the case. The Committee shall have the power to suspend or expel any Member for any breach of any rule, or for any other reason. The Committee need not be required to give any reasons. Such a Member may appeal to a General Meeting but is not eligible for introduction as a visitor.'

It was proposed, and accepted, that this Constitution be taken as operative as from the end of the Meeting.

Hon. Secretary.

Correspondence Received by the Secretary from Mel Davies.

While in Ogof Pwll Swnd yesterday with a B.N.S. party, I was appalled to discover the vandalism in the cave. You may know of this already but in case you do not, here is a brief description:-

All the worthwhile stalagmites have been broken and some of the pieces scattered about the cave. Other pieces are missing, but somebody has made a valiant attempt to re-assemble and re-erect the remainder. I enclose a photograph taken in April, 1957, to illustrate what I mean. The largest stalagmite shown is broken into three pieces and most of the others are smashed. (I would be glad if you could return the photograph as it is now something of a museum piece).

As the lower passage is only accessible by ladder the job must have been done by cavers. Can you or the Committee provide any information which would enable them to be traced and suitably chastised? A little bit of publicity in the Newsletter might also be appropriate.

Yours faithfully,

M. DAVIES.

Access to Llethryd Swallet, Gower.

The arrangements for access to Llethryd Swallet, as detailed below, were negotiated with Mr. Beynon, the landowner, by Mr. R. Baynton, acting privately on behalf of all cavers interested in Gower.

- (a) Keys to the cave shall be held by:
 1. South Wales Caving Club.
 2. University College Swansea Caving Club.
 3. Mr. R. Baynton.
- (b) Other clubs or visitors will have to obtain the key from either the South Wales Caving Club or University College Swansea Caving Club. Mr. Baynton will not lend out his key.
- (c) The owner insists that no right of way of access exists to the cave. The only persons allowed to cross the land are those holding a key. Trespassers will be asked to leave by Mr. Beynon.
- (d) To prevent people from being locked inside the cave, the gate must be locked upon entry. This will prevent persons slipping into the cave unknown to the party already in the cave.

Mr. Beynon has kindly agreed to co-operate and help cavers to visit this fine cave, but at the slightest sign of any nuisance or abuse the privileges will be withdrawn and the cave closed.

Final details, such as persons holding keys, etc., have yet to be worked out; details will, however, be circulated when finalised. In the meantime all correspondence should be addressed to the secretary.

Hon. Editor.

New Members.

We welcome the following new members to the club:-

Charles Henson, The Hollies, Lutherworth Road, Burbage, Leics.

Gareth Jones, The Old Vicarage, Sketty Park Road, Sketty, Swansea.

Ashford C. Price, 50 Oakhill Road, Ashstead, Surrey.

Mrs. M. Harris (Joint), 17 Ford Road, Velindre, Port Talbot, Glam.

Mr. and Mrs. William Catherine Dauden, 8 Coome Cottages, Streatley, Reading, Berks.

Mrs. Clare Harvey (Joint), The Riding School, Upper Hereslade, Caswell Bay, Bishopston, Swansea.

Mr. and Mrs. John Aldridge, 38 St. Leonards Road, Bengeo, Hertford, Hertfordshire.

Congratulations are offered to Arnold and Barbara Jones on the birth of their daughter.

Changes of Address

Peter Millet, 178 Drake Street, Rochdale, Lancs.

Dr. and Mrs. N. Dilly, 86 Ashburnham Grove, Greenwich, S.E.10.

Hon. Secretary - John Osborn, Springfield Farm, Fownhope, Hereford.

Articles are requested for the next newsletter, so
take up your pen and write.



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