PLYMOUTH CAVING GROUP

NEWSLETTER AND JOURNAL

October 1972 number Forty Six

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Editorial

I have no doubt that most club members will have heard by now of the sad death of Gerry Pritchard in a diving accident. Gerry was an experienced member of D.S.S. and his work in Devon caves and the invaluable aid he gave to D.C.R.O. will be gratefully remembered for a long time.

All that is left for us to do is to extend our deepest sympathies to his wife and family. We also hope that others will learn by the manner of his death.

Letters to the Editor

Dear Liz,

I enjoyed your book review on Oldhams' "Discovering Caves" and heartily endorse your views. I was also, to say the very least, a little shattered to see that the tourist section of Kitley Caves was described as being only 50ft. long. Perhaps this was Tony's way of getting back at me for invalidating his bet about getting into "all the country's show caves free of charge"! Although I don't paticularly like the term, we must surely qualify as a 'show cave' and I can state categorically that Mr. and Mrs. Oldham paid their entrance to Kitley. In fact, for the benefit of the curious, I have even had Tony's three rather tarnished 10p. bits framed and am seriously considering putting them on display permanently.

However, I like Tony's little guide book; it will sell well. Perhaps next time we can have a better cover and illustrations, though.

John F. Dryden
Ace Armchair Caver

Dear Editor,

re: Tony Oldham's comments on the Radford Cave-In.

I am very annoyed to learn that a member of the club, a nationally-known caver and cave-conservationist, has taken it upon himself to condemn the Radford Cave-In held recently. He has condemned it, because, according to him, the activity is contrary to a policy of cave-conservation.

This is a wild and unfounded accusation formed without any knowledge of the true situation.

At a recent meeting of the D.C.R.O., the same idea was laughed at and scorned by a group of people who, again, had no idea of what was going on.

If these people had investigated, they would have found that one hundred pounds had recently been spent on this cave, providing

a much needed 'gate'. The cave will be thoroughly cleaned out and used for training novices in the art of cavecraft.

The purpose of the Cave-In was to raise money for the purchase of much needed equipment for CAVE RESCUE. The route taken through the cave did not endanger formations and the cave was in no way worse off when we had finished.

This was an original idea that had to be tested so why not wait for results before you criticize?

Brian Lewarne

Ed. - A weekend club meet has recently been spent cleaning up Radford Cave - now that the gate is in position, it has been possible to right as much as possible of the damage caused by the local children entering the cave.

And whilst we're on the subject -

Sponsored Cave - In

Plymouth Caving Group Accused of a Poor Conservation Record

On the 16th. July, the P.C.G., as its members will be aware, held a sponsored caving trip to raise money. This is how the magazine, 'The British Caver' - a Netherworld Journal, saw fit to report our proposed activities:

" Conservation or the Lack of It

Just as we go to press, we learn that the Plymouth Caving Group is planning a sponsored cave-in, very much after the sponsored walks of a few years ago. They are inviting sponsors at 1p. or 2p. per circuit. They stress that it will not be a race and that all safety standards will be observed. Fine, but how about the cave. How about the tired caver on his n'th circuit, who puts his muddy foot on the formations or, worse still, bangs his head on the straws/ stalactites?

The P.C.G. has got a very poor conservation record (ref. WCC Jl. 8, 96) How about trying to make amends and calling the whole thing off?"

British Caver 59, 7/72, p.89.

(Reproduced with the permission of the editor, Tony Oldham, a member of the Plymouth Caving Group who has not, to my knowledge, put forward any complaints to the P.C.G. Committee on the meets they organise.)

So, to put the record straight, we include extracts from the Wessex Journals and P.C.G. Newsletters that are relevant to the incident recorded in 'ref: WCC Jl 8, 96)

To start with, the reference should read Jl 8, 98. However, the article deals with a visit to Devon in early October, 1964 - pages 176/7 ÷

"In the afternoon we were taken into Afton (red) Rift Cave by Bill Watkins .... Afton Rift is becoming an all too popular trip. On the way down we passed members of the Plymouth Caving Group who were laughing like maniacs as they emptied spent carbide over mud deposits in the Main Chmaber ....."

This is followed in Jl 8, 99 p.191, with 'Letters to the Editor'

"Dear Sir,

With reference to your latest Journal in which you have an article by a Mr. D. Thomson.Mr. Thomsonclaims in this article to have met a party of our members in Afton Red Rift Cave, Totnes, who were 'laughing like maniacs, as they emptied their spent carbide over mud formations'. When the Committee heard of this, we were, naturally, rather anxious to find out if this were true, and, if so, take some disciplinary action. However, on speaking to the leader of that party, we find the claim to be not completely true. That they were laughing was quite correct, but that is no sin. That they were emptying their spent carbide onto an old-established carbide dump was also quite correct. But that they were emptying it over mud formations is quite untrue, for there are no mud formations in this particular cavern (Cascade Chamber). Of this I am quite certain as I have visited this cave on many occasions and the only place I have ever seen mud formations there, was in the Mud Hall passages. To close, may I suggest in future, before printing such slurs, which may not only affect the reputation of the club concerned, but caving as a whole, you should edit your material more thoroughly.

Yours Faithfully,
Roger L. Hooper
Hon. Secretary P.C.G. (Oct. 1964) "

This was followed on 7th. April, 1965, by a letter from C. Howard Kenney, Chairman of Wessex Cave Club, of which we have some extracts:

".....Not such a development (of post-war caving) is the increase (of) litter in caves which is due to increasing numbers of cavers who, unfortunately, include some who are not very particular where they leave their litter. It is this fact which Donald Thompson was drawing attention to in his article, rather than a personal attack on your club. No Committee member of this club would assume that all Wessex members were perfect, or that your club was any more guilty than any other club of spoiling caves ....."

P.C.G. NL 17, p.2, 6/65

So this is the bad conservation record of the Plymouth Caving Group.

On behalf of the club and its committee and members let me say to the collector of Odds and Ends for the British Caver - Sir, please do not be quite as stupid in the future, and please gather a few more facts together before printing any such similar nonsense in the future.

With reference to the Cave-In, the caving experience of the

twelve members who took part, totalled something well over 50 years. There were no accidents. No formations were broken. The floor of the route taken was entirely of mud, boulders or bare rock and before 'the tired caver on his n'th circuit' started falling about with exhaustion and smashing the delicate formations which are not even there in the first place, they sat and had a rest outside.

The Plymouth Caving Group has also recently spent £100 on gating the cave to stop vandalism (a nice, solid, vandal-proof gate, I might add) and we have at present some 50 caves in S.W. Devon plus about 12 mines to look after and we can only gate them one at a time.

To any critics I say this - up your collective, boring ..... noses!

R. Cawthorne

Secretary News

The gate on Radford Cave is now in position. Members may obtain keys from Paul Hatherley, Bob Cawthorne and Dave Curry, almost on demand, but try to give a good warning. Other clubs will have to write to P.C.G., enclosing £2 deposit. When the key is returned (as soon as possible, please,) £1.90p. will be returned and 10p. kept for general maintenance. Please write to:

Plymouth Caving Group,
c/o The Secretary,
2, Furneaux Rd.,
Milehouse,
Plymouth.

Don't forget - the Tenth Anniversary of the P.C.G. is in March 1973.

If you are interested in buying an inscribed Tankard to commemorate the occasion, please contact Bob Cawthorne.

Prussiking within the club is now becoming very popular. If you would like to try out this revolutionary technique, contact a committee member at the Breton one Thursday. They will be pleased to show you how to do it. By the way, the club now has its own set of Jumars to supplement those already bought by various members.

Wanted - scrap lead to make into lead weights. Do you have some spare?

Drakewalls Mine

Drakewalls is one of the oldest and most famous mines in the Tamar Valley. The very prominent ruined engine houses and dumps, the surface remains of the mine, stand at the top of Gunnislake Hill.

Drakewalls mined tin, copper and arsenic. Lead and silver were also raised. It is one of the oldest mines in the area, though probably not as old as the Bere Alston silver-lead mines. The first recorded mention of it is in 1664, when work was being carried out on the back of the lode. It was known to be working in the 18th. Century, under the name of 'Drake's Wall'.

The mine worked two major lodes; Main, Stringers or No.1 Lode, and North or No.2 Lode. Main Lode is a stockwork about 20ft. wide, consisting of stringers of cassiterite, quartz and wolfram. The lode was first opened by a series of gunnises along the back of the lode.North Lode yielded mainly copper. Main Lode underlies to the North, whilst North Lode underlies to the South. North Lode was north of Main Lode. The two lodes, therefore, converged, forming a large mass of minerable ore at 160 fathoms below the surface at Engine Shaft. The line of intersection of the two lodes gradually rose westwards.

Main Lode was worked from Engine Shaft. This was sunk on the underlie to 190 fathoms below Shallow Adit (20 fathoms). It is now known to be capped and probably lay near or in a now rubbish-filled gunnis at the top of the dumps. Other shafts on Main Lode were: Brunton's Shaft, sunk vertically to the 70 fathom level now capped and completely obliterated, and Matthew's Shaft, sunk on the underlie of the lode to the 102 fathom level. Matthew's Shaft is probably open and lies in the centre of a large, overgrown, fenced area near the dumps. No-one really knows if there are any shafts or how many there are in the area. It is extremely overgrown and very dangerous.

A vast amount of stoping was carried out on both the lodes. The majority of the stoping was finished by about 1879. The stopes were widened by [illegible] the footwalls and following small branches of Main Lode.

Ore Production

1852 - 1879	5433 tons, Black Tin,	2015 tons, Copper Ore,
	2638 tons, Arsenic.	
1910	155 tons undressed tin ore,	13cwt. Wolfram.

Dates in the History of the Mine

1810 Shares sold for the start of a new company to explore the set by shafts and levels.

1817 25 blocks of tin sent to Liskeard for coinage.

1822 Mine closed due to the low price of tin. During this working the mine was drained to the 20 fathom level. Power on the sett was supplied by 40ft. and 30ft. diameter water wheels.

1838 An offical complaint was registered by the mine officals over coinage in stannery towns.

1842 The first steam engine, a 40in. engine, was waiting to be installed on the sett. By the following year, it was

installed and working.

1847 Engine Shaft was at a depth of 70 fathoms from surface. Work was in progress in the 33, 40, 50, and 60 fathom levels.

1854 Shaking tables were installed. Drakewalls became the first mine in the country to use the Oxland process. This separated wolfram from tin, resulting in tungstate of soda and tin. The tungstate of soda was sold to the Manchester textile industry at £14 per ton.

1858 Reference to a German Company supplying the acid needed for the Oxland process, free, to be returned saturated with tungstate.

1859 398 men employed, 166 underground and 232 at surface. Work was then in progress in the 102 fathom level of Engine Shaft.

1861 Number employed down to 360. They had a 50in. pumping engine, 26in. whim engine, 40in. crushing engine and 50ft. and 40ft. diameter water wheels for crushing and stamping respectively.

1863 West Drakewalls formed from the main sett.

1864 Drakewalls' dividends amounted to £8,960.

1866 As with other mines in the district, Drakewalls' miners came out on strike in order to try to form a union. The strike failed and the miners returned to work.

1869 24 head of steam stamps installed.

1870 340 people employed, there still being a fair amount of life left in the mine.

1873 New company took over the sett. All engines on the sett were overhauled. A 40in. engine driving 56 head of stamps was installed. Attention was turned towards the Deep Adit level (55 fathoms.) This was to be extended from the bank of the Tamar towards the sett to unwater the mine. A 12in. rotary engine and a compressor were installed at the adit mouth to work 3 rock drills.

1880 Deep Adit 274 fathoms long.

1881 New company known as Drakewalls United started. Engine Sahft and Matthew's Shaft were cleared and skip roads installed. 45 men were employed. The Deep Adit was then at a length of 4[illegible].

1887 Leats supplying water to Drakewalls were cleared. Because of Drakewalls' high position, water had to be brought from a long way away. There were two leats, known as North and South Leat. The source of the South Leat was Figgy Dowdy's Well and Buddler's Pool Adit, near Drakewalls, West. The source of the North Leat was a spring on the Northern boundary of the East Kit Hill Sett. This leat followed the 600ft. contour line around the North side of Wingston Down to Drakewalls. Both were apt to fail, due to irregular supply and the amount of rainfall, Just prior to the clearing of the leats, so little water was coming through the leats that very little stamping and dressing was done.

1888 A rich copper lode with a little mispickel was struck at 140 fathoms from the surface. This high grade copper ore compensated for the low price of tin.

1889 On Feb. 2nd. Rule and Bant, two of the miners on the sett, were entombed in a winze off a stope on the back of the 40 fathom level by a mass of sand falling from above. They were entombed in the darkness for 4 days, living on the crusts of their pasties. There was difficulty in

locating them because there were no accurate plans of the working and there were so many old, previously worked parts of the mine. They were eventually rescued by two, old miners, by way of an old, disused winze. One of the miners was found to be deaf after his being entombed for 4 days.

1890 A new calciner was installed on the mine, adding to the three already at work. The mine only remained open by selling the arsenic.

1892 Engine Sahft was at a depth of 175 fathoms. 75 fathoms had been sunk in 6 years. The whole working was then plagued by the age and condition of the sett.

1893 Despite both levels being cleared, there was little water coming through and little stamping was done.

1895 Only very small amounts of tin being raised.

1897 The mine was abandonned.

1900 New company took over the sett using the same machinery as before.

1902 Mine unwatered to 210 fathoms.

1905 Work, again, ceased after a total outlay of £10,000.

1909-10 The dumps were worked over in search of minerals. 155 tons of tin ore and 13 cwt. of wolfram recovered.

1957 The last open gunnis, Western or Higher Gunnis, was filled with rubbish by St. Germans R.D.C.

1969 Deep Adit retimbered by mining company for general inspection.

1972 The main and largest engine house was demolished by the owner of the garage in front of the sett, after it was thought by him to be unsafe.

The Deep Adit is known to be open. There have been several club visits to it. The copper staining on the walls of the adit is some of the best and most colourful of any underground in the valley. Permission to enter the mine has recently been refused to several members of the club.

In the dumps around the engine houses at the top of the hill, tourmaline and chlorite [illegible] lucky sometimes to find specks of cassiterite [illegible] there.

Kevin Tole

Summer Caving Holiday in the Pyrenees

Next year (1973) a party from the P.C.G. are going to the French side of the Pyrenees on a caving holiday. The approximate cost, excluding spending money, should be about £50 to £60 and the definite dates are Sat. 28th. July to Sat. 11th. Aug. Anyone who is interested please contact Liz Jeanmaire (25, Yeomans Way, Cherry Park, Plympton St, Maurice, Plymouth) as soon as possible. We are asking for a £10 deposit, non-returnable unless someone else is found to fill that place, per person, by Sat. 4th. Nov. Membership of the party is not restricted to P.C.G. members. For further details, contact Liz.

Meet Report

"I'm going on a bit of a Crawl. I might be some time!"

For some time now, the P.C.G. had been scheming. Their thoughts had been on the Gaping Ghyll system; centred on one particular area. This was Far Waters Series, the most remote part of Gaping Ghyll.

To get to Far Waters, the following obstacles would have to be traversed:

a)	Bar Pot Entrance Pitch	- 45ft. with squeeze at top.
b)	Bar Pot Main Pitch	- 100ft. into Gaping Ghyll 'proper'
c)	Short Henslar's Crawl	- 400yds. of passage approx. 2ft. high
d)	Henslar's Master Cave	- ½ mile stream cave and dry passages
e)	The Far Country Ladder	- 30ft. fixed iron ladder into roof
f)	The Blow Hole	- Fairly tight and awkward squeeze
g)	Echo Pot	- 50ft, pitch with thick, sticky mud
h)	Far Country Duck	- 25ft. long with under 3in, air space
i)	Far Country Series	- Long, arduous crawls, ducks, squeezes
j)	Far Waters Series	- psycologically bad place to be.

The list seemed quite formidable and well above the standard of last year's epic trip (first through-trip, free-diving from Rowten Pot to Kingsdale). Bearing in mind the slow and methodical progress the P.C.G. usually make underground, we estimated the trip would take about 16 hours. Also taking into account the mishaps which usually occur when we go underground, we added an extra hour on each four hours, plus one for luck, which gave us a total of 21 hours to play with. This turned out to be a wise decision.

Having decided what we were going to do, it was time to get first-hand information from various sources. This was mainly from Mike Wooding and the L.U.S.S. reports. The dangers of the trip were going to be quite high. Rescue would probably take a lot of people a long time to get a short distance. The simple solution to this problem was not to have an accident! A second danger was that of flooding. Maybe an account of the flood dangers wouldn't be amiss here.

The Fell Beck stream sinks in the pebbles of the main chamber and is never seen again until it emerges at Beck Head. The subteranean watercourse which exists between the two has never been entered. This is because it is below the water table and thus completely under water. The fact that the Yorkshire Dales around here have very rapid run-off (due to the farmers) means flash floods are always a danger and the sub water-table drainage causes rapid flood impulses from one part of the cave to the other.

The theory was that heavy rain on the surface after prolonged showers would cause a series of flood impulses through the phreatic system of the cave. In Far Country there are shafts leading down into this phreatic system (e.g. Deep Well) and, apparently, the water is supposed to rise up these shafts and flood Far Country. This seems very likely under severe conditions, but I would say that, in order for Far Country to flood, the Main Chamber floor would have to be at least 60ft. under water - a rare occurence!

During our trip underground, it rained all night with several hours of thunderstorms. We did not see any difference in the cave

hydrology. It is possible though, that 'Flood Water Inlet warning' may have increased and Far Country Duwk sumped for a couple of hours whilst we were in Far Waters - but this is unlikely.

So, it seems, Mike Wooding was correct and the Far Country/Far Waters Series does not flood except under extremely severe conditions.

Having got all the formalities of organization and research out of the way, the play begins.

Act I, Scene I
The place The Bradford Pothole Club H.Q.
The date Sunday, 23rd. July, 1972

Four members of the Plymouth Caving Group; Paul Hatherley, Brian Lewarne, Andy Leftley, Fish, lay in their sleeping bags, thinking. The night dragged on but sleep finally won. They arose at a very sensible time the following morning, 11a.m. Food was eaten, then several hours of sorting out the gear. This turned out to be rather a lot:

60ft. Kernmantle Rope
85ft. Kernmantle Rope
3 pairs Clog Ascendeurs
4 Don Whillams Harnesses
Dozens of crabs, slings, etc.
120ft. Cable-laid Nylon Rope
60ft. Fibrelated Tape
1 pair jumars
4 Clog Descendeurs
5 Cells
4 ammo-cans: 1. First aid/Surveying gear
2. Carbide lamps/Carbide/Spares
3. Food/Stove
4. Camera/Food/sundries
Personal caving gear (wet-suits, etc.)

All this had to be transported up to Gaping Ghyll, Bar Pot Entrance. The walk up was slow, mainly due to dampened enthusiasm caused by rumbling thunder over Ingleborough and the occasional flash of lightening. Once [illegible] heavy rain could be seen in the distance. We [illegible] by these threats from Nature and changed to go [illegible] this was probably the safest trip to do under [illegible] as these.

It was 6.30p.m. when I descended through the Entrance squeeze of the First pitch in Bar Pot, using a Clog Descendeur. Ten minutes later, the four of us were assembling the gear ready for the carry down to the Main Pitch.

At the Main Pitch the rope was fixed on the far side so that it would hang free to the bottom. The four of us then descended in rapid succession, to the amazement of some cavers struggling to climb the pitch on electron ladder.

It was decided to continue to the end of Henslars before a rest, so, collecting a portion of the gear, I led the way down Short Henslar's Crawl. This wasn't as boring as usual because we had other things on our minds. An increase in roof height marked the end of the crawl.

With gear over shoulders we marched down the streamway and then through the dry passages to the start of Far Country. The fixed ladder was climbed and a short section of muddy passage to

the Blow Hole traversed. The Blow Hole appears to be getting tighter (or am I getting fatter?) (Ed. - That will be the day!) Whatever the reason, I don't think I could get through without the lubrication of a muddy wet-suit.

Echo Pot was finally reached and the Kernmantle rope released from its bag - wet but cleah. Fish descended first (I forget if he volunterred or was pushed!) and a splash, gurgle, gulp, informed us that he had reached the water at the bottom, 50ft. below.

During my descent I noticed the rope had become a lot uddier. A look at the descendeur at the bottom confirmed my fears. A groove had formed in a few places where abrasion was greatest. A harder alloy would be better if a descendeur is to be used underground.

The next section of passage contained a substantial quantity of water. A 25ft. long duck with 3in. airspace was finally passed. Several hundred yards further on we stopped at a gloomy, 'T' junction. A rest was needed and it was time to THINK. Ammo-cans were opened and out came fags, chocolate, Kendal Mint Cake and a Prismatic Compass.

Trying to find out way through Far Country using a compass against a very rough survey proved to be a complete failure. The bearings on some of the passages seemed to be grossly incorrect especially Sahara Passage. This was a dismal passage consisting of squeezes, crawls, and small chambers. The floor consisted of sand and this had the habit of filling wet suits and squeezes alike. One squeeze had to be dug out and Fish almost had to turn back. Good sense prevailed and he settled for an 'almost' cracked sternum.

During the period of stopping at the 'T' junction and passing through Sahara Passage, we managed to explore 90% of Far Country. This was mainly due to the fact that we couldn't find the way on. Nearly 5 hours were spent trying to find Clay Cavern. In that time we visited Mountain Hall, several stream passages, pretty passages and dreary crawls, although very educational and enlightening, tended to be on the lengthy side and rather energy-consuming.

Anyway, Clay Cavern was finally reached. The silence here is uncanny - not even the sound of dripping water.

Far Waters was entered via the dig and Penny Arcade, in order to miss out the supposedly difficult Orifice. A crawl led over some sharp and jagged stones and corners to a larger passage eventually reaching Bree Junction. To the right was Rivendale ending in a stal choke after a few hundred yards. Straight on was the Northern Line and this we followed with renewed interest.

Fish led the way with hurried pace. Andy followed slightly slower, complaining about his carbide lamp not working properly. I was much further back, looking at the stals, passage dimensions scalloping side passages and sump pools on the floor. Brian was festering somewhere at the back, watching me with curious glances. However, many, many minutes later, the side passage leading to Hallucination Aven was passed and a general decrease in passage dimensions and increase in water led to the inevitable sump.

Fish submerged into the water and came up again 2ft. away in an airbell with a sound connection back again. A series of little bells led on from here but the sump was becoming rather tight - and extremely silted.

Whilst the advance party were looking at the Terminal Sump, Brian looked at the flooded bedding plane which led off the passage, 50ft. back. It sumped after about 40ft. And so the tale ends.

The trog out to the surface was uneventful apart from a general decrease in morak. Back at Echo Pot the whole party had a sense of apathy. This was probably due to the fact that as far as we were concerned, the trip was now over. Bar Pot was reached something like 3 hours later. Longer than usual parties take, perhaps, but we had some trouble hauling gear up Echo Pot.

I was first up the 100ft. pitch in Bar Pot. Prussiking a pitch after a hard trip is extremely relaxing, and I can forgive Brian for falling asleep half way up.

Reaching the surface I was amazed to find the time was nearly 1p.m. We had been underground for over 18 hours. Northerners will probably find this amusing, and I do hear that they already have! What they seem to forget is that we come from Devon - 350 miles from Yorkshire, and we found our way through a cave completely strange to us, Oh, and by the way, we were experimenting with the abseil-prussik technique at the same time. No ladders were used.

Paul Hatherley

The copy-date for the next newsletter is Nov. 23rd.

A message to all budding

'Don't dig there,
Dig it elsewhere,
You're digging it round
And it ought to be square.
The shape of its wrong,
And its much too long,
And you can't dig a hole where a hole don't belong.'

Daddy's in an aven,
Mummy's in a climb.
I'm in a mud hole
Playing with the slime.

Mildred Scouse

A prize of 1lb. of glorious Afton Red mud will be awarded to the caver who can photograph that rare speleotheme, the phallactite.

Meet Report

Pridhamsleigh Cavern

17th. June, 1972

Members present:

Fish	Liz Jeanmaire	Paul Hatherley
Brian Lewarne	Andy Leftley	

After the fusillade of sarcastic comments which I received about the lateness of my last 'Mendip report' there follows a brief account of the Prid. trip which took place on 17th. June (Question: what's six months between friends? Answer: a) about 24 weeks, b) what friends?)

(Ed. - I have had this article in my possession for some time!)

Paul and I arrived at Fish and Liz's at about 18,00 hours. After the usual exchange of abuse, etc., we left for Prid at approx. 18.30. We picked up Brian at the Dart River Cave, where he was camping with his usual band of intrepid adventurers (kiddywinks!) By the time we had changed and were descending into the dark and gloomy depths of Prid, it was about 19.45. (Question: Why this annoying obsession with times? Answer: Tick-tock, tick-tock!

We proceeded to the flooded rift by one of Paul's 'short-cuts', the sileht darkness conceeding defeat to our ceremonial chanting of caving songs and Liz's squeals of disgust at the gluttinous mud. On arrival at the well everyone went about their assigned tasks. Fish and Paul busied themselves with putting a bolt in the wall. Brian rushed around taking snap-shots of people in compromising positions and Liz produced her usual mocking comments as I splashed about in the well. The trip came to a somewhat abrupt end when someone mentionned the fact that it was getting near closing-time. There ensued a stunned silence, interrupted by a frantic en-mass scramble to the entrance.

The ritual mud-scraping ceremony took place in the river, followed by a most unusual experiment, the object of which seemed to be to determine how l[illegible] forcibly kept underwater before the twitching st[illegible]utigators seemed very rapt in their work and repeated the procedure several times in order to produce a mean time. It was concluded that experimental errors could be due to one of two factors:

a. The subject feigning unconsciousness in order to be released more quickly.
b. Death of the subject.

After the fun and games we mangged to get changed and arrive at the Watermans in time for a quick lemonade before closing time. (Question: What, in fact, is 'quick lemonade'? Answer: Find the answer to this shattering question and a multitude of other worthy information in the next unexpurgated version of the P.C.G. newsletter.)

Andy Leftley

The National Speleological Society

The club is now a paid-up affiliated member of the National Speleological Society (of Great Britain). This is a comparatively new organization (or so I believe,) and membership is at a rate of 25p. per annum. Subscriptions should be sent to

Mr. A. Oldham,
17, Freemantle Rd.,
Eastville,
Bristol,
BS5 6SY

Reports would indicate that membership of clubs affiliated and personal membership of the N.S.S. is such that it represents far more cavers than any other national organization in the U.K.

It is non-political, which makes a change, and is not biased towards any specific facet of caving, such as cave rescue or cave science.

Admittedly, as a club it has yet to declare its policies or aims, but at five bob a year for individual membership or club affiliation, I thought - this is a bargain already, my boy, and we joined!

If, after a couple of years, it is still the N.S.S. - and it still has not done anything or promised anything, then we can decline to renew our subscription. In the meantime, let us hope that cavers in Britain get a non-political organization on a national scale with which to identify.

When is the N.S.S. attempt on the World Depth Record, then?

P.S. For £1 one receives a really fine metal car badge for your radiator grill.

Rob Cawthorne

Carry On Mendip

My 17th. night on Mendip this year was broken early on Sunday morning by 10.00a.m. Liz had given Fish a cup of coffee in bed. Listening to him slurping is the surest way of getting someone up, and, needless to say, within minutes, everyone else was up - slurping their own cups of coffee. After a nourishing breakfast of beans, trimmings and beans, Rod, fish, Andy and myself drove to Priddy Green and changed to go down Swildons.

We had decided to go on an overland trip to IX, but, at this moment, we weren't so keen. The evening before 3 other parties had informed us they were going to the lower reaches of the Streamway. One party was going to Swildons IV, another to Swildons VIII and a third party to XII. This would have caused problems with congestion and availabilty of weights. Fortunately the three trips did not materialise but, unfortunately, we had taken down 2 sets of weights (30lb.) We decided to donate half these weights to the M.R.O.

We descended a bone-dry Swildons at 1.20p.m. The streamway became slightly wet at the Forty Inlet (I bet you have never heard of that one!)Sump I was passed without any difficulty. We split the party for sumps II and III to reduce waiting time in St. John's Air-bell. (who put the 'Girl' magazine in there? - It's that Wessex again!) Sump IV was next. Description: About 5ft. in, there is a constriction due to silting. A trough runs through a bedding plane. Too far left and you hit a boulder. Too far right and you wedge in a 9in. bedding plane. Divers have got in a mess in the sump. The chanves of a free-diver doing likewise are quite high.

Rod went through first, using his bottle. He returned, saying "It's O.K. but fairly tight". We were not happy with this accurate? description of the sump, so, just to proof the point, Rod free-dived through, then back again. A few minutes later we were all removing our weight belts in Swildons V.

Everything had gone smoothly, so we continued along the streamway, through Buxton's Horror, a series of ducks. A piece of red string matks the beginning of Sump V. It had an airspace all the way through, but a total submersion into the rather cold water was required several times.

Past SumpV, the Damp Link Passage could be seen on the left. Further on a rather tatty rope coming down from the roof marked the beginning of the Sump VI Bypass. The climb up to this was rather difficult and the unwelcome sight of an almost worn through rope at the top of the drop was not appreciated. The bypass was dismal. Talk about mud. It holds a very sporting section - an extremely tight squeeze in 6in. of wet mud, which has to be negotiated on one's back. Really evil ..... duck. The bypass takes about 20 minutes to pas, travelling over 100yds. to miss out 20ft. of submerged passage.

The bypass enters Swildons VII on the other side of the first chamber, so it must cross over the sump as well as doing some enormous great loops. Where's the survey of the bypass? The two great boulder chambers [illegible] Sump VII reached. This was blasted to eternity a [illegible] and now consists of squeezes between boulders and the roof, [illegible] airspace. Swildons VIII is fairly short. It consists of a high rift passage with one stooping section that used to be a duck before the Great Flood. A climb out of the streamway before the badly silted up Sump VIII, leads to a boulder slope leading down to the sump pool of Swildons Sump Ix which mafks the limit of a free-diving trip.

Going back out was uneventful except for my escapade in Sump [illegible]. With a broken helmet strap, a light as much use as a candle because of a faulty connection and a broken mask strap, I had to go through the sump completely blind. Needless to say, I got stuck. Only a few seconds though, and the fact that I have written this shows that Sump Iv isn't that deadly, but still treat it with respect.

After donating the weights to M.R.O. P.C.G. trogged slowly up the streamway to the surface where we discovered it was 7.30p.m. - a 6 hour trip. Then it was Hut, Hunters, Horrace, Home.

Paul Hatherley

Ar'n Debbenshur Kieves

It seems to be fashionable in most British caving regions to name local caves using the local language of each particular area. Here are a few examples:

Scotland	-----	Cnoc Nan Uamh; Uamh Balnakeil
Yorkshire	-----	Gaping Ghyll; Long Churn
Ireland	-----	Carrigtwohill; Pollnagollum
N. Wales	-----	Fynnon Bueno
Brecon	-----	Ogof-Agen-Allwed; Dan-yr-ogof
Mendip	-----	Lamb Leer; Witheybrook Slocker

Derbyshire has no such naming idiosyncrasies, the people having spoken 'Norman English' for nearly 1,000 years. In Devon we have tended to adopt efficent and comprehensible names for our discoveries. Kents Hole and Bakers Pit are not sufficently distinct to be names immediately recognisable as Devonian in origin.

The problem is that most of our caves have only been known for up to 200 years, when large-scale quarrying operations commenced. But do not despair, folks! We do have the Ogwell caves, even though they have only received their names during the last half-century. Their title arises out of their close proximity to Ogwell village. But what does Ogwell mean? Translated from Cornish-Celtic, it is 'swallet-cavern', and archives inform us that 'a considerable stream crosses a cavern at Ogwell'. Theorectically then, the D.S.S. dig known as 'Denbury Swallet' should break into a system, a part of which was entered some 1,500 - 2,000 years ago by Celtic-speaking water-bearers.

Getting back to the original line of thought, there is no reason why Anglo-Saxon (spoken until the early 1,800s locally) should not be used in naming and describing notable features of our systems. As the local peasants were unable to read or write the speech is written as it was spoken. Here is a selection of words of interest to speleologists

Yarth	.....	[illegible]-gert		.....	huge
Cab	.....	[illegible]			
conkerbil	.....	[illegible] (mite)			
Dandy-go-risset	.....	brown	scraling	.....	very small
fowsty	.....	musty	sharp	.....	shaft
Goyle	.....	ravine	shillet	.....	slate
Scat	.....	Cloudburst			
Shivers	.....	small stones			
Sitchywow	.....	zig-zag	cledgee	.....	sticky
Drangway	.....	narrow passage			
Longcuse	.....	long tunnel			
Kannel	.....	candle	Keive	.....	cave
Mux	.....	wet mud	Gasnest	.....	grotto
Rantillumscour	.....	roaring	Zwaller	.....	swallet
Palshed	.....	water-logged			
Strakey	.....	stratified			
Stram	.....	explosion			
Straddlet	.....	traverse			
Ulker	.....	massive	Sleetstone	.....	pebble

(From 'The Peasant Speech of Devon' by S. Hewitt)

Zo lex buh gwain kaln ar kieves praper, nuh buffles!

D. Send
(now c/o The Hollow Log, Goosewell
Limestone Region, floating down
vast riverpcave)

P.S. When communicating, please enclose stamped, addressed homing-bat.

The Carboniferous Limestone of Devon

Most Devon cavers know that all their caves are situated in a considerably faulted and disected limestone blet running along South Devon. This is the Devonian Limestone, a rock which has been quarried for the lime content since the general improvement of agriculture from the 18th. Century onwards. The limestone served most of the agricultural lands south of Dartmoor and east as far as the Bovey Basin. The Cornish peninsular was supplied with limestone by the sea (lime-kilns exist today at places such as Looe, Fowey, etc.) and West Dartmoor by the Tamar River. The North Devon coast was supplied by limestone from South Wales (a couple of hours journey by paddle steamer).

This left a huge expanse of agricultural land north of Dartmoor, around Okehampton, which was completely isolated from all sources of lime. As usual, Nature had the answer. Around the Northern edges of Dartmoor were several outcrops of Carboniferous Limestone and this was scrutinously quarried as far as was possible. The names of some of these quarries should sound familiar: Lifton, Bridestowe, Meldon, South Tawton and Dreweteignton, to mention only a few of the dozens.

"Ah", you may well say, "let's all go cave-hunting at Okehampton - Yorkshire and South Wales have done alright on Carboniferous limest[illegible] Unfortunately, it is not as simple as that [illegible] factors have prevented the limestone from becoming [illegible].

The Carboniferous Limestone was formed in shelf lagoons, within the Culm Facies, themselves probably formed in a shallow sea environment. During the Armorican movements the Carboniferous sediment underwent intense folding and faulting. The intrusion of the Dartmoor granite led to even greater distortions and the whole of vthe Lower Carboniferous beds were shouldered north, giving the outcrops a curving distribution east to west. At this stage the limestone beds were faulted and shattered. The effects of the Tertonic disturbances on the dips of the limestone beds are extremely variable. At South Tawton the beds dip 18 degrees to the horizontal and further west, they are nearly vertical. Groundwater circulation in these vertical or near vertical beds would have been negligible so the chances of phreatic developement were nil.

To add to the difficulties, most of the limestone extends into the metamorphic aureole of Dartmoor. The limestone here has been converted to a form of marble and many other complicated metamorphic rocks. At Meldon quarries calcaneous

beds have yielded garnet and wollastorite specimens.

Due to various geological reasons (usually steepness of dip), the limestone had to be worked at depth, and many of the quarries reached depths of 100ft., despite the increased costs of raising the stone and dewatering the pits. Most of the quarries are now flooded; Drewsteignton Quarry to a depth of 220ft. and Meldon to a depth of 130ft.

At Drewsteignton Quarry, the upper 20ft, of limestone worked in the quarry contained "one seventh part limestone" and 100ft. of underlying beds contained "twe-fifths of lime". It was also stated that "one ton of Welsh coal calcines six tons and eight hundredweight of lime rock". In this same quarry the limestone beds reached a thickness of over 150ft.

One wonders what Devon caving would be like if Nature's Geological events had been slightly different and those shelf facies had been further north (Exmoor). We would no longer have that stomach- churning comment made in cave-guide books "Caves also exist in Devon"!

Paul Hatherley

Free-Diving

Free-diving sumps has long been regarded as fool-hardy as a method of cave exploration. The minority of people that once practised it were even termed a suicide cult. Now, more and more people are free-diving, some in a responsible manner and others rather dangerously. It is well-known throughout the caving world that, as the years go by, techniques are becoming more specialised. Little serious work has been written on this particular subject, so I hope the following few pages serve as a useful introduction.

For most people, the reason for free-diving a sump is simply because they want to get from A to B and have no diving gear. Whilst this is true in a number of caves, there are still cave divers who free-dive sumps. There is a strange twist in that many divers refuse to free-dive long sumps - the masochistic feeling induced by many cavers not quite getting through to them. "The-reasons-you-go-caving-and-why-you're-always-there" theory is hard enough to explain, let alone relating it to the free-diving of sumps, so I shall leave it at that.

I would not recommend free-diving any long sump without a wet suit. Total submersion in water saps a tremendous amount of energy and severe shivering can cause difficulties in holding one's breath and controlling muscle movements. Both of these will increase the difficulties to which a free-diver is exposed and pose unnecessary dangers. Very short immersions such as those experienced in passing SumpI in Swildons Hole or Stoke Lane will pose no immediate danger, but the long term effect of exposure should be born in mind on the way out. Although, these days, when the mental attitude to the severity of caving is getting less, it is not unusual for a beginner not wearing a wet suit to dive Sump I in Swildons on his first trip.

The way in which various people go about free-diving their first sump alters a great deal amongst different cavers, depending upon their attitude and how confident they are. For the less keen, I recommend the following chain of events:

To satisfy yourself and to build up your confidence, see for how long you can hold your breath - underwater is best. The average person can hold his breath for about a minute, so try to build up to this if you cannot already do it.

Next, practise swimming under water. A distance of about 40ft. and you can begin to feel confident. Use a fresh water swimming pool for this. When you can swim this distance under water quite easily, time after time, I can assure you that you will find a long, straightforward sump, such as Swildons Sump II or III fairly easy.

Preparations should now be made to free-dive a particular sump; let's say Sump II in Swildons, for example. Get someone who has been through the sump before to accompany you. This is an important point. Find out all you can about the sump. Here is a check list:
Does it need weights?
Are there weights at the sump or do I have to take my own?
How long is it?
What type of passage is it (bedding plane, tube, etc.)?
Is the passage large and open, or tight?
Are there any awkward bits in it (constriction, bends, etc.)?
In what direction does the passage trend?
How deep is it?

The list seems endless but, to reduce dangers to the minium every cubic foot of the sump must be known to you. As an example, I will describe Sump II in Swildons:

SumpII is 18ft. long and consists of a spacious bedding plane sloping downstream. The deepest point is at the end, being about 2ft. deep. The rope guide is of large diameter and in good condition. There is a bolt in the wall a few feet from the end of the sump. The roof is low. In low water there is a 1in.-2in. airspace leading to the largest of the three small airbells, called Little Bell. The airspace is unuseable and it is not advisable for free-divers to try to enter Little Bell. A knot in the rope marks the position of Little Bell, about 10ft. down stream. The floor consists of fine silt, gravel and small stones. The roof is about 3ft. Although there are no jagged edges, the roof dips sharply in two places near Little Bell and it is here one normally bangs one's head. There are no awkward places in the sump and, to pass it, about a dozen good pulls on the rope are required. Weights are needed for the sump and these are available from a bucket beyond Duck II. A mask is not necessary but is useful as an added comfort. There is no current.

This is a fairly comprehensive account and, ideally, one should find out all this information about every sump to be passed. You can never learn too much about a sump.

There are now just a few more things to know. Here are some of the dangers and precautions that must be taken:

1. Be correctly weighted. Too much and you will drag along the bottom. Too little and you will drag along the roof. Both increase the dangers of being snagged and caught up somewhere. To prevent this, check your buoyancy in the sump pool before diving. You should neither float nor sink.
2. The rope you will be using to pull yourself through is your lifeline and only connection with the outside world. It can be compared with the parachute of a parachutist. If you let go of that rope, it is unlikely you will be able to catch hold of it again - so, don't.
3. Never panic. When anything goes wrong, that you didn't forsee, try to keep calm. E.g. If you lose the rope, do not make frantic grabs to get it back. You will not only lose complete sense of direction, but also reduce your chances of getting hold of the rope. Relax and slowly feel for the rope and you will live to dive another sump.
4. Never hurry. A heavy blow on the head even with a helmet on, can cause temporary stunning and it will be unlikely that you will keep hold of the rope.
5. Don't let your mind wander. Concentrate on moving forward.
6. Do not hyperventilate before commencing the dive. It is a highly dangerous practice, as it can cause a blackout when you least expect it.

I hope that I have not put you off free-diving sumps. Providing the precautions I have mentionned are taken, it can be as safe as rifting over a deep drop or climbing an aven.

Happy free-diving

Paul Hatherley

N.B. There will be some notes on the dangers of hyperventiliation in the next newsletter.
I am ,at present, trying to compile a list (with descriptions) of all the sumps in Devon which are free-divable, or can be made nto fre-dives. [illegible] surprisingly, quite a few.

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