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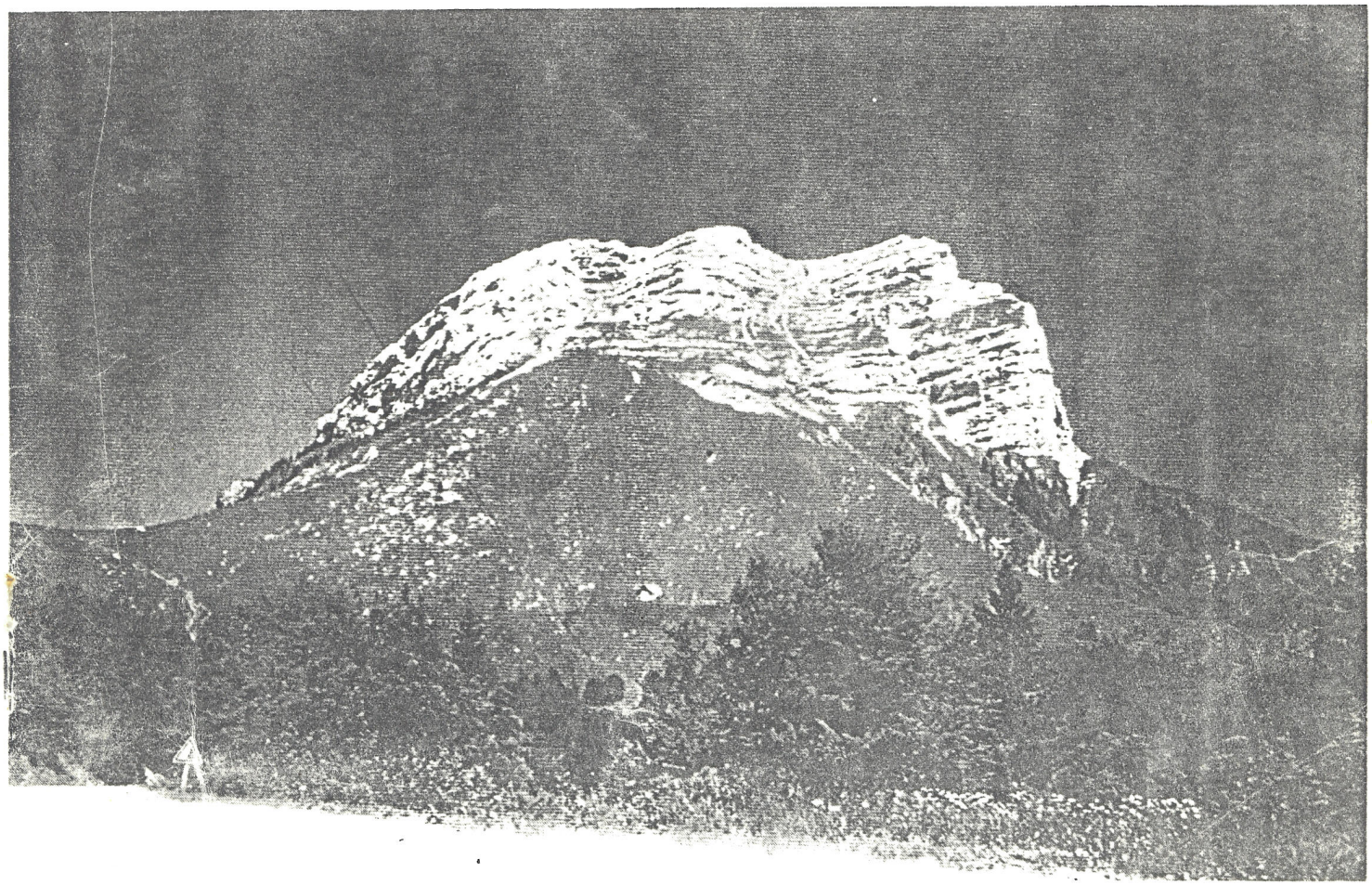
IMPERIAL COLLEGE

CAVING CLUB



NEWSLETTER DEC 89

IMPERIAL COLLEGE CAVING CLUB

IMPERIAL COLLEGE UNION
PRINCE CONSORT ROAD
LONDON SW7 2BB

Tel: 01-589 5111

Weekly meetings are held on Tuesday evenings at 7.00pm in Southside Upper Lounge, and on Wednesdays at 1.00pm in the Union Snackbar.

Editorial

Hello everyone and welcome to this, the first exciting instalment of the Caving Club Newsletter for 1989-90. And a really good edition it is too, although I say it myself. Firstly I would like to thank everyone for being so productive and giving me loads of articles. I received so much that it wouldn't all go in, so if your contribution is not here, sorry, but I promise it will be in the next, which is already being planned to hit stores early in 1990.

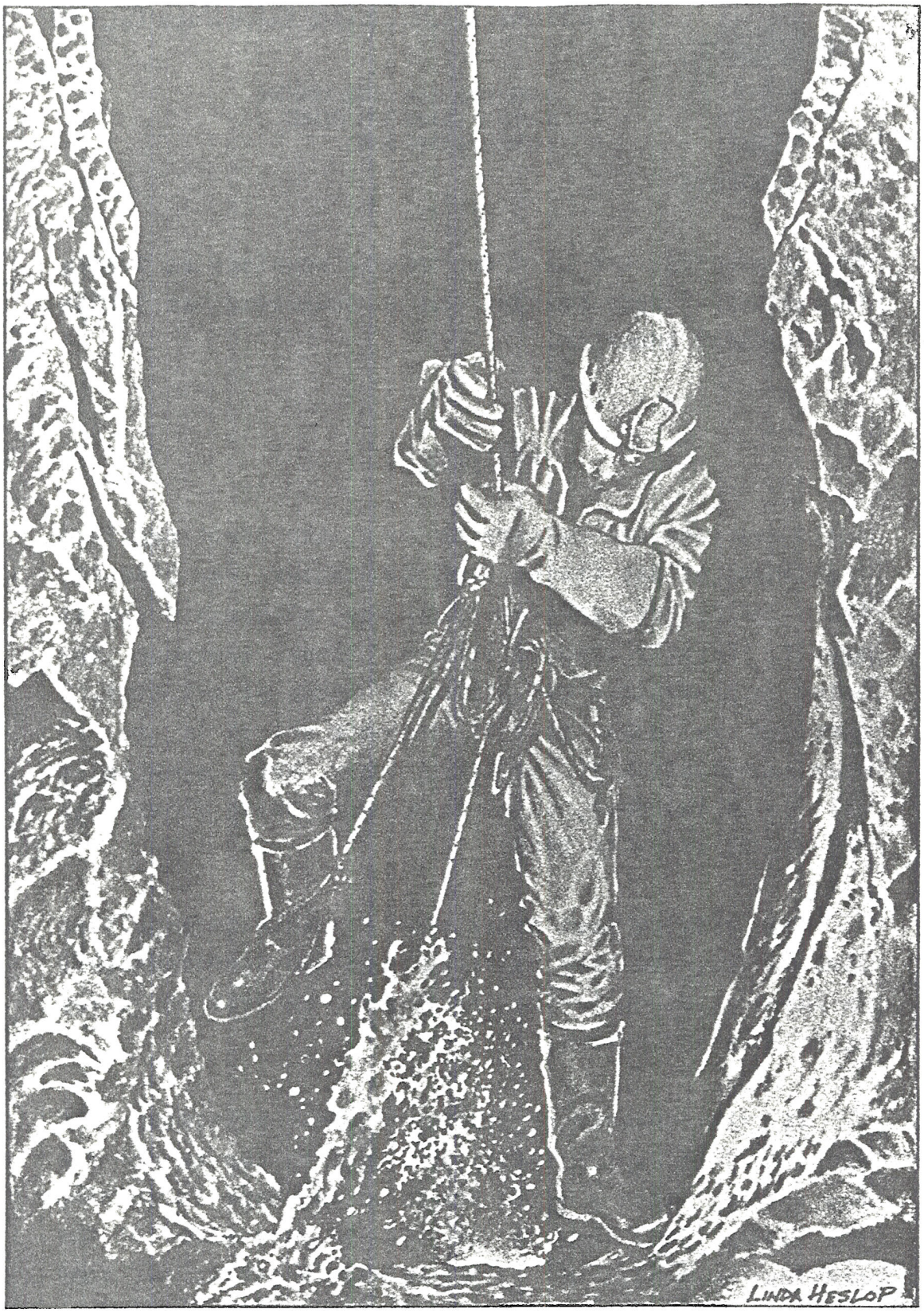
This edition just shows what a really cosmopolitan club we are. We have articles from our correspondents in America, South Africa and France, as well as a few other bits and pieces.

In the absence of the traditional welcoming bit from the President I would just like to say to all the new intake, what a great decision you made in joining the Caving Club. This is the time of year when all the previous work pays off and you should get to do some really good caving.....provided the weather is kind.

Lots of love,
and keep writing the articles,

Simon

Cover : The Dent de Crolles Massif, Isère, France.
Photo by Dave Wilson.



"Underground water - a seductive black liquid which, like a loose-tongued mistress can provide boundless pleasure or the gravest peril."

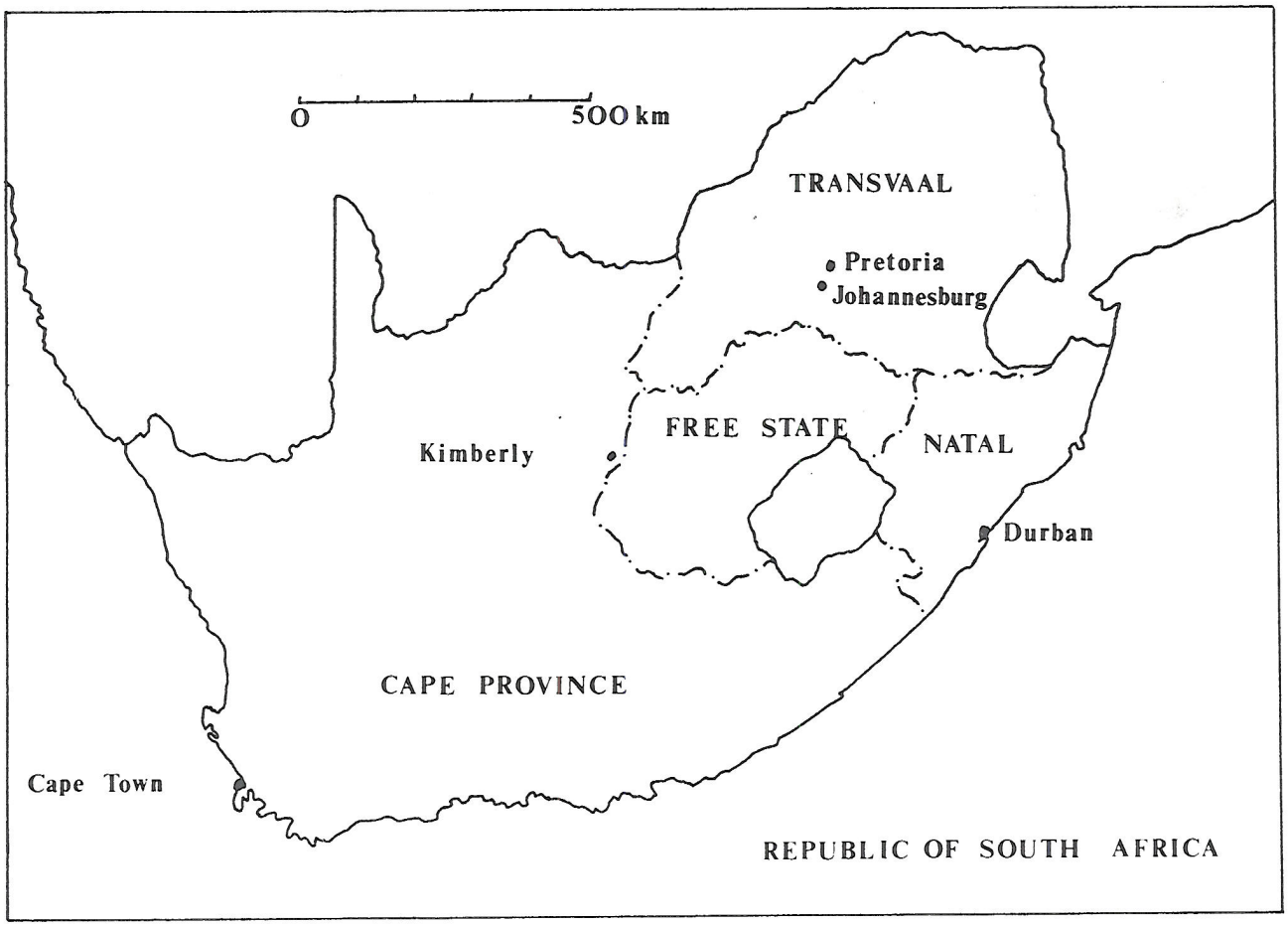
Bruce Bedford

Challenge Underground, 1975

SPELEOLOGY (BUT MOSTLY OTHER THINGS) IN SUNNY SOUTH AFRICA

By Our Southern African Correspondent
Rob Chaddock

This summer I flew to South Africa (okay, okay so I sold out to the repressive fascist regime - but it was rather interesting) to work for Gold Fields of South Africa (GFSA) in a deep level gold mine near Johannesburg. I was based on a mine called Kloof near the "town" of Westonaria, about 40 minutes west of the city. Kloof is the richest gold mine in South Africa with an average grade of 16 grammes of gold per tonne of rock. To put the deep level gold mines in perspective, mining currently occurs to depths of 4500 metres, or about three times the depth of the world's deepest cave (the Gouffre Jean Bernard). This depth is reached by two or three shafts, one from surface and one or two underground sub-shafts. It's all much easier than S.R.T. but would you feel happy bouncing on the end of a single, 2000 metre long steel cable ?.



Kloof is in a part of the Witwatersrand gold field known as the "West Wits Line". During a mining geology lecture, I had learned

that the development of a mine this area is characterised by the problem of having to sink shafts through the highly cavernous and water bearing dolomitic limestone which overlies the gold bearing conglomerates. The words "highly cavernous" naturally aroused some interest , which was increased when I saw photos of sizeable cave passage (2 metres x 3 metres) which had been intersected during shaft sinking operations. (I found out later that the deepest cave in the country (Westdriefontein - 183m) had been intersected by mining and is accessed through the active workings of the gold mine of the same name.)

Scanning through back issues of "Caves and Caving" I found an article in the August 1986 edition entitled "Caves and Caving in the Transvaal, South Africa" by Mark Sefton of the Transvaal section of the South African Speleological Association (SASA). The article outlined the nature of these rather unusual caves, formed in dolomitic limestone ($(Ca,Mg)CO_3$), as opposed to the limestone in which caves are more commonly formed ($CaCO_3$), and, what interested me most, also the main caving areas in the country. It turned out that the most important area in terms of numbers of caves and depth is the West Rand - the area in which I was to be based.

Now rather interested in the prospect of some foreign caving during the summer, I wrote to Mark Sefton at the address given in the article, hoping to get a reply before I left. This unfortunately did not happen, but nonetheless I packed my S.R.T. kit and my carbide and set off to Heathrow with my head full of ideas of scores of new caves and kilometers of virgin passage. When it came to boarding the plane however, I began to wish that I had left it all behind what with all the questions I had from security. The generator in particular seemed to bear a close resemblance to some fiendish terrorist device when seen through the eyes of a South African Airways security officer - maybe Fisma could sell some to the A.N.C..

After I had been at the mine for about a week and a half I came to the conclusion that unless I did some caving I would either be driven mad or die of alcohol poisoning, there being little else to do in a mining town other than drink. The drinking habits practised are not those met in normal society either. The mine recreational club (the only bar for ten miles around) opened at four in the afternoon, and shut again at eight. On a Saturday this is extended to a wild nine thirty. The limited drinking time coupled to the low prices of beer (25p a bottle) led to rather frenzied drinking, resulting in the not unusual sight of a body slumped on the floor next to his stool. (Note I say <u>his</u> stool - women are not allowed in the main bar, there being a separate Ladies Bar. This is enlightened South Africa do not forget.)

I wrote again to the SASA and after two weeks or so recieved a reply from Colin Redmayne-Smith, the chairman of the SASA-Tvl..Along with his letter he included a list of the next trips and social meets, recommending that I attend the next social to be held. He had provided a map of where it was to be, which

showed it to be near a place called the Sandton Comlex on the Witwatersrand University campus. I had been to Johannesburg once before, and had been to the university - easy I thought.

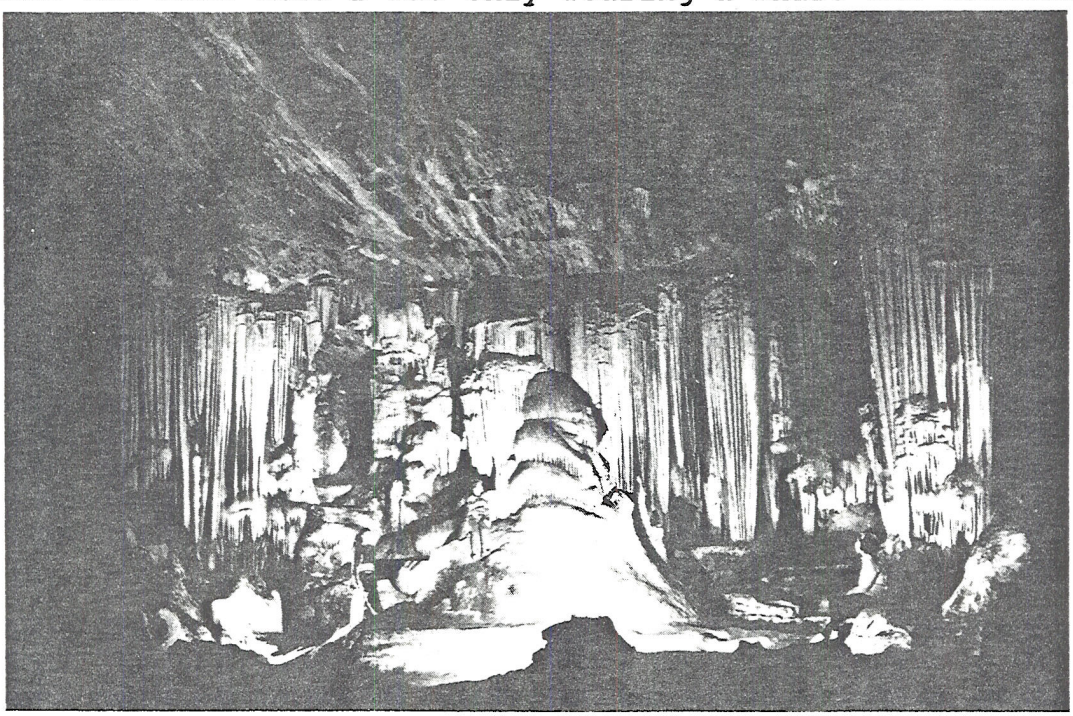
On the Friday the social was to be held I managed to get out of the mine and showered by 2 o'clock, after starting at 4:30 am. As I had no transport and the local station only had three trains a day passing through it I decided to hitch all the way. Six lifts later I arrived on the outskirts of Johannesburg. My last lift (the archetypal gay trucker, fortunately his big engine was between us) dropped me on the side of the motorway a couple of miles from the university. Jo'burg (as it is known to all old Africa hands) evolved solely because of the discovery of gold, and the mining of it. Now the biggest city in southern Africa, its sky line is a curious mixture of modern skyscrapers and mine waste dumps. The mine dumps are interwoven by a network of urban motorways and it was here, amoung the motorways and mine dumps that I was dropped off. As no one was willing to give me a lift I found myself having to run across the motorways towards the city. It was just after running over the last of them that I had my first encounter with the South African Police. A large Toyota, cunningly disguised to look like the squad car driven by T.J.Hooker, cruised up alongside me and I was shouted at, sorry addressed, in Afrikaans. When the rather large and heavily armed policemen inside realised that I was English and new to the country they told me very politely to "Fuck off across the veldt, and keep off the motorways in future pommie" (sorry, I can't do the accent).

Eventually I got to the Wits campus and asked a security guard if he could tell me where the Sandton Comlex was. This obviously amused him, and I soon found out why. The Sandton Comlex is, strangely enough, in the northern suburb of Sandton some 10 miles away. All ended happily however and I actually managed to get to the meeting early after a further three lifts. It turned out that there was to be a talk given on poisonous spiders by an emminent entymologist later on. The hosts were an English couple in their mid thirties and most of the other members who were there also turned out to be ex-patriates in the age range of 30-50. Fortunately I managed to down several cans of lager before the talk started as they dulled the visual impact of the rather horrific slides showing the effects of spider's bites.

Lively conversation grew up after the talk during which I found out a few interesting facts about South African caving. Instead of freezing in furry suits and thermals as we do here in Europe, S.A. cavers sweat it out in boiler suits and nothing else in temperatures of 15-20^{o}C. It is a matter of routine for cavers to contract histoplasmosis from the debris in the caves. Apparently this is usually only very mild in its effects, although one or two people that I spoke to said that it had put them out of action for a couple of weeks. Of the caves themselves, it appears that while in depth terms they are comparable with British caves, the only pitches usually encountered are entrance pitches or entrance series. Westdriefontein Cave can be bottomed without-needing any ladders at all. (For a description of several caves read Mark Sefton's article.)

Despite there being only a very small number (by British standards) of active cavers in South Africa, the record of discoveries of new caves and passageways is very impressive. Up to 1986 the SASA had discovered over 700 caves throughout the country, 80% of which are in the Transvaal. From these over 100 km of passage has been surveyed in over 200 caves. New discoveries are continually being made, fairly recently the club discovered the world's largest underground lake in Dragon's Breath Cave, Namibia.

Despite making the effort to get to the meeting and arranging to go on the next trip, I never actually managed to go caving with SASA. The Wednesday before the trip (to a cave called Nicos II) I had an accident underground in the mine and ended up in hospital for a week and a half. During the summer I did however manage to go into three caves. The first of these was Deelkraal Cave. This was a trip organised by the company as the cave lies on the property of Deelkraal gold mine, a GFSA mine. This cave consists of a main chamber about 5m high, 10m wide and 15m long with several low side chambers at a lower level. The cave, although not very extensive, has an interesting history in that it was inhabited by one of the local tribes in the last century during their skirmishes with the Boers. The low mud walls dividing up the sleeping areas can still be seen as can fragments of pots. Apparently the Boers tried to smoke out the inhabitants, but the shallow depth of the cave meant there were fissures to the surface which let air in. The cave was uncomfortably hot and humid, despite the fact that I was only wearing a shirt and trousers.



Majestic formations in the Cango Caves

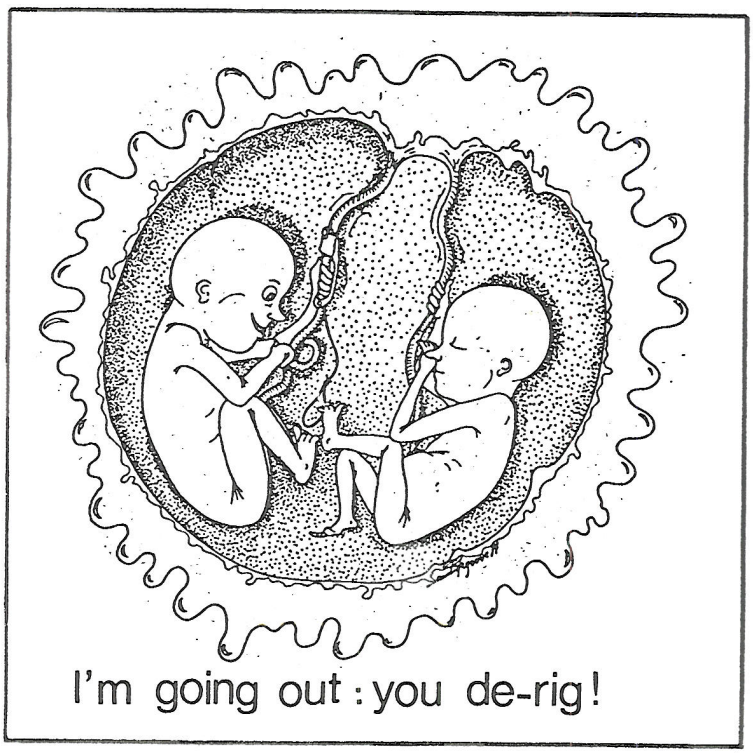
The second cave that I visited was Cango Cave in the Southern Cape, near the town of Olifantshoek. This cave differs from the Transvaal caves in that it is formed in normal limestone, not dolomite. As we drove to the cave, the existance of other caves in the area was evident from the entrances in hill sides. Cango Cave is a show cave, with tourists only allowed into a small proportion of the whole system which is 5.3 km long. The show cave consists of a series of chambers, the first one being the largest. The cave is totally dry apart from a few still pools and contains some of the best formations that I have seen. There are

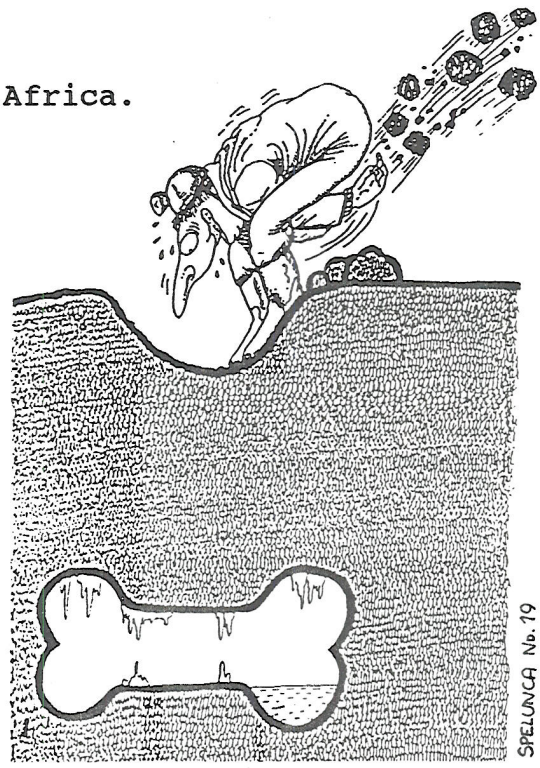
huge columns and stalagmites, great sheets of flowstone and curtains and some quite bizarre helictites. The beauty of the cave itself was rather ruined however by a thunderous sound and light show with unpleasant fundamentalist religous overtones.

The third cave I visited was not a cave in the sense in which we, as cavers would recognise it. It was in fact more of a rockshelter, typical of many to be found in the Natal Drakensberg Mountains. The Natal Drakensberg are in fact the edge of the great plateau of Lesoto. I was in the Royal Natal National Park where some of the most dramatic scenery in South Africa is to be found, such as the Ampitheatre. This is a rock wall rising virtually sheer for 500m to the top of the plateau. The rock shelters are overhangs of 2 or 3 metres which have been eroded in a very soft layer of aeolian sandstone. Before their extermination by the white man, these caves were inhabited by the bushmen, a race of hunter gatherers. The last of these people were seen in the Drakensberg at the beginning of this century, and all that remains of them now to remind us of the ruthlessness of our forebears are the beautiful paintings which they left in the caves. I spent a night on my own next to a campfire in one of these caves, and the air certainly felt full of ancient and dark mystery.

If anyone is going to South Africa for any length of time and would like to further investigate the interesting and unusual caves of the country then write to :-

Colin Redmayne-Smith,
SASA-Transvaal,
P.O. Box 6166,
Johannesburg 2000,
Republic of South Africa.





From: "SOME MORE SCHOOLBOY HOWLERS"

Biology Exam

Q. What happens to a bat in winter ?

A. It splits if you don't oil it.

CAVING IN AMERICA

by Martin Herz

This summer I spent 3½ months in the States. Whilst there, I hitch-hiked 4000 miles from New York City, New York State to Los Angeles, California, staying with cavers during the entire trip.

The first stop was Albany, NY. The caves were mainly horizontal, but instead of consisting of a main passage with an obvious conclusion, they tended to be highly maze-like. If a vertical section occurred, it was normally at the entrance and consisted of a short drop. This basic format was also true of many caves in West Virginia and Kentucky. Many of the local cavers in these areas had no SRT experience whatsoever. The caves tended to be warm and dry, where cloth overalls were worn, or wet and cold and then a wet suit is essential. This again is true of West Virginia and Tennessee, with a slight drop in temperature as you head south west.

Wilson's, the major cave of Albany NY, was well worth a visit, but a wet suit was essential. It starts with a forty foot drop down a waterfall. As there are no rebelays or deviations, one gets pretty wet. Most of the cave is walking or stooping passage, and one is often waist deep in water. The cave is about 16 miles long with some walking, crawling passage if desired.

Next, I headed for Charleston and then Louisberg in West Virginia. Louisberg is a rich caving region, one of the main ones being Organ cave. Organ cave is 35 miles long and is mapped using 65 pages of A4 paper with 100 feet = 1 inch, ie complex. The cave has no vertical sections and could be explored using cloth overalls. A troll suit would be a bit warm, and this is true for many caves in Louisberg.

I explored a cave called Burt's Toilet Paper Pit, a worthy name! I went with one other person. Unfortunately, he was a diabetic and decided it would be best if he didn't continue, so I subsequently explored the cave solo. After crawling a short way in, I started digging. After 6 hours, I had advanced twenty feet and then met a rock constriction point - with no dynamite handy, I left. In West Virginia, if you have a state driving licence you can buy explosives, the logic being that if you can drive a car, you can also blow things up with absolutely no danger to yourself. Strangely enough, it is illegal to buy or use fireworks in West Virginia. West Virginia has about a thousand known caves with new caves being discovered all the time. This is also true of Tennessee, Kentucky and Texas and probably of any other major caving region in America.

Next, I went to Swanee, Tennessee for the National Speleology Society convention which was held in the first week of August. The cost of participation in the NSS was between $50 and $100 for a full week, depending on various factors. Three of us got in for $ 45, but only attended one day's events. Dogs are $30 extra!

When I first arrived at the convention, I was amazed to see a large number of fat people wearing ribbons with "yellow member", "life member", etc. Thin people wore slogans such as "so what!", or "I'm somebody too". The organiser had published a book of the best local caves. At $15 it was reasonably priced. It was very handy, even if the directions were generally poor. During the week, there was a wide variety of talks, presentations and competitions. One competition was on map drawing which has become state of the art in America. Another was rope climbing. One woman climbed 120 m in 4 minutes 16 seconds and 30 m in 33 seconds. She had an amazing pair of legs. There was also a hot tub, where lots of naked bodies stood in hot water - it's a classic.

The caves of this area tended to be wet and vertical, but a wet suit generally isn't necessary. I did Elson's Cave which contains a 500 foot drop, the fourth deepest in America (I believe). We descended on a dirty 11 mm rope using my good old petzl stop. I had to lock it open with a crab and lift the rope using both hands for the first 300 feet. Having a rack may be a good idea for longer drops. I just used my frogging system to ascend. For drops of this length, a rope walker or adapted frogging system would be better. The drop was free hanging all the way and during most of it I couldn't see the sides. Another cave I visited was very accessible and due to this, graffiti were to be seen on all possible walls. Tennessee has about 6000 known caves, so far.

Next stop was Kentucky and with it the Mammoth cave system. Unfortuately, it's on Mammoth National Park and access is highly restricted, which is generally true for other national parks. In these areas, only exploring, surveying or scientific trips are allowed. Getting onto a trip shouldn't be too hard, as long as you write to various clubs in the area and plan ahead - as I didn't. Various clubs in the area compete for prestige, resulting in the caves being surveyed three times and secret digging to break into someone else's areas. I thought it was all pretty silly and left after one day.

Texas was next. For my only cave I wore just a T-shirt, which proved to be an error. I was involved in another virgin trip and my clothing got ripped to shreds. A Texan caver and I explored one passage for about 500 feet before turning back, as we didn't want to lose the rest of the party. To me, virgin caving was a great feeling. It reminded me of being a kid, exploring a new piece of woodland and pretending you were the first person ever there. Texas is supposed to have a lot of good caving, but I only stayed for a short while. Many very active cavers in Texas often go to Mexico where new caves are still being found.

My last stop was Los Angeles, California, "the sunshine state". California has relatively few caves, some of which are sea caves. The only enjoyable aspect of sea caves is, I found, swimming in them which is, I would imagine, like being in a washing machine.

Probably the most surprising thing about caving in America is the difference in style and equipment. Some people use the miniature Premier lamps, taking along spare lamps as refills. I expected these lamps to be worse than they actually were. Very few people use Petzl lights, possibly because dumping spent

carbide is illegal and because of the difficulty in obtaining carbide chunks over ¼" wide. Also, flat cells are hard to get hold of. Only caving shops sell them for about $6. You can buy conversion kits to take three AA batteries, but these are of poor design, considering they cost $6. Electric lighting has become very popular, with lights becoming bright, long lasting, reliable and not too bulky. It's a pity you can't buy the same lights in Britain.

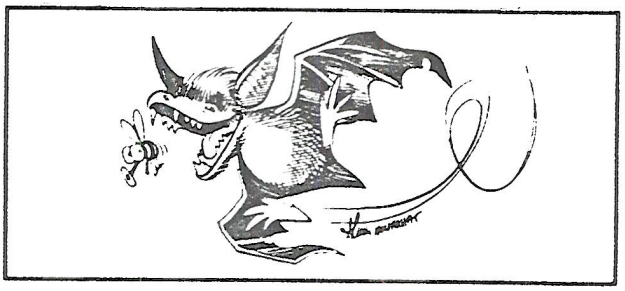
Hardly any one in America uses bolts, and only if necessary. At least, that is true of the areas I visited. Fortunately, the Americans use 11 mm rope with high abrasian properties and pieces of carpet for rub points. Some people do not trust other people's bolt holes, and in one pitch in West Virginia there are about 100 bolt holes in the ceiling. One caver I talked to said that when he used bolts, he used a main and 2 back-ups. For some reason I'm unaware of, on the first ascent of the pitch 2 bolts came out. The caver therefore concluded that bolts were unsafe. With such examples, I wouldn't trust bolts in America either.

Rope techniques differ also. Firstly, they descend using a rack or figure eight. Ascending on rope varies also with a wide variety of techniques. The American vertical cavers' book describes European frogging system as cumbersome to carry and difficult at the beginning of an ascent. Rumour has it, the authors just questioned people on various subjects without actually trying them out. Also, the bolting section doesn't explain how or where to place bolt holes or which bolts to use in various situations. Many people have bought this book. At $15 it's a must. Another book of interest was the NSS book of names and addresses of thousands of club members, which I found useful for making contacts.

A lot of American caves are on private property. This can cause a problem as, under the law, the owner may be liable for any personal injury sustained by a caver. Some land owners refuse access which can result in cavers being arrested for trespassing. Other land owners limit access to the local caving club. To enter the cave you must contact the local clubs to seek permission. A further possible complication evident in Albany is that you need a trip leader. This is someone who has done the cave before. This situation applies to Wilson's in Albany. Fortunatly, laws are being changed in many states to make the cavers liable instead of the land owner.

Another fresh experience was seeing bats in a cave. Bats tend to fly by memory in caves and have been known to fly straight into cavers, which is pretty amusing.

My visit to the States was a trip of a life time. I'd like to thank everyone who gave me lifts, put me up, fed me, especially Emily and Billy Mobley, George Phillips, Mark, Helen and Jim, Terry of Fortworth and Bill Liebman. Special thanks also to Ernie Garza.



SO WHAT HAPPENED ANYWAY ?

THE TRUTH ABOUT BULL POT !!

Many of you will already know of the circumstances surrounding my escapades during the Dinner Meet earlier this year. I want to give my account here for completeness.

On Sunday morning Clive, Tim Palmer, Wendy and myself set off on an easy trip down Bull Pot, in the hope of arriving back at the N.P.C. in good time before the Dinner that night.

I set off quite happily down the entrance shaft to rig the second pitch (without the tackle bag which Tim was going to bring down to me). I became a bit disorientated whilst looking for the bolts at the pitch head. The next thing I could feel were the walls slowly widening and my body slipping ever more rapidly. In a desperate effort to reverse the situation I attempted to "bridge" myself in the rift but it was too late. I was well and truly in freefall!!

My next memory was of lying in the dark with an incredible shooting pain in my right leg. I thought the situation was getting beyond my control and I did what any rational caver would do under the circumstances - I screamed for the lads. I wanted to let them know I wasn't just pissing about!

What followed in the next couple of hours was the finest piece of engineering I have ever seen. Clive and Tim (who luckily both have rescue experience) rigged up a fantastic pulley system which was able to transport me smoothly and surprisingly painlessly to the surface. Wendy was also an invaluable tower of strength and constantly reassured me - "Don't worry Chris, you're only hyper-ventillating!" Without such a team behind me I might not have been so lucky.

Upon arrival at Royal Lancaster Infirmary, the seriousness of my injury became apparent - I had to have an operation the next day to put a steel plate into my leg. I was allowed to leave one week later and was able to continue studying for my exams.

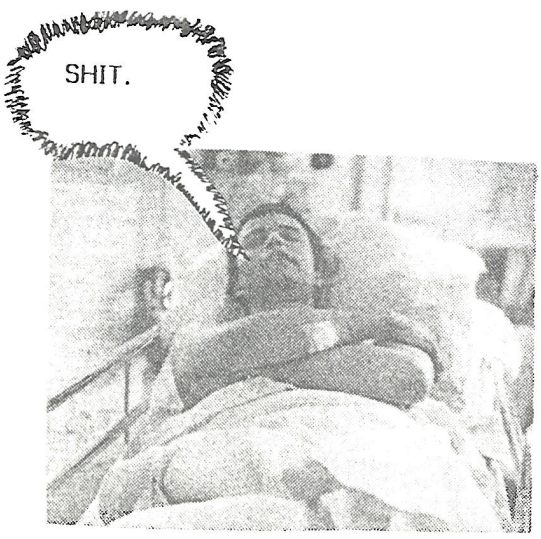
Thanks to the skill of the surgeons at the hospital, my leg will recover eventually. Many people have asked me if I will ever go caving again. One thing I did learn from this experience is to take life as it comes, so only time will tell if I will venture underground again.

I am extremely grateful to everyone in the club for helping me through a difficult four months. In particular I'd like to give extra special thanks to Clive for his impressive equipment; Tim and Dewi for visiting me in hospital each day; Wendy for holding my hand when I needed it most and the CRO guys and all the assorted cavers who helped me out on the surface. I shall be forever in your debt.

Rest In Peace!

Never buy brand new wellys just before you break a leg

You've got to see the
funny side though

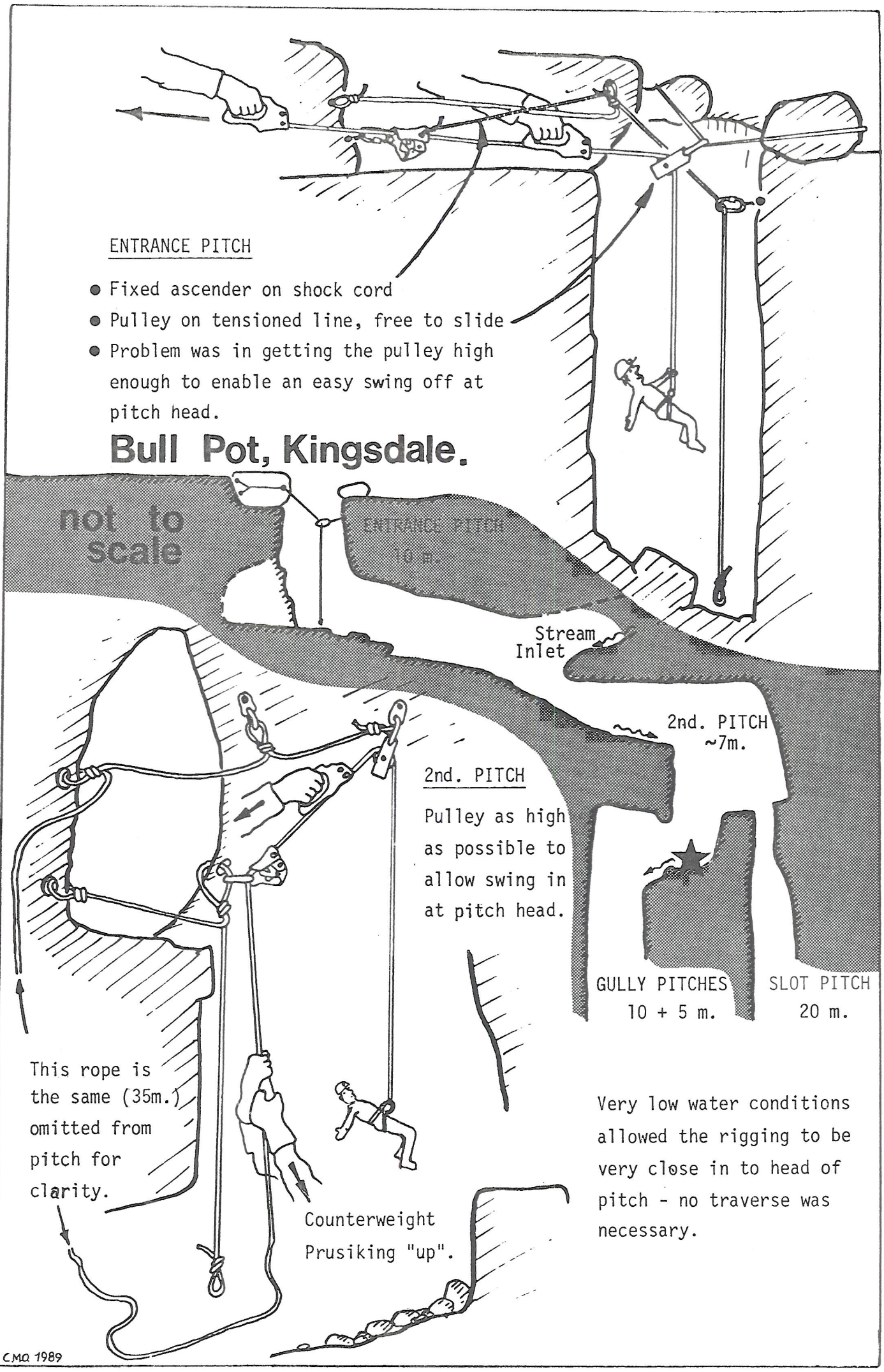


There goes another one!

And the moral of the story is:

If you have to make a fool of yourself, don't do

it when Clive has just put a 36 film in his camera


ENTRANCE PITCH
Fixed ascender on shock cord
Pulley on tensioned line, free to slide
Problem was in getting the pulley high enough to enable an easy swing off at pitch head.
Bull Pot, Kingsdale.
not to scale
ENTRANCE PITCH
10 m.
Stream Inlet
2nd. PITCH
~7m.
2nd. PITCH
Pulley as high as possible to allow swing in at pitch head.
GULLY PITCHES
10 + 5 m.
SLOT PITCH
20 m.
This rope is the same (35m.) omitted from pitch for clarity.
Counterweight
Prusiking "up".
Very low water conditions allowed the rigging to be very close in to head of pitch - no traverse was necessary.
CMQ 1989

A NAME - WHAT'S IN A NAME ? Part 2 Clive Orrock

Caverns, especially the more conspicuous ones, have always attracted attention becoming the subject of distorted tales of wild imagination and legend. As described in part 1. (issue No. 11, Spring 1989) dealing with the caves of the Three Peaks area of Yorkshire, this fascination is often reflected in the intriguing names of these "openings to Hell, the Devil and his Demons". Big entrances such as Thor's Cave or Wookey Hole will have been known about for centuries and may well have borne much the same name for almost as long. So what does Wookey mean, and what is the link (if any) between Thor's Cave and the Norse God? As will become apparent the final answers may be simple enough, but the route to enlightenment is often a wandering one taking in old legends, ancient histories and the writings of early explorers. But then, a name is just a name ("a rose by any other would smell as sweet"). The legends and histories give a much better feel for the place as it was when seen through the eyes of a Saxon scribe, medaeival traveller, or prim Victorian tourist. This then continues my speleo-etymological ramble (and I do tend to ramble !!) round the caving areas of Britain, by visiting Derbyshire and the Mendips.

NOTE : In the following pages OE denotes Old English - the form of common language spoken in the majority of what is now England from about 700 to about 1200AD. OE provides the root for many words which have changed or been lost as the language developed through Middle English (1150 - 1450) and into Modern English. OE had two extra letters in the alphabet: þ and ð both of which have become the modern th : þ as in thin; ð as in then.

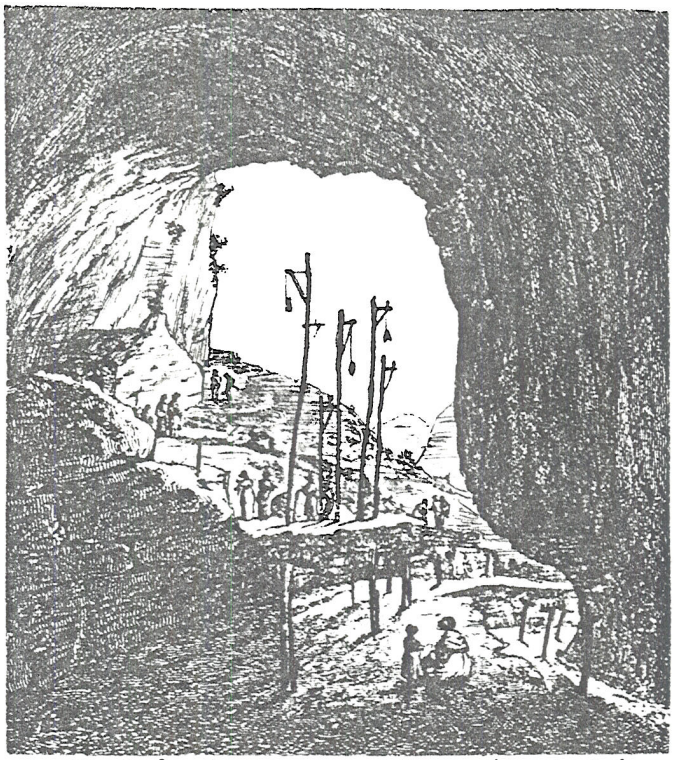
.oOOo.

The peak of the Peak District (OE pēac = a hill or knoll, not a pointy summit) is Kinder Scout, a long rounded, non-karstic plateau whose name combines an obscure and undefined Celtic (or even pre-Celtic) element with the Old Norse skúti = a projecting cliff. The principal cave of the region is of course Peak Cavern, but this is not its original name. This cavern with its immense cave-mouth seems always to have been associated with the Devil and its earlier name was the Devil's Hole, or more plainly The Devil's Arse o' the Peak, (when floodwater issued forth legend attributed this to Old Nick relieving himself).

It has always been something of a tourist spot. A 12th. century manuscript refers to it as "a marvel of England", and its praises were further sung in the 16th. century by Hobbe's guide to the "Seven Wonders of the Peak".

Not everyone, however, took such an enthusiastic view. The Rev. Gilpin, another widely travelled grockle, in 1772 could only report that:

"A combination of more horrid ideas is rarely found than this place affords and, at last, the idea growing too infernal we were glad to return."



A more stoic visitor was Princess (later Queen) Victoria, who permitted herself to be man-handled (!) through some of the tighter, wetter bits, to view the deeper parts of the system. Its present name, Peak Cavern, is a pure Victorian innovation as they were offended by the more graphic, if less sensitive reference to Satan's bottom.

The massive cave mouth was an ideal place for rope making.The rope makers cottages, as shown in the adjacent 19th. century engravings, have long since been obliterated but remains of the rope walk, and bits of the rope-making machinery can still be seen.

Another of Hobbe's "Seven Wonders..." was Poole's Cavern, nowadays situated in the suburbs of Buxton. Like Peak Cavern, Poole's has always been an accessible cave and remains show a history of residence on and off back to about 40,000 years ago. The cave is said to take its name from an outlaw, Poole, who hid there to avoid the officers of Henry IV. This was in the days when the Peak was still a very wild and lawless area much plagued (besides outlaws) by wolves, hence such names as Wolfscote Dale.

An early tourist visitor to Poole's was Mary Queen of Scots who had a quick caving trip here in 1582. Presumably she was out on parole since she was still strictly Elizabeth I's prisoner with only five years to go before she got the chop. Later, in 1850, Poole's Cavern gained the distinction of being the first show cave in the world to be lit by gas.

In contrast to these enterable caves, a third "Wonder of the Peak" was the only conspicuous pothole in the region - Eldon Hole. This obviously deep abyss has been described for centuries being originally thought to be bottomless and therefore to lead direct to Hell.

As Sir Anton Cokayne's bit of doggerel put it in 1658:

Here, on a hill's side steep,
Is Eldon Hole, so depe
That no man living knows
How far its hollow goes.

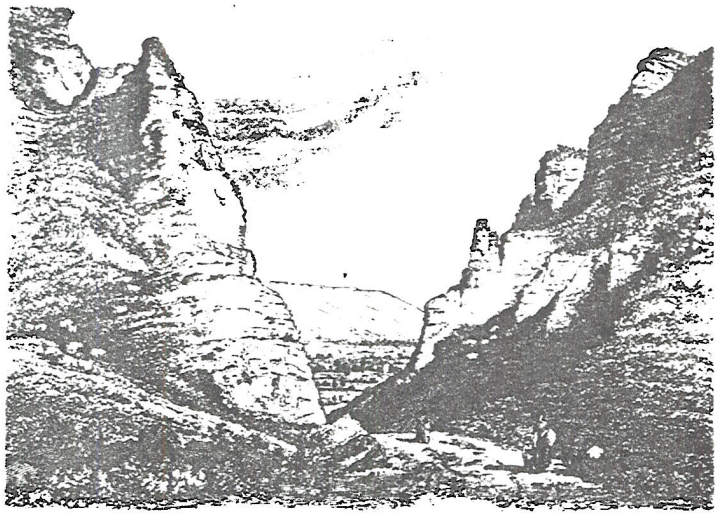
Supposedly its hollow led, via Hell, to Peak Cavern (the Devil's Hole) for legend tells of the goose that fell down the shaft and emerged three days later from Peak Cavern with its feathers all singed and blackened by the infernal fires.

Eldon Hole did not yield up its secrets easily. In Elizabeth I's reign a local landowner, Robert Dudley, had to bribe a serf with gold before the man would allow himself to be lowered down the shaft. The poor fellow was hauled back up unconcious, his hair had gone white, and he died soon afterwards from shock. A century later Charles Cotton, the poetic friend of the "complete angler", Izaak Walton, tried plumbing the hole with a weighted line. His experiments

must have been conducted with a certain amount of poetic licence as he claimed the depth to be just over half a mile. Finally in 1778 a Mr. John Lloyd got to the bottom and recorded the depth (accurately) as 186 feet. He survived a massive bombardment of falling stones from his surface "helpers" and got out to give what was probably the first recorded description of the descent of a deep pothole.

Such a legendary and awesome cavern should by rights have an equally evocative name. However Eldon Hole simply takes its name from the one-time Saxon owner of the land: a document of 1050 gives the land (including pothole) as Elledun, that is, Elle's hill.

One mile from Eldon, near to the top end of the dry gorge of Winnats (OE wind-geat = wind gap or wind gate ie. a windy pass) is another large cave entrance. Giant's Hole was according to legend the abode of an ogre, but although the entrance is large enough, any resident giant must have been quite small for just inside, the roof lowered almost to the surface of the stream. This tortuous series of very wet crawls was only passed by cavers in 1954. Shortly after, the land owner blasted the present giant sized entrance passage in a misguided attempt to create a show cave.



View into Hope Dale from the Winnats

Now, Dove Dale to the South of the Peak takes its name from the River Dove, a common river name (as in the rivers Dore, Dacre, Doe, Dovey etc.) and derives from the Celtic dubro = water. However, the Dove Holes to the North of Buxton have nothing to do with rivers...or birds. Dove Holes is a corruption of Darf Holes, that is dwarf holes. To confuse things further, caves were sometimes walled up in medaeival times to make dove cotes or culver houses (OE culfe = a dove) eg. at Culver Hole in Llangennith, Gower, South Wales.

Dwarves, not a Norse God also lived in Thors Cave at Wetton above the Manifold River. Here thor is a corruption of þyrs. Thyrs or thyrsts were demonic goblins, dwindling into smaller, drudging hobgoblins like those that lived in Hobthrust Hole at Monsal. In this connection, it was previously suggested in part 1, that Hull Pot or Thirl Pot as it was once known also derived its earlier name from þyrs. However it is more probably derived from the OE þyrel (thyrel) meaning a hole or opening.

The caves of Matlock are for the most part recent ie. Roman or usually later lead mines. Matlock (or Meslach in the Domesday Book) is a conjunction of the OE moeðel, meaning an assembly, meeting or moot, with OE ac = oak. This implies a particular oak where meetings were held and gives an interesting insight into the workings of Saxon local government.

In later years, although five turnpike roads went through Matlock, it was to the mines at Winster that these were bound and so Matlock remained quiet. Then in 1698 the first lead-lined bath was constructed to take advantage of the tepid (20° C) thermal springs. Other baths and hydros developed spurred on by the arrival of the railway in the mid nineteenth century. However it was a

hard-nosed, commercially-minded, textile mill owner, John Smedley, who really put Matlock on the map when he opened his large hydro in 1853. Under Smedley's aegis Matlock developed as a fashionable resort aimed specifically at the class concious Victorian middle class.

Matlock became transformed into a landscape of tourism shaped after the tastes of the early Victorian era. Every rock and viewpoint was garnished with romantic associations and most of the names of the peaks derive from this period : Dungeon Tor, Wild Cat Tor, Hag Tor etc. The Towering Heights of Abraham had been laid out as a garden in 1780, and named in honour of General Wolfe's 1759 assault on the Heights of Abraham at Quebec in Canada. Having such genuine romantic and patriotic links this crag alone withstood Smedley's re-naming exercise.

The "caverns" were also mostly re-named. Hence the show caves (not all are now still open) of: High Tor Grotto, Masson Cavern, Derbyshire, Cumberland and Rutland Caverns - the last three taking the ducal titles of locally important nobility. Not all, however, delighted in this Victorian theme park. Murray's Handbook of 1870 took an acid view of such novelties, the caves being singled out for particular venom:

> "Among the sights of Matlock are its caverns, which every stranger is expected to visit, and for which the usual charge is one shilling. A toilsome walk, mainly in dirt and darkness and a pain in the back from stooping, are in general the principal results of such an expedition."

Shortly after this was written Matlock's fame declined and the hydros fell into disuse. Smedley's Hydro is now the offices of Derbyshire County Council and home to the BCRA library - so some good came out of it all !

.oOOo.

The Mendips, literally mine deep (OE mene-depe) has been a mining region since ancient times although admittedly few of the ancient or medaeival mines went deeper than about 50m. Mining activity frequently broke into natural caverns, but only rarely did anyone explore these further.

Lamb Leer was broken into by miners in 1674 and explored by a Mr. Beaumont of Stone Easton, at which time it was probably the world's deepest explored cave. Beaumont, writing in 1681, described his exploration:

> "By the light of our candles we could not fully discern the roof, floor, nor sides of it : I encouraged the Miners by the offer of a double Salary to any that would go down in to it, they all refusing I fastened a cord about me, and ordered them to let me down gently after the Rocks, but being down two Fathom I found the Rocks to bear away from me, so that I could touch nothing to guide myself by, and the rope began to turn round very fast, whereupon I ordered the Miners to let me down as quick as they could, and upon the descent of 12 Fathoms I came to the bottom, where untying my cord I went about to search the Cavern."

The cave/mine was in a place known in the 15th. century as Lambdon - that is Lamb Hill, the Mendips then being largely used for sheep. Leer is German for empty. The science and technology of deep mining developed in the 16th century principally in Germany, therefore a Leer, to a miner meant simply a void of no value, but at least not full of water. Or as Beaumont explained:

> "Leiry places (as they call it) that is cavernous."

Over the next 200 years the mined entrance fell in and the location of Lamb Leer was lost. In 1873 the lease to the area was obtained by a local mining company determined to re-locate the hole, probably because as Beaumont had said, it contained some "good Lead-Ore". Finally in 1880 two local men were found who knew of a small hole at Lamb Bottom in which the Devil was said to live, and on digging this out, Lamb Leer was discovered for the second time.

Of the natural open caves on Mendip, the most celebrated must be Wookey Hole. Such a large accessible entrance has probably been used for centuries. Certainly it was inhabited by Celtic people from about 250 BC to 400 AD. The legend of the Witch of Wookey, an evil old crone turned to stone by the intervention of a monk from Glastonbury, is too well known to need further elaboration. It is not however a particularly ancient legend. The first mention of a woman living in the cave (not an evil witch) is by William of Worcester who visited Wookey in about 1470. Evidently the cave was much visited even in these times and he describes the visitors carrying "shevys of reed-sedge, for the purpose of lighting up the hall". In these days Wookey was well decorated with calcite formations. However in 1739 the poet Alexander Pope had a squad of musketeers shoot the stalactites from the ceiling so they could be taken to adorn a garden grotto in West London. Their final, complete destruction was by the Luftwaffe during a 1940 air-raid.

The name Wookey or Wokyhole as spelled in 1065, apparently derives from the OE wöcig, meaning a snare or trap, which implies the location at the end of a short, blind valley was used for trapping animal herds. An alternative derivation may be direct from the Celtic, wokov (cf. Welsh : ogof) that is, a cave. The river resurging from Wookey is the Axe, which like the rivers Exe, Esk etc. derives from a Celtic word isca, meaning simply water.

That other famous natural feature of Mendip, Cheddar Gorge, has an equally long history. Cheddar (Ceoddre, circa 880; Ceoddor in 1068; Cedr in the Domesday Book) apparently derives from OE ceod, a pouch or hollow. This may refer to the gorge itself, or to the caves in it, which have been well known for centuries and were inhabited from 40,000 years ago up to about Roman times. The village of Cheddar only developed in the Middle Ages when it was on the edge of the Royal Forest of Mendip, and it was at about this time that Henry of Huntingdon wrote (circa 1135) of:

> "Cheder Hole where is a cavity under the earth which, though many have often entered and traversed great spaces of land, and rivers, they could yet never come to an end."

Similarly in 1568 the historian Holinshed described:

> "Cheddar Hole ..... wherinto many men have entered and walked verrie farre."

The present show caves were only "discovered" in the last century and do not lead to any underground rivers. From Holinshed's description, and his references to underground rivers it appears that it must have been possible to penetrate further than it is today. Did Holinshed even discover a dry way to the elusive Cheddar Master Cave ?

Of the present show caves, Cox's was broken into by accident by the village miller while he was attempting to construct a new cart house in 1837. Later in 1890, Richard Gough began excavations at a known hole to gain entry into the cave that bears his name. A high level fragment of Gough's is Great Oones Hole, an opening higher up the cliff. The name oone is OE for the long-eared owl which presumably once roosted in the entrance.

Swildon's Hole at Priddy was, until its discovery in 1901, just the site of a stream sinking at a pool of the same name. Swildon's is generally thought to be a derivation of St. Swithun's - though I can't trace the exact connection. The land round Priddy, including Swildon's Pool was once owned by the Carthusian Priory of Witham, and they certainly had a lot of contact with the Monastery of St. Swithun at Winchester, with the prior of the latter eventually moving over to Witham. This may be the link - I'm not sure - perhaps someone from the BEC or MCG knows?

The Carthusian order was founded by St. Bruno of Rheims in 1084 at Chartreuse near Grenoble, France, and as well as at Priddy the order owned the land at Velvet Bottom, Longwood, and Charterhouse, this last being an anglisisation of Chartreuse (so it must be OK to drink Grim Reapers in the Hunters !!).

The Dry Way-Swildon's Hole Late 1920's

Like Swildon's, St. Cuthbert's was just the name of a large pond where a stream sank into the underlying rock, until the entire pool completely disappeared overnight in 1927. Excavations then revealed the cavern of St. Cuthbert's. A much longer period of excavation was required to gain entry to Rhino Rift. The silted up entrance was dug in 1928 - 29, and in 1947 - 48, but it wasn't until 1970 - 71 that a way was finally cleared through the deposits which blocked the first 40m of passage. During the 1947 excavation the fossil teeth of a Woolly Rhinoceros were found - hence the name. Also discovered by digging was GB Cave, which takes its name from the initials of the two cavers: Mr. F Goddard and Dr. C Baker, who first gained entry in 1939. Most of the other major caves on Mendip, found by digging, simply take their names from local farms, fields, lanes etc. such as Manor Farm, Eastwater (Farm), Stoke Lane and Thrupe Lane.

So much for the sinks, as well as the risings at Wookey and Cheddar, another major resurgence is in the Cathedral grounds at Wells, a name that for once can be taken at face value. As an 8th. century document says:

"Monasterium quod situm est juxta fontem magnum quem vocitant Wielea."
(The monastery which is located next to the large spring they call Wielea)

Here the latin scribe, an educated man who probably didn't speak any native English, has spelt the place wrongly - it should have been Wiella ie. a spring or well. This just goes to show how easy it is for names to change, lose their original meanings and generally confuse later generations.

Finally another quote. The author of Ward Lock's Guide to Wells of 1950 clearly discovered a wonderous cavern, which seems to have since been lost, as no known Mendip cave even remotely approaches Mammoth in splendour:

> "Although everybody has heard of this delightful Somerset village, comparatively few realise what a truly marvellous place it is. The cliffs, grand though they are, may be matched elsewhere; but not even the famous Grotto at Han or the Mammoth Cave of Kentucky is capable of exciting more emotion than these wonderful limestone caverns with their fantastic and beautiful colouring."

Any ideas where ?

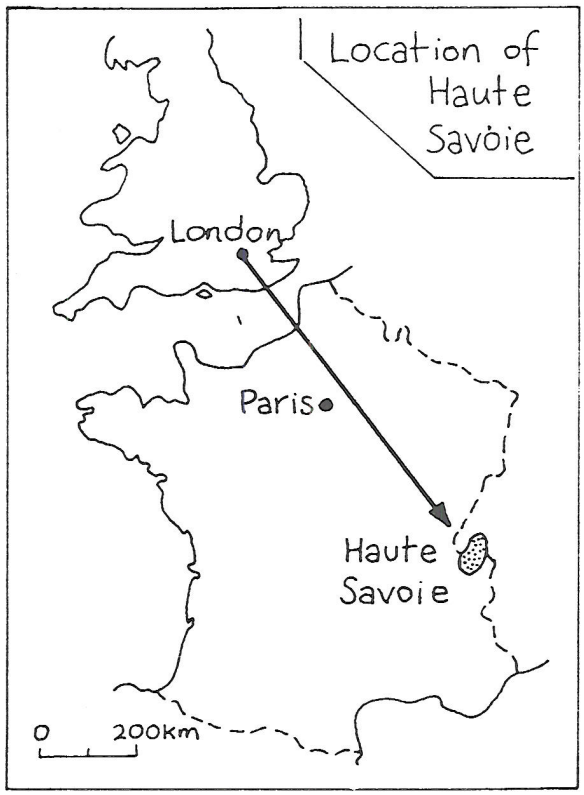
—·oOOo·—

RESEAU JEAN BERNARD-winter alpine caving

We met the first traffic jam at the Embankment.

Crawling along in Friday night rush hour traffic, amongst homeward bound office workers, four cavers heading for a very deep hole in the French Alps. At Ramsgate, the car, ourselves, and 600m of Edelrid 9mm squeezed aboard a waiting Sally Lines ferry. We tried to get some much needed sleep, but these attempts were thwarted by ski-parties, heading for the onboard disco, with quite the opposite intentions.

From Calais, a flask of black coffee, a selection of Annie Lennox tapes, and an empty motorway, carried us quickly through the night to reach Dijon soon after sunrise. We guessed that "petit déjeuner avec beans" would meet incomprehension, so settled for the standard croissants and jam.



So what was the trip all about?

One week,two aims.

First, to try out "spéléologie hivernale", making a recce of the Haute Savoie, a new region for all of us.

Second, the acknowledged priority, to get as far down the Jean Bernard as possible. Phoning around for advice, every source had said bottoming JB was possible only in winter, when most water is conveniently locked up as snow. Come summer, meltwaters cause guaranteed catastrophic flooding, certainly of the system's lower reaches.

Daytime driving slowed us right up. Listening to the radio, low lying mist seemed to have covered all of France, leading to an appalling number of crashes and snarl-ups on the autoroute.

Arrival at Samöens was very late. Predictably, at the height of the ski season, all the cheap hotels were full, and "nous sommes com plet" became a familiar reply.

Unaware of our situation, the tent was still lying happily in South Kensington, so an unwelcome overnight bivvy was made in the icy car park at Les Allemands.

That cold night, none of us slept well.

Lying in our pits, peering out at the awesome cliff of the Criou massif looming up, outlined against a sky brilliant with stars, the anticipation was both eager and nervous. With only four of us; Richard, Dewi, Tony, and myself, we already felt out on a limb. Still, this 'alpine-style' attempt, in the middle of Febuary, was a world apart from the usual continental trip of British speleos; a summer trip down the Berger, or maybe the Dent de Crolles.

The dawn came. We prepared brews, and shivered until the sun rose over the mountain, and its heat streamed down to reach us on the valley floor.

From 800m, the path ascends by a series of zigzags through an open forest, and then, clear of the trees, attacks the final steep slope, leading to the refuge.

The excellent Refuge du Folly, perched in an unlikely position at 1560m, is unguarded in winter, and proved to be a superb base for exploring the area. A nightly fee of 30F, placed in the honesty box, was a very reasonable price for such superior accommodation, even though the "après-spéléo" activities were rather dull (scrabble or cards). On the roof of the building, a thick concrete slab, intended to serve as an avalanche protector, had been impressively cracked in two.

A long day saw most of the gear humped up the hill: rope, rigging gear, carbide, stoves, fuel, personal equipment, and, of course, lots of lovely French food! The walk up took between 2 and 3 hours loaded, though we were fortunate to encounter little snow on the track. It took just an hour to run back down for the next load.

We just didn't know what to expect.

Would the refuge be full of tanned, hard-man, local speleos, forearms and thighs packed with muscle? Would Jean Bernard be the French caving Mecca, with a queue at the entrance? And, above all, would four fresh faced Englishmen, who could barely put their crampons on the right way, survive for more than 10 minutes?

But we shared the refuge only with a party of four ski-mountaineers, and, from the log book, visits to the area by cavers seem to be rather infrequent, presumably because most of the leads have now been pushed, and attention has turned elsewhere.

From the door of the refuge, the view was dominated by the impressive Dents d'Odda, a jagged ridge across the valley, and just a part of the Haute Savoie.

This is perhaps France's premier caving region, with its combination of altitude and spectacular scenery above ground, and numerous sporting deep systems below the surface. The Haute Savoie provides a model high alpine karst terrain, with its mosaic of pavement, dolines, glaciers, snowfields, jagged peaks and cliffs, all in good quality limestone. The contortions of Alpine mountain building add to the splendour.

The skiers at the refuge expressed quiet incredulity, and grinned at each other, when they heard that we planned actually to walk to the cave entrance from the Folly. They explained that to continue further up the valley towards the Glacier du Foillis would involve wading in thigh deep powder snow. The entrances all lie on a north facing slope, which rarely sees the low angle winter sun. Hence, the freeze-thaw cycles, so necessary to build a firm, walkable crust, are absent.

This information turned out to be entirely correct.

Next morning, as we watched the skiers disappear over the horizon, we floundered in deep, dry powder. Always have skis when travelling through Alpine mountains in winter! It was an absurd situation, like some WWII film with British soldiers doggedly wading through a Burmese swamp.

We had decided to aim for the V4 entrance, the lowest in the system. This was the nearest and would be the most likely to be clear of snow. From this entrance to the bottom gave a trip about 1km deep, and required, according to the guide, 860m of rope. Much of this rope is, however, used in traverse lines, and we were hoping that these, plus the occasional short pitch, would have old ropes in place, and that our 600m would do for the rest. 600m was, additionally, all that we could afford, all that we could fit in the car, and all that we would have time to take into and out of the cave. The higher entrances are more distant, and require major snow clearance, so are not really feasible in winter.

A 2 hour slog brought us to the entrance, lying open and waiting.

It was here that exploration began in the autumn of 1963, eventually leading to the discovery of a system with a vertical range of 1535m.

Perhaps rather disappointingly, there was no signpost saying "World's Deepest Cave", just a rather ordinary rift leading downwards, and an old welly boot cast to one side.

Dewi and Tony headed back down the hill to buy supplies and bring up the remaining rope, while Richard and I changed, kitted up, filled our carbides, and headed off down.

Daylight quickly receded, and the darkness engulfed us.

Good luck seemed to have characterised the trip so far.

We'd been lucky to have a good drive down, lucky to find the path clear of snow, lucky to find such a great refuge, lucky with the weather, lucky to be able to reach the cave entrance without skis, and, now, lucky to find the entrance, normally blocked with snow, wide open.

The first pitch was already rigged, and expectations prematurely rose. Past superb ice formations and quickly down through a network of steep phreatic tubes, uniting at the head of the 50m Puits des Savoyards. A length of wire, and several pieces of tatty rope led out round the left wall of the shaft, to reach an exposed main hang on the far side. We fixed our own line as well, but the overhanging, airy traverse across the void remained one of the least popular parts of the cave, always raising a sweat. A cool draught blew up out of the pit. On the "Telepherique" section, we used a mixture of fixed wire traverses, and some 'joke' 7mm left by a Spanish expedition into the system. This part of the cave is incredibly dry, each footstep raising a great cloud of mud dust, giving a choking atmosphere. Then we were at the head of the split 70m of "Puits Alain". An intelligently and well bolted pitch, this was quickly negotiated, and we headed on down, past a few more short pitches, to reach the active streamway. A relief after the dryness of the section above, we did all the things one normally does when reaching the streamway. Pee, eat, and fettle the carbide, in that order.

The excitement of the sparkling stream now started to draw the two of us onwards. The warm, golden light of the carbides danced on the passage walls, seeming infinitely friendly and comforting in this dark, cold universe. We had started off with about 200m between us, but rope supplies were now being used up quickly, and we agreed to go on until all the rope was gone.

Following a meandering section, the roaring of a waterfall could be heard ahead, and a short stoop under a rock arch reached the refreshing Cascade Jean Dupont jetting in.

More traversing at mid-height in the rift, above the stream, followed, fixing ropes on the least protected sections as we went.

We reached what seemed to be a very awkward, muddy traverse, over a substantial drop. Here the forward momentum, which had buoyed up our confidence, and allowed us to make good progress, started to decline. Instead, we backtracked, dropped down to the river, and found ourselves at the head of a tremendous 45° black slab, down which the river slid. I fixed a 20m rope to rather friable rock, and abbed down. This had to be the 'Grande Cascade' of the guide. Two-thirds down the pitch, becoming increasingly saturated, I swung round the corner, and reached an alternative, dry descent, starting from a passage higher up in the rift. Clearly, the 'dodgy traverse' we had stopped at above must be the better route.

Now, however, unsure how long it would take us to get out, we left the remaining 20m coiled up, ready for the next push, and headed out.

The exit, from -250m, was, in fact, fairly swift. We emerged to a cold, clear night, with the twinkling lights of Samoens far below. We changed, stowed our gear just inside the entrance, and headed back down to join our friends in the refuge after a good day's work.

Next morning, the lucky streak ended.

Thick snow lay outside the door of the refuge, and was still falling.

Approaching the cave today was just not going to be feasible. With so much fresh snow, the walk up would be nearly impossible, and the entrance , which lay at the foot of an avalanche slope, might well be blocked by now anyway.

We reckoned we'd about £800 worth of gear buried underground. During the long day confined to the hut, we read, played cards, dozed, and drank tea, and certainly began to notice the lack of heating in the hut. Tuesday evening, we went to bed early, with all our hopes pinned on fine weather the next day.

In fact, next day was fine.

But we didn't want to risk another heavy fall of snow blocking access to the cave, since we only had, at most, four days left in the area. So this was to be the final trip. Rigging in as far as we could, and then pulling out all that rope, and the previous rope, at the end of the same trip. Therefore we took down another 200m of rope, any spare space in the bags being filled with photo equipment, chocolate, Nestle milk tubes, and canned sardines.

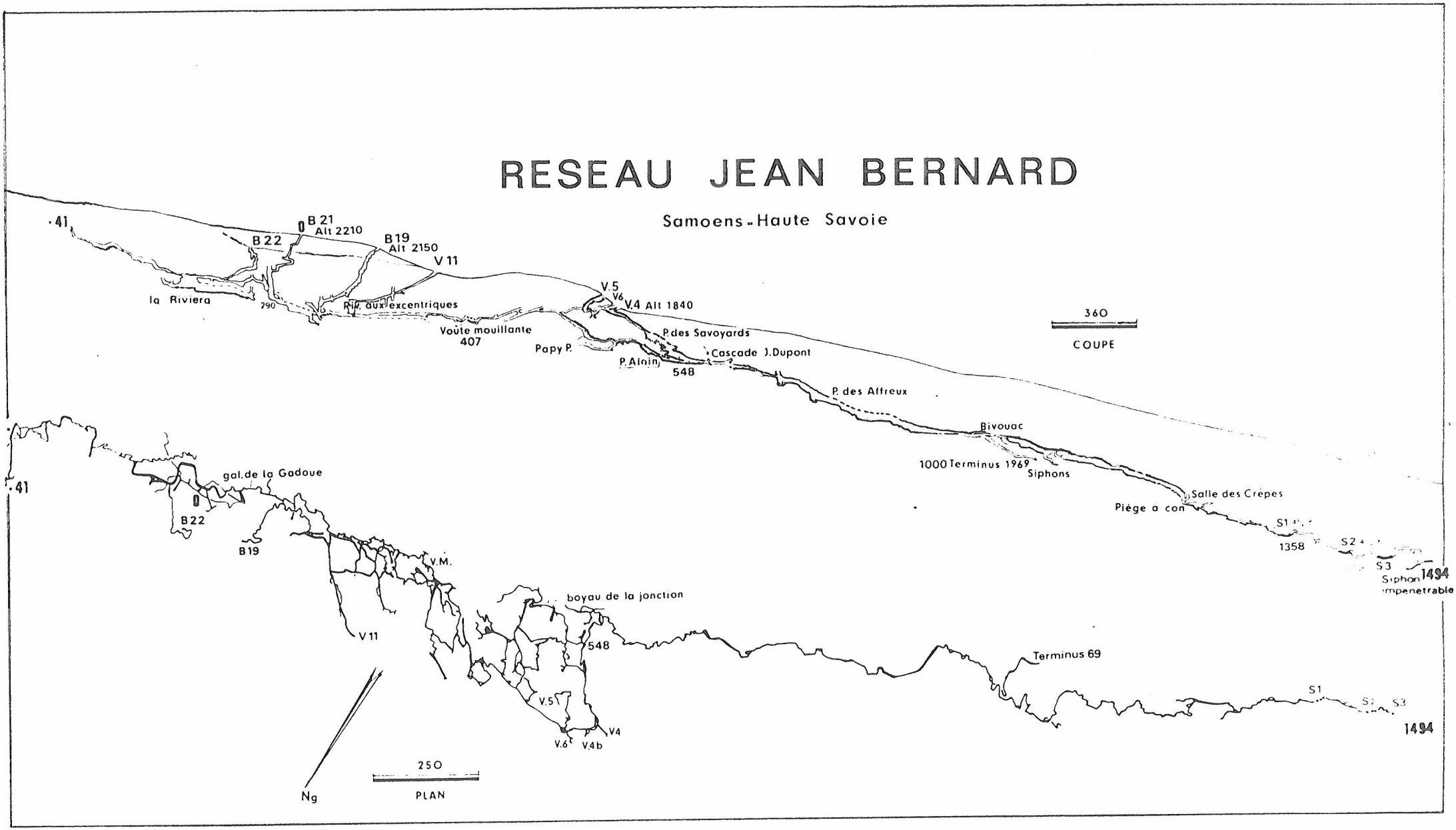
The flounder up was as fun as usual. Amazingly, V4 was still wide open, despite considerable drifts nearby (it can stay open a long time into winter, but, when it does finally block, then that's it for the season).

Four of us this time.

Quickly through the entrance series and on down to our previous far point. Pitches descended, rifts traversed, Petzl Stops and cowstails used effectively and automatically, a string of calculated movements. With fresh confidence and more certainty that this was the best way, we edged over the traverse that had repelled us before, and fixed a rope for the return. Beyond, we found more 'fixed' wires, or old muddy handlines, all in varying states of repair, and added our own where necessary.

RESEAU JEAN BERNARD

Samoens - Haute Savoie



This 'upper route' in the rifts, though entirely dry, was consuming both time and rope very quickly. Two 15m pitches simply brought us back to below the Grande Cascade, where we had already been just two days before. More traversing, gradually rising above the river again, reached an 8m pitch down into a dry, roomy chamber, the "Ancien Bivouac". A 6m pitch, and then we arrived at the head of the 30m "Puits Glaiseux", which reached a steep slope leading back down to the streamway. Still determined to follow the route as described in the guide, we got off the pitch at the 20m point, and headed up a steep boulder slope, and then up a 5m fixed rope to a conclusive dead end.

This is a familiar pattern in deep alpine tourist trips. You start fresh, confident, moving well and enjoying the atmosphere. Then you get further in, more remote, out on a limb. Then there's a route-finding problem, indecision, a wrong turning, unneccessary stops, and the pace slows right up. Each person takes their turn in the lead, making the decisions, rigging the pitches, and taking the risks. Eventually, everyone is exhausted, and one final obstacle, seemingly insurmountable, calls for turning back. The next time in, of course, you reach the same obstacle, pass it easily, and wonder what the problem was. For us, the turnaround came after following another wet, cold rift, probably the right one, for some distance. We reached a hole in the floor, with a possible, though clearly very exposed, traverse around the side. With no clear way on, and evidence of recent collapse, none of us really fancied it, and decided on discretion.

We returned to the bottom of the Glaiseux pitch, and decided to try going directly down the streamway instead. This is undoubtably the most straightforward way into the mountain, and gains depth much more quickly. But the risk from flooding is clearly very great, and the route seldom used, as the absence of spits or hangers showed. We descended the clean-washed 'marble' streamway, with superb calcite veins set in black limestone. This was so much more exhilarating than the route above, and a whole series of cascades were either roped or free climbed, with extreme pleasure as hands found good holds in the rock. Finally, we reached the head of a 25m wet pitch that we guessed was "Puits des Affreux". The river thundered down into a chamber below. We tried to push on down, but the belays just weren't there, since the usual route is to drop in from above. At -384m, we'd reached the 1966 far point of the Groupe Vulcain.

Then back out again, derigging all the way. We emerged at about 5am, the sky still moonlit, and, heavily loaded, stumbled back down the hill by the flickering light of our carbide lamps.

So, a long way to go for two caving trips.

Jean Bernard doesn't give up its depth easily, and nor, I would suggest, is the caving in this section particularly attractive, with much laborious traversing in rifts, and undistinguished pitches. There are much easier, and far more spectacular systems, in other regions, where depth can be gained rapidly, and more enjoyably. However, the trip was successful as a recconnaissance, we learnt a few lessons, and now had a pretty good idea of what winter alpine caving involves. Next time, either more time, or more cavers, or both, would probably do the job. It would also be safer to go earlier in the season, in December or January, as, going in mid-Febuary, we were lucky to find as little snow as we did. The Haute Savoie itself is a superb area, and there is a mass of other great caves; Mirolda, Rivière Enverse, Martel, Karen, Petit Loir, and Double S.

Next day, we sledged all the gear down the hill in bivvy bags, since snow now lay as far down as the car park. We found the cheapest hotel in Taninges, paid for a room with two double beds, and spent the evening drinking, eating, recovering, and contemplating, before the long drive back to Britain the next day.

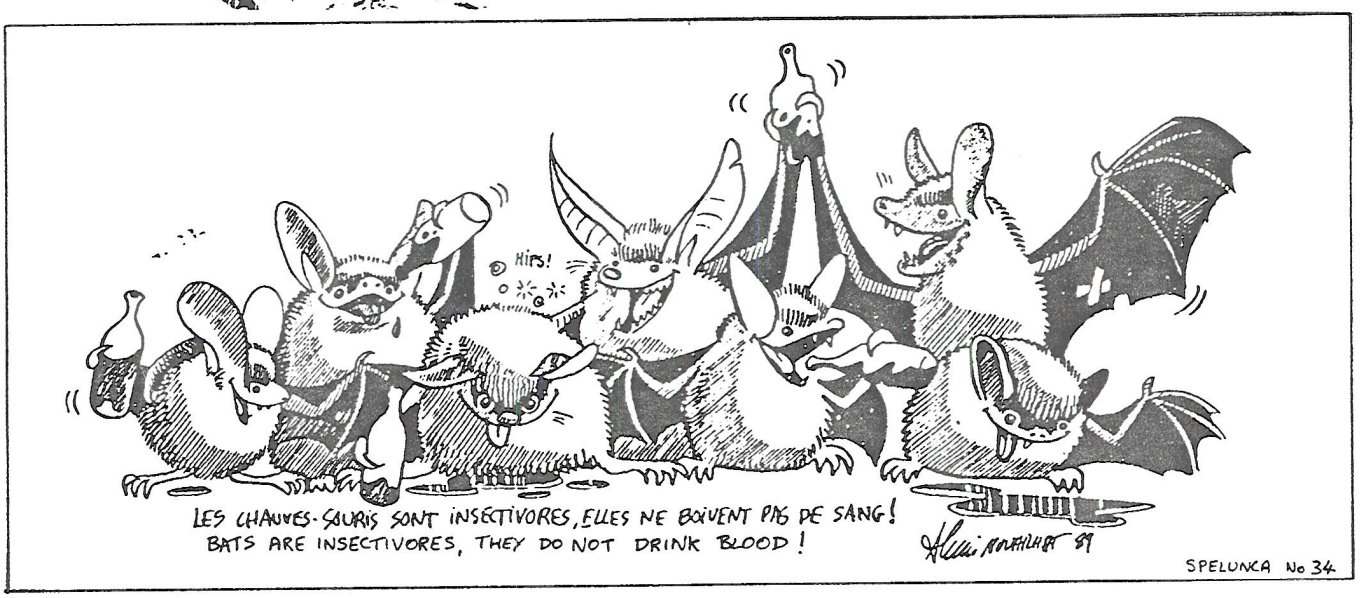
Useful reading:

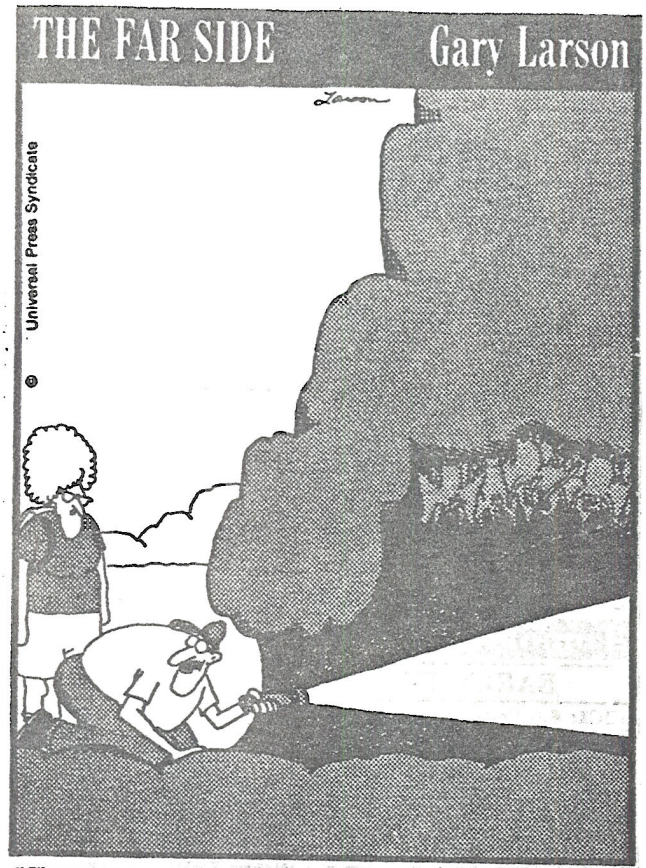
"Speleo Sportive Dans les Alpes de Haute Savoie. Haut Giffre et Desert de Plate"
R.Maire,C.Rigaldie. Edisud 1984. No.4 in the Speleo Sportive series, £6.50

"-1455m et apres?" P.Rias 1981. Account of exploration of system.

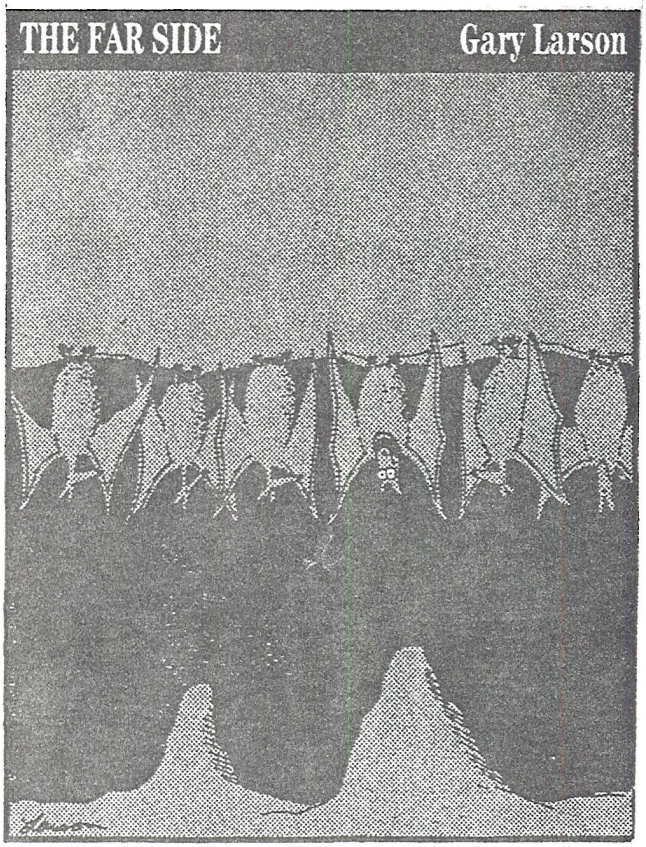
Harry Lock
Imperial College CC

HELock





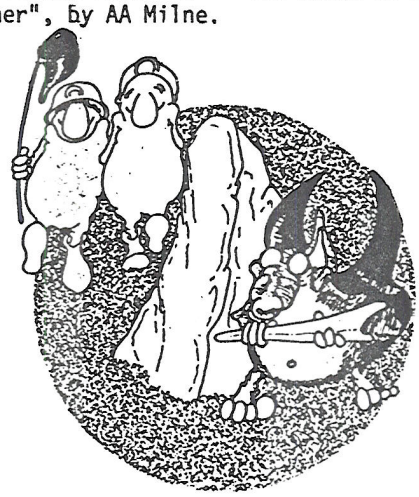
"C'mon, Arlene. Just a few feet in and then we can stand."



"Aaaaaaa! I can see! I can see! Aaaaaaaaaaaaa!"

ANSWERS TO THE BOOKWISE QUIZ IN ISSUE No. 11

1. Sindbad the Sailor from the 6th. book of Sindbad, in the "Tales from the Thousand and One Nights". Trad.
2. Tintin and Snowy from "Tintin au Tibet", by Hergé. I presume this also appeared in English.
3. Arthur Dent, Zaphod et al. in "The Hitch Hiker's Guide to the Galaxy", by Douglas Adams.
4. Clotho, Lachesis and Atropos - the three Morae or Fates. Greek myth, as described by Jim Eyre in "The Cave Explorers".
5. Frodo Baggins and Sam Gamgee in "The Lord of the Rings", by JRR Tolkien.
6. Prof. E. Challenger, Lord John Roxton, Prof. Summerlee and Mr. Ed Malone of the Daily Gazette in "The Lost World" by Sir Arthur Conan Doyle.
7. Thomas the Tank Engine, in "Gordon the Big Engine", by the Rev. W Audrie.
8. Nicholai Hel and Beñat Le Cagot in "Shibumi" by Trevanian. The cave, though fictional, is described as being near to P.S.M. and obviously derives much from Casteret's writings on the exploration of this cave, particularly his book "Men of the P.S.M."
9. "Beowulf". Trad. Evidently a broadsword was a vital piece of cave-diving equipment in the Dark Ages.
10. "Stig of the Dump", by Clive King.
11. Orpheus. Greek myth.
12. "The Swiss Family Robinson", by Johann Wyss.
13. Prof. Edward Challenger (again) in "When the Earth Screamed", by Sir Arthur Conan Doyle.
14. The Hindu God, the Lord Shiva.
15. Winnie-the-Pooh in "The House at Pooh Corner", by AA Milne.

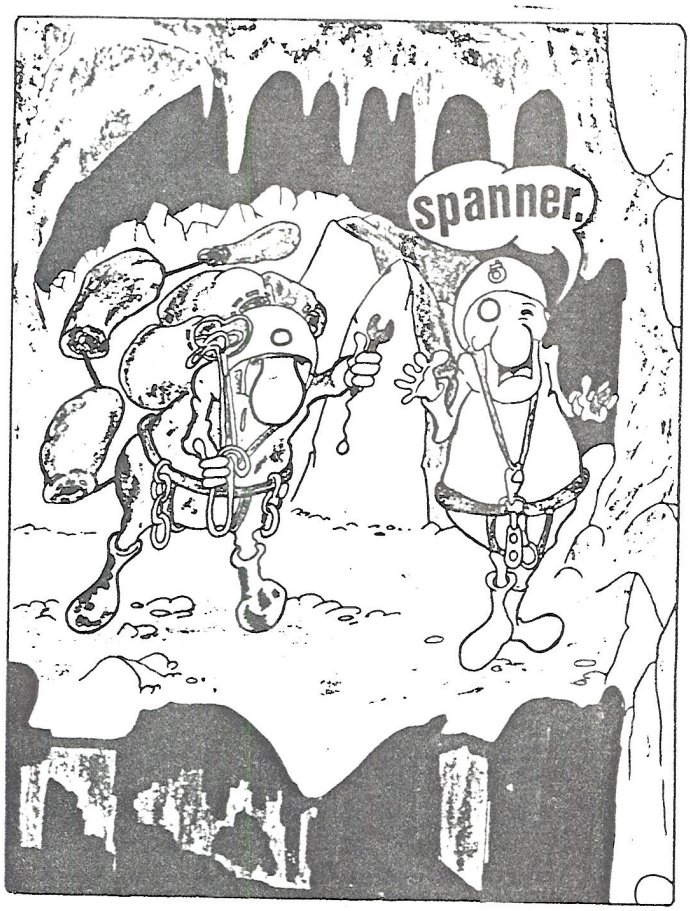


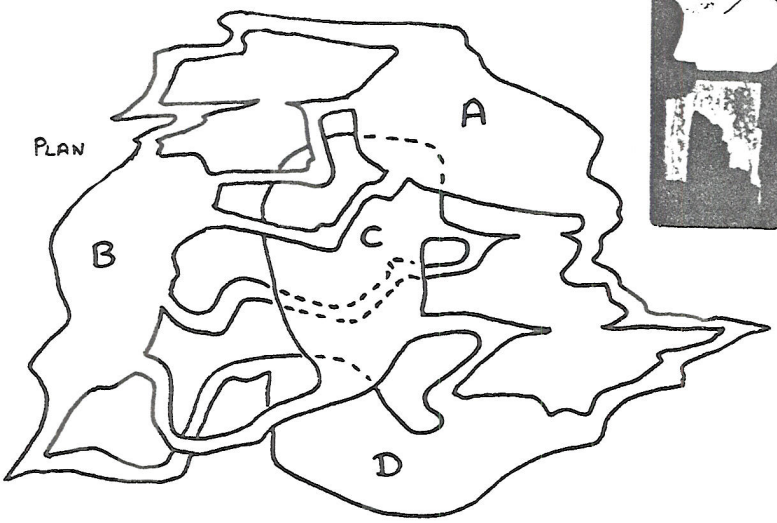
ANSWERS TO THE CAVE PHOTOGRAPHERS PUZZLE.

The original scores of 6 points to each of the finalists must have come from a 1st, 2nd and 3rd placing each. When the 3 dishonest cavers reversed their order of marking, the 3 points and 1 point scored by the honest caver were reversed, but his total remained at 6. The other 3 finalists however, when the marks were reversed, gained 2, lost 2 or stayed the same, depending on whether they scored 1, 2 or 3 from the honest finalist.So the final scores were 8, 6, 6 and 4, and the honest cave-photographer was tied second.

PROBLEMS ?!?

A newly discovered cave system contains four well-decorated chambers (A,B,C,D) linked by a network of passages on several levels, as shown in the survey (below). The land owner plans to turn the caverns into a show cave, but since the original entrance is far too tight and nasty for grockles, he intends to sink a shaft to penetrate the system from above. Can you suggest where he should dig his shaft so that a round tour can be made out from the lift, which traverses all passage lengths only once and then returns to the lift ? The four chambers may be crossed as many times as you like but each passage must be traversed only once on each trip.





The knot below is, of course, simply a modified reef knot but without actually tying it can you say what it turns into when the two free ends are pulled ?