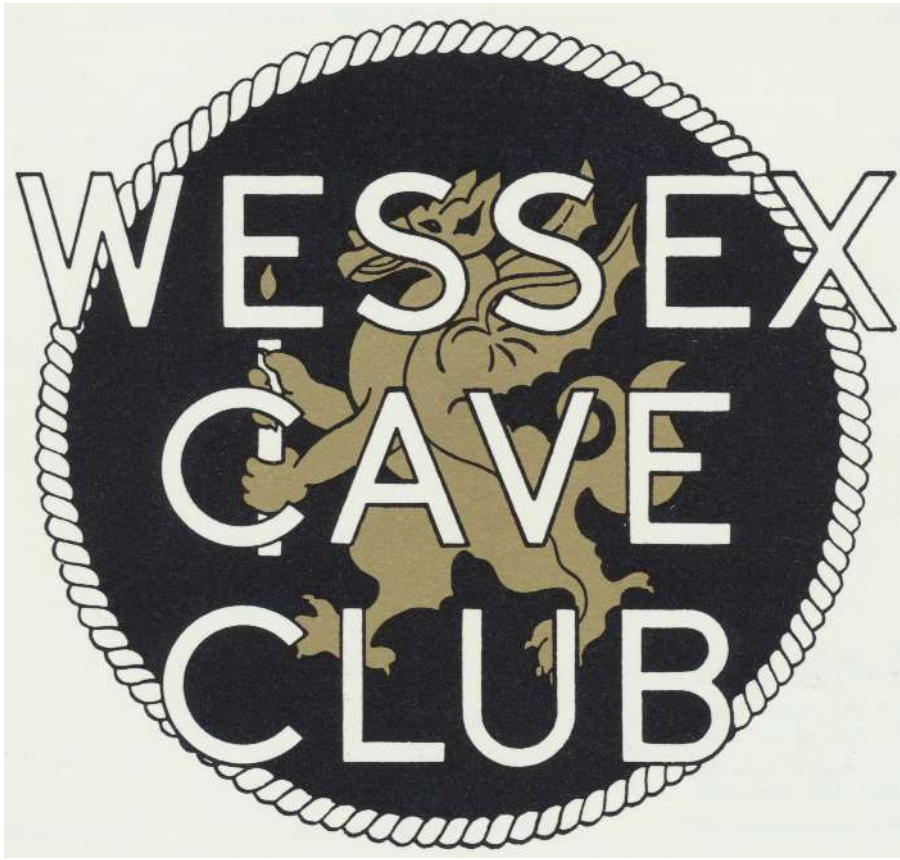

WESSEX
CAVE
CLUB

WESSEX CAVE CLUB

Journal No. 124, Vol. 10. August 1969

CLUB NEWS

It is not meant as any discourtesy to our French colleagues, but we have not recorded the death, in November last year, of Robert de Joly. Information takes too long to cross the Channel. He was 81 when he died, after a short illness. De Joly was one of our Honorary Members, a position conferred in appreciation of help received by Wessex members on trips to France towards the end of the 1940's. A full account of his life was published in a recent issue of "Spelunca". Coming from a well known Parisian family this remarkable man is better known to us as the organiser of French caving in the early part of this century. He introduced climbing techniques and exposure suits, not to mention chrome leather gloves and foam rubber caving helmets. His final caving trip, in the upper levels of Orgnac in May 1967 when 80 years old, was a nostalgic occasion since he knew at the time that it would be his last venture underground. As well as his caving activities he was an enthusiastic collector of old firearms, and an equally enthusiastic driver of fast cars, buying his last at the age of 80. In the last war he was well known as an active captain in the Alpine Army.

Official notice is hereby given for this year's Annual General Meeting, to take place on Saturday 18th October starting at 3.0.p.m. prompt. We had thought of holding the meeting at Upper Pitts but this would be a little impracticable at present in view of the large numbers that we hope will be present; so, once again, the meeting will be held at Priddy Village Hall. Attention is drawn to Club Rules Nos 5 and 18, which state:-

> "5 That the affairs of the Club shall be conducted by a Committee which shall consist of a Chairman, Honorary Treasurer, Honorary Secretary, Honorary Assistant Secretary, Gear Curator and nine other members who shall retire annually and be eligible for re-election, and that the Honorary Secretary of any group within the Club be eligible to attend a committee meeting in an ex officio capacity, and may nominate a substitute to any meeting which he cannot attend personally. All members standing for office or for membership of the Committee must be nominated by two members of the Club. The Committee shall fill any casual vacancies. An Honorary Auditor shall be appointed each year at the Annual General Meeting."
>
> "18 That notices of motions for discussion at the Annual General Meeting shall be received by the Honorary Secretary not more than two weeks after the posting of the notices of the meeting. Such notices of motions must have the names of the proposers, and be circulated to members at least seven days prior to the meeting."

Since this announcement is the official notification of the A.G.M., under the terms of Rule 18, notices of motions for discussion should be posted to the Hon. Secretary to arrive not later than Saturday 6th September 1969. Proformas for election and motions are inserted with this Journal for member's convenience. Full details of the A.G.M., including the Hon.

Secretary's 1968-69 Report and the Hon. Treasurer's Statement of Accounts will appear in the October issue to be circulated prior to the meeting.

The Annual Dinner of the Club will take place on the evening of Saturday 18th October at the Caveman Restaurant, Cheddar, 7.30 p.m. for 8.0.p.m. An insert for ordering tickets is enclosed with this Journal. Please notice that, if you require coach transport to and from Priddy, the fare should be forwarded with the ticket order and a seat will be booked.

At recent A.G.M's it has been requested that the Club produce a Handbook containing as much information about the Wessex as possible in a single source. This has now been published and is circulated to all members with this copy of the Journal. We hope it will be found of use to everyone in the Club as well as serving as a prospectus for prospective members. The Handbook contains a copy of the current Club Membership address list which will also be found at the end of this Journal for the record. A number of members have requested to have an easily referred to address list so that a search through Journals is not necessary.

As stated in the last issue of the Journal we have now vacated Hillgrove and moved to our premises at Upper Pitts. Thus it is most important that the remaining jobs are completed at our new H.Q. as soon as possible. Please pay the site a visit and lend a hand in putting the finishing touches to what is now becoming known as the "Wessex Hilton". We hope that members will bear with us during this difficult phase, especially concerning access at odd times. Arrangements are being made for members to apply to the Committee through the Hon. Secretary for their own personal key in due course. If you feel that you can make use of a key to Upper Pitts please contact the Hon. Sec. who will forward you details of the deposit required and the conditions under which members will be issued keys. Other details relating to Upper Pitts will be found in the Handbook. Hillgrove has been sold for £60 to a Bristol scout group who lost their own hut in a fire, and they are responsible for its removal from the farm. However, we are obliged to restore the site to its original condition after the hut has been dismantled and this will require some help and outlay. All this should be completed before the end of the Club Year.

Professor Tratman reports that there has been major movement of the boulders between the top of the Ladder Dig and Bat Passage in G.B. Cavern, and that this part of the cave is closed until inspection suggests it is safe.

We welcome the following new members elected 29-6-69.

A.R.S. Audsley	5 Archfield Rd., Cotham, Bristol BS6 6BD.
P.R. Blundell	66 Bromley Rd. Heath Rd., Downend, Bristol.
R.A. Chappell	5 Archfield Rd., Cotham, Bristol BS6 6BD.
A.J. Green	Japura, Church St., Staines, Middlesex.
D.G. Manuel	20 Taplings Rd., Wecke Est., Winchester, Hants.
A.G. Turner	38 Clarence St., Egham, Surrey.

CLUB MEETS

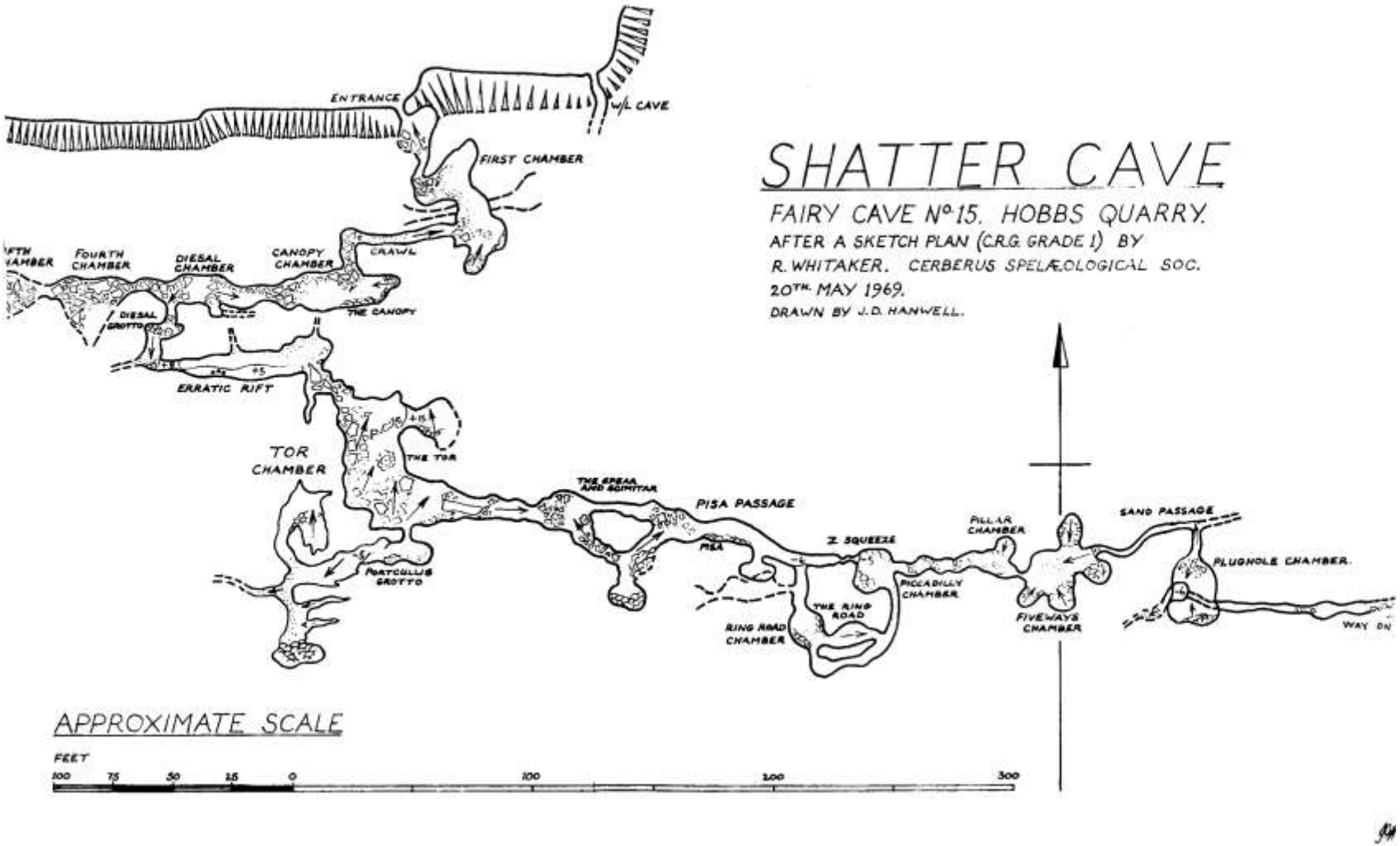
Tuesday 9th September	1900 hrs.	Library Night (Ladder Practice) Organiser: C.J. Hawkes, 10 Christchurch Rd., Clifton, Bristol 8.
Saturday 13th September	150 hrs.	Stoke Lane Slocker Leader: Hugh Pearson, 129 East Dundry Rd., Bridge Farm Est., Whitchurch, Bristol 4.
Saturday 20th September	1500 hrs.	Copen Acre Naval Stores. Leader: W.T. Edwards, 91 Rookery Road, Knowle, Bristol 4.
Saturday 4th October	1400 hrs.	G.B. Cavern. Leader: Peter Gibbs, 40 Hollywood Road, Brislington, Bristol 4.
Tuesday 7th October	1900 hrs.	Library Night (see above)
Saturday 11th October	1415 hrs.	Jumble Sale, Bishopston, Bristol. Organiser: Tony Phillpott, 3 Kings Drive, Bishopston, Bristol 7.
Saturday 18th October	1500 hrs.	Annual General Meeting
	1930 hrs.	Annual Dinner, Caveman Restaurant.
Saturday 8th November	1100 hrs.	Swildons, Shatter Passage Leader: A.E. Dingle, 32 Lillian Rd., Barnes, London, S.W. 13.
Weekend 22/23rd November		South Wales (Agen Allwed, etc)* Leader: P. Davies, Morley, Silver St., Nailsea, Bristol.
Saturday 10th February 1970	1100hrs.	Swildons. Round Trip* Leader: I. Jepson, 7 Shelley Road, Beecham Cliff, Bath, Somerset.

* Denotes that wet suits and Nife cells are preferred. Please give the Leader or Organiser prior notice in writing if you intend to attend any of the meets above, otherwise they will be cancelled.

Proposed trips: -

August or September	Steep Holm Weekend. Leader: R.J. Staynings, 8 Fanshaw Road, Hengrove, Bristol 4.
End of Year	Portland Caves. Leader: Mike Dewdeney-York, Oddset, Alfred Place, Cotham, Bristol 2.
Easter Weekend	Yorkshire Organiser: Alan Surrall, c/o Miss Jenny Murrell, 1 Clifton Hill, Bristol BS8 1BN

The above leaders would very much like to know how many members are interested in attending the meets proposed. Do write to those concerned as soon as possible. With regards to the Yorkshire trip over Easter 1970, Alan Surrall would like to know all interested to send him their ideas of what caves they would want to visit and whether they would require a camping site or hotel accommodation.


SHATTER CAVE
FAIRY CAVE Nº 15. HOBBS QUARRY.
AFTER A SKETCH PLAN (C.R.G. GRADE 1) BY
R. WHITAKER. CERBERUS SPELÆOLOGICAL SOC.
20TH. MAY 1969.
DRAWN BY J.D. HANWELL.
ENTRANCE
w/f CAVE
FIRST CHAMBER
FOURTH CHAMBER
DIESAL CHAMBER
CANOPY CHAMBER
CRAWL
DIESAL GROTTO
THE CANOPY
ERRATIC RIFT
TOR CHAMBER
THE TOR
PORTCULLIS GROTTO
THE SPEAR AND SCIMITAR
PISA PASSAGE
PISA
Z SQUEEZE
RING ROAD CHAMBER
THE RING ROAD
PICCADILLY CHAMBER
PILLAR CHAMBER
FIVEWAYS CHAMBER
SAND PASSAGE
PLUGHOLE CHAMBER
WAY ON
APPROXIMATE SCALE
FEET
100 75 50 25 0 100 200 300

The Discovery and Exploration of Shatter Cave (Fairy Cave No.15), Fairy Cave Quarry

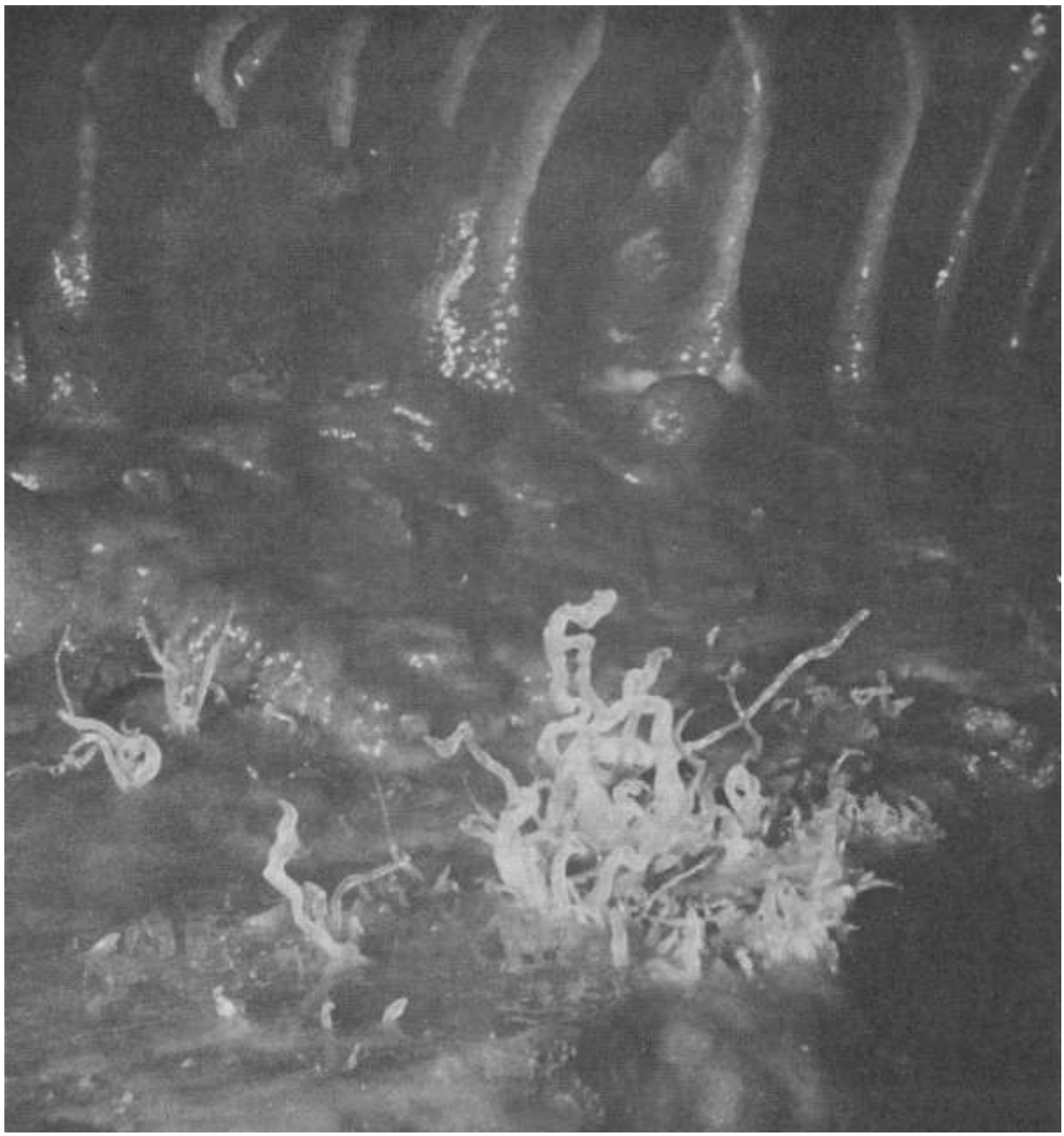
Shatter Cave was dug into on the night of April 8th 1969 and explored into the early hours of the next day by Cerberus Speleological Society members Richard Vaughan, Peter Conway and Ray Saxton.

After a considerable amount of effort and some hair raising moments they stabilised a route through the Entrance and First chambers. Here they explored an upper grotto before crawling through a low shattered passage westwards into Canopy Chamber. This is a large chamber, the eastern end of which is still intact, with a floor containing many stump stalagmites and a well decorated southern wall. They continued westward over piles of boulders fallen from the roof to climb up into Diesel Chamber, with other chattered chambers beyond parallel to the working face of the quarry. On the south side of Diesel Chamber they dropped downward into a grotto and explored a small passage which closed down. Thus ended their first trip.

On the evening of 9th April a Cerberus party including K. Crowe, B. Prewer, P. Short, T. Smith, J. Lavis, Miss S. Bax, R. Saxton, P. Conway, and the writer set out to continue the exploration. While the others were salvaging some of the shattered formations in the First Chamber grotto, Jerry Lavis and I pushed on to the known end. Jerry soon found the narrow entrance into Erratic Rift turning back to the east, and discovered a beautiful group of helictites on the ledge about half way along with fine curtains draping the walls. On that evening we followed the rift to the boulder ruckle at its eastern end.

A week later, on the morning of 15th April, I visited the cave with T. Frost and M. Weymouth, colleagues from the Bristol Avon River Authority; J. Hobbs and J. Travis from Hobbs Quarry Company, and Dr. William Stanton. The reason for this visit was to show the quarry management the difficult situation that had arisen owing to the discovery of the cave; namely, of the danger to their plant and men who were working over the large chambers. Such visits form part of an agreed procedure between the Quarry and local water authorities whenever a new cave is discovered here. We took the party to the end of Erratic Rift, and Willie Stanton and Terry Frost soon wriggled through the terminating ruckle to emerge into Tor Chamber, the edge of which they skirted to look beyond into yet another chamber before returning with the whole party to the surface.

The following evening a large party from several clubs visited the cave (Schizomycetes. W.C.C. Jnl. No. 123. Vol. 10. June 1969). While Sue Bax and I started surveying from the entrance to the end of the chattered chambers (so that a blasting limit could be established to allow exploration to continue), the others pushed on to Tor Chamber. The passage seen by Willie and Terry continued eastwards to the Spear and Scimitar, and then up a steep loose boulder pile before dropping into Pisa Chamber and a large meandering old streamway. The way on was profusely decorated with high level loops and oxbows on the south side. The direct route went on through the Underpass and the awkward Z Squeeze into Piccadilly Chamber, so named because it had two exits. To the left was Pillar Chamber with a beautiful white crystal floor and a 12 ft. high white column at its far eastward end. Beyond this was an impassable squeeze with a strong draught indicating a way on. While this was being investigated another party had found a bypass to Z Squeeze via a low crawl which brought them into Piccadilly Chamber through the right hand exit. This high level loop was called the Ring Road.



HELICTITES IN ERRATIC PASSAGE Photograph by D.M.M. THOMPSON

On the next trip Jerry Lavis took a hammer and chisel to the squeeze in Pillar Chamber. He enlarged it sufficiently to squeeze through, and was followed by Brian Prewer; each subsequent caver enlarged the hole to his particular circumference with the aid of the hammer. Once past the obstruction the party crawled into another chamber; again well decorated and shaped like five linked grottoes, each with possible extensions. This chamber is called Fiveways and the route on was straight ahead into a curving rift named Sand Passage. In turn this led to a steep bedding plane crawl up loose boulders before dropping into yet another chamber containing a hole in the floor. A low passage turned back the way we had come and closed down.

Many trips have been made into the cave since then. On one of these, while Alan Butcher and Alan Mills from the Shepton Mallet C.C. were surveying, a B.E.C. Party including Dave Irwin and Dave Turner found a further 300 ft. extension by excavating a hole on the left of the boulder slope descending beneath Plughole Chamber. At the time of writing this marks the end of the exploration in an easterly direction.

A C.R.G. Grade 1 Survey is included with this article, and it is hoped that the results of the detailed surveys now being carried out by Alan Butcher, Mike York et al, plus my own will soon be available. For the moment the Quarry Company have stopped blasting eastward along the face and are turning southwards towards the road. This will enable us to explore and survey the cave for a few more weeks.

As with other systems found in Fairy Cave Quarry, the future of Shatter Cave and what remains of Balch Cave is very uncertain. The Quarry Company have approval to extend into the fields to the east of the existing face, and are the owners of the fields immediately to the south. Soon they intend to work a new face in the former direction, starting virtually over the top of Fern Hill Cave. It seems most unlikely that they would leave a "promontory" containing Balch and Shatter Caves between the two working parts of the Quarry. The only hope is to persuade them that it is both uneconomic and tragic to work out this part of the limestone.

It is most clear that this was the worst possible site for a quarry; and it is a great pity that it was not feasible in years past, through Somerset County Planning Department, to have restricted the development to the size that it was in the 'fifties.

When the accurate survey is available I hope in a later article to say a little more about the hydrology, etc., of Shatter Cave. At the moment it does appear that the St. Dunstan’s Fault, which can be plainly seen along the east face of the Quarry, extends its shatter zone some 90ft. westwards to the entrance of the system. Both Canopy Chamber and Tor Chamber seem to be developed in the fault zone, but once into Pisa Chamber the cave distinctly follows the strike as a high rift passage similar to that of Diesel Chamber and Erratic Rift. Thus the extent of the shatter zone is well defined. Very old "recemented" fractures in many of the formations are of particular interest concerning possible movements of the fault in the geologically recent past. Scalloping in the Underpass, Tor Chamber and Erratic Rift appears to show that the water flowed Westward with two distinctive "stage levels" etched into sides of the rift. The stream that developed these passages must have sunk in the Withybrook Valley, farther north than any existing swallet, somewhere near Hyatt's Hill. From here it flowed along the strike almost to Fairy Cave Lane before turning north along Hilliers Cave and thence east to St. Dunstan's along

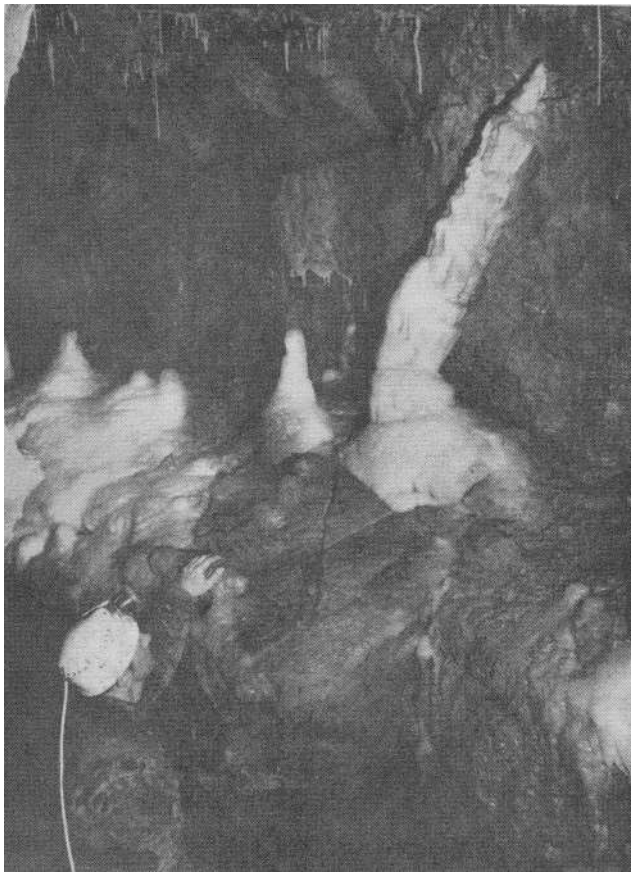
the Fairy Cave/Fern Hill line.

At the time of writing the length of Shatter Cave is about 1,300 feet. As in the cases of Balch and W/L caves its outstanding feature is the wealth of formations. All are extremely beautiful and should be preserved if possible; and, I for one hope they will remain untouched by quarrying activities.

The Quarry Company has required the system to be gated and locked.

As in the case of all the other caves in the Quarry access has to be strictly controlled by the Cerberus Spelaeological Society. Cavers wishing to visit any of Fairy Quarry caves must be in possession of a current permit obtainable from B. Prewer, East View, West Horrington, Wells (or the Assistant Secretary of the W.C.C.), and all parties must have a leader from the Cerberus S.S. A l/- trip fee is required, and no carbide lamps are allowed in the caves. Visits must be outside quarry working hours.

Bob Whitaker.



PISA PASSAGE

Photograph by D.M.M. THOMSON

Recollections of the first woman to cave in Swildon's Hole.

by Ruth Baker

Recently the Editor had the great pleasure of meeting Mrs. Gerrard Baker, daughter-in-law of the well known Dr. Ernest Baker who did so much to improve and popularise the sport of caving in this country. Regretfully, the late Gerrard Baker, who had caved and climbed a lot with his father, died in 1968 only a short while after retiring to Wells to be near the hills he enjoyed visiting earlier with his family and H.E. Balch. So, many personal records of Ernest Baker's cave exploring have been lost. However, Mrs. Baker explained how she and Dr. Baker's daughter, Ruth, had been the first women to go into Swildon's Hole. Since then the following recollections of that memorable trip have been received from Miss R.E. Baker, B.A., who is now 73 years of age but vividly recalls her first and only venture, underground. She writes thus:-

> "In - I think - 1922, I had my first, and incidentally my only, experience of cave exploring, when I was on holiday near Wells with my father and other members of the family. My sister-in-law and I joined the group of stalwart men to enter Swildon's Hole, being probably the first women to do so. Having reached the entrance to the cave, and changed into boiler suits, we entered in single file on our hands and knees, a hole just wide and high enough to squeeze through; and then lying quite flat we wriggled for what seemed like at least half an hour through a winding passage, I at any rate with my nose in imminent danger from a pair of climbing boots a few inches ahead of me. Presently we thankfully emerged into a huge wet and clammy - and dark - chamber, the roof scarcely visible in the feeble light from our lanterns. Here we rested and ate our lunch. We left this chamber by an arduous route which if I remember correctly, but it is a long time ago - entailed negotiating a steep downward slope, which then became a rift, at the bottom of which there was a swiftly flowing stream, where it was necessary to wriggle along sideways, with one's back on one side and one's feet on the other. The scenery of stalactite and stalagmite kept one's mind from the discomfort, and finally we reached another boulder chamber, its roof invisible, and entered another long and narrow "pipe" together with the stream, and emerged over a deep hole into which the stream disappeared. This was the limit of the exploration at this date, and where with mingled relief and disappointment we turned back. I was astonished to find that we had been underground for more than four hours for the time passed like a flash. I should have readily undertaken another expedition, but circumstances did not allow me to do so. I have never regretted this one glimpse of the netherworld of Mendips in its unspoiled condition, and look with some satisfaction and indeed scorn on those who visit Wookey Hole and the Cheddar caves in comfort today".

After some 47 years readers will agree that this is a most graphic account of a trip down the Short Dry way to the old Forty Foot Drop, as well as caving in general. Clearly, to go caving in those days really meant something and every trip was an occasion.

17, Oak Road,
Horfield, Bristol 7

20th June 1969.

Dear Editor,

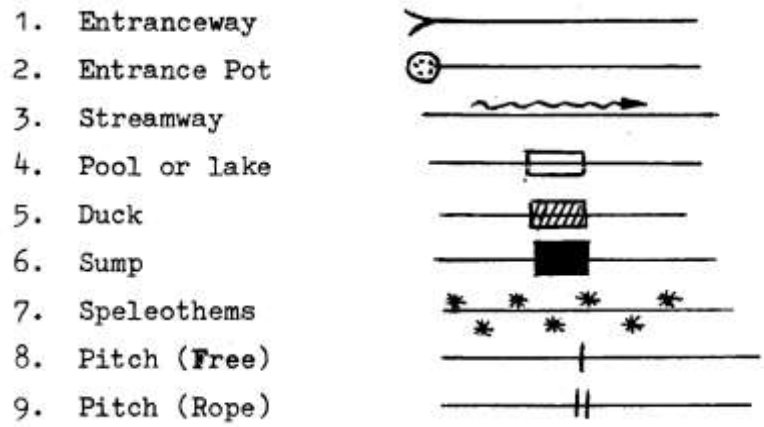
It was with some surprise that I learnt of "Alfie Collins" Route Severity Diagrams, and of the proposed paper on the subject at the Cave Research Group Southern Meeting last April. Having now considered the matter, with the benefit of an example from St. Cuthbert's between Plantation Junction to the Sump (B.E.C. Caving Report No. 13) and the lecture in Wells, I draw the same conclusions that occurred to me in the first place, namely that such diagrams are:-

1. not really a fitting subject for serious publications, and
2. unnecessarily complicated even if simple in concept.

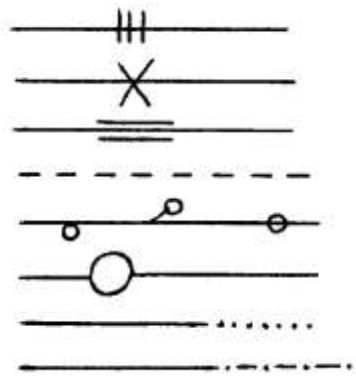
When I voiced these opinions recently I was similarly silenced by a well known caver (dare I say of dubious ability!) who shall remain nameless (for fear of retributions!) to the effect that why hadn't I presented a paper or better scheme. To a point the criticism was warranted of course; and so, since the effective critic must be constructive, I have no alternative other than to put forward possible improvements. Because my first point is purely a personal view I shall concentrate on the second one.

In my opinion there is no call for illustrating passages by two parallel lines on such diagrams. Herein lies the collapse of the "bar room theory", for it is thus impracticable to depict cave systems or, indeed, to include all the passage detail Alfie suggests. So, I take it that the digit, pint of beer, and table, must be replaced by pen and paper. If we need pen and paper, then we can forget about the tricky business of "shading-in" that arises in a number of Alfie's symbols. Have you ever tried this when you are in a hurry? If we must have these rectilinear diagrams then the answer would seem to be to append a series of conventional signs which are clear, simple and pictorial. Take for example Alfie's "constriction (Tube)" and "narrow drainpipe (Flat-out crawl)"; come to think of it, I cannot distinguish between the two! When after all, is a narrow drainpipe not a constricted tube, or visa-versa?

Anyway, here is a list of the conventional "speleosigns" I propose: -



10. Pitch (Ladder)
11. Squeeze or constriction
12. Bedding crawl
13. Rift crawl (on one side)
14. Avens (blind or unclimbed)
15. Chamber
16. Way on too tight
17. Way on diggable

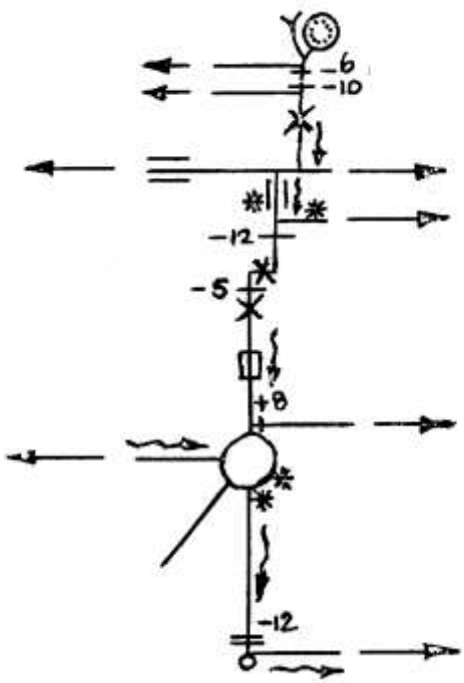


I might say that these were devised in 1962 by a 15 year old schoolboy acquaintance, but they did not "catch on" since like Alfie's version I cannot think cavers could be bothered to learn them. Surely the C.R.G. Grade One sketch from memory is the simplest of all cave survey representations?

There are obviously an infinite variety of other uncomplicated "speleosigns". How about some indicating that guides, keys, permits or explosives are required? Or perhaps the following concerning the attitude of landowners to cavers?

1. Swildon's Hole ☺
2. Stoke Lane Slocker 😐
3. Pen Park Hole ☹

I do not propose to waste space with others. But, let me conclude with a plan diagram using the "speleosigns" to portray a well know part of a Mendip cave. I trust you will all recognise it!



Yours etc.

Bob Lewis

126 Knowle Street,
Radcliffe,
Nr. Manchester.
1st July 1969.

Dear Sir,

In view of a recent tragic accident in the Yorkshire Dales Peter Cousin's article (W.C.C. Jnl. No.123, Vol.10. p.331) on wire rope demands a reply.

I strongly disagree with the recommendation to employ Hemp Cored wire ropes for caving ladders and belays, because of the gradual leaching away of the lubricant from the core in the slightly acid cave waters. The lubricant was originally impregnated into the fibre core using heat and pressure, and no amount of dipping in a viscous liquid, such as Lanolin at room temperatures, will fully replace it. Indeed, it is doubtful if wire cored ropes gain much benefit from being dipped cold and under static conditions. In industry it is usual to lubricate wire ropes when in service, leaving the flexing of the rope to work the lubricant into the interstices and core.

The accident I mentioned resulted from the failure of a wire rope belay which occurred whilst Colin Green of the Northern Pennine Club was descending the 20ft pitch which drops down from the Valley Entrance into the Kingsdale Master Cave. He fell landing awkwardly on the base of his spine, suffering damage to his spinal cord. He is now permanently paralysed from the waist downwards and confined to a wheel chair. On examination the belay was found to have corroded internally, with hardly any visible effects on the outer surface. It had a rope core which had evidentially retained moisture and helped to promote corrosion. The chances of an accident of this type occurring are a million to one, but, nevertheless, it is a sobering thought to Northern cavers who regularly decline the use of lifelines on 40ft pitches or less, because of the time factor when tackling a pot with a lot of pitches.

Wire ropes used in ladders can be fairly easily inspected because they invariably break at the same place, at the root of the ladder ends, from metal fatigue and stress corrosion which are concentrated by the continual bending of the free ends when the ‘C’ links are linked together for belaying instead of using a spreader. If the short free end is gripped and twisted slightly against the lay of the rope the strands will open out and expose the core close to the rung. If there are any broken wires the ladder should be re-wired or scrapped. Wire ropes do not normally fail by all the wires breaking at once, regular inspection can spot the deterioration before it becomes dangerous. Belays are a little more difficult to inspect because there is no particular area in which bending is concentrated throughout its working life. It may be assumed that bending has taken place uniformly throughout, which means that in theory it could break anywhere along its length. It is also extremely difficult to open the lay of the rope to examine for internal corrosion, because of the length of the wire involved. Therefore, the only examination that can be made of a belay is confined to its outer surface, which is a good argument for avoiding anything which could promote internal corrosion like a wet fibre core which has lost all its lubricant.

Ladders and belays should have a set working life before being scrapped, their working life being determined by the amount of use and conditions of service. A tackle booking out system

would enable this to be carried out easily, thus promoting greater safety.

Yours sincerely,
Carl Pickstone.

Seaton House,
Shrublands Road,
Berkhamstead, Herts.
7th June , 1969.

The Editor W.C.C.

Ref. W.C.C. Journal No. 122, Vol. 10, p. 280, this metric conversion table is very useful. However, those given in the last four lines of column three are deceptive.

It will be seen that the Celsius readings differ by 10° C. whereas the Fahrenheit degrees differ by 18° F. This is of course correct, but the inference is likely to be that readings need only be made on the Centigrade scale to the nearest degree.

In fact of course to give readings of equivalent accuracy to readings to one degree only on the Fahrenheit scale Celsius readings should be made to the nearest half degree.

Yours sincerely,
D.A. Glennie.

KARST IRON RULES OF HYDROLOGY

by Mister Ino D. All.

Although I am a meare amateur I feel bound to state my views on caves.

I agree with Prof. Stanton that a hydraulic fluid, in an enclosed space, flows best through a tube, but I do disagree with his methods, but of that more later.

Atkinson really has no idea of the behaviour of lycopodium. He quite fails to realize that the lyco cycle is as complicated as that of the liver fluke. Modern methods, i.e. someone content to sit by a net for a week, have shown that lycos are present in all caves.

I postulate a life cycle as follows: -

1. Lycos are deposited on the Mendip surface via rain drops.
2. They penetrate the caves to the Great Lycopodium Interface.
3. Here they breed, the adults die and form cheese-like deposits and the offspring leave via the tubes. This breeding explains the time lag between input and output, and unless there are many twins present, known as the lycotwin ratio, it also explains why the output is less than the input.
4. They then become transubstantive to rejoin the clouds.

Under normal conditions this life cycle pursues its placid way, but under stress it can become dangerous to man. Imagine what happens when dyed lycos reach the Interface. The Malachites mustn't mix with the Methyls, and the Bismarks, in their usual Prussian way, try to push through the lot. Think of the noise.... 'Aah, keep away you dirty Saffronine I'm a Magenta!'

That this noise can be extreme is referred to by Balch, and in some cases it can even perforate eardrums. The Chinese know of this Great Lycopodium Interface and market the deposits under the name Lychees. They suffer tho' for the noise makes them unable to hear, as one can appreciate from their languages.

This noise, or commotion, has led to the use of the word 'commoters' for the inhabitants of the Interface. We don't know its location under Mendip but we do know that there are many commoters in the tubes of the London Clay.

Occasionally, when either lyco meets another that has been previously interfered with, or there is a colour blind match, the colours really do get mixed and produce the famous black spots in Hodgkinson's paper.

The French are aware of the Interface, and use the deposits as high grade protein. (Their language is pretty bad too) This enables them to reach deeper depths than the British and accounts for their friendship with the Chinese. To think that had Balch persevered in Wookey Hole we would now be in the Common Lycopodium Market.

And now to Prof. Stanton's methods. As everyone knows many of us have taken dozens of motor inner tubes into Reservoir Hole to relay the tube system of the Cheddar area. However, are the public aware that these tubes are full of cement when they are taken in, and an estimated two tons of cement has been used to block Atkinson's postulated passages?

To close on two historical notes:-

Even Balch realized the necessity of tubes when he fixed one at the 40', and the land owners at the turn of the century prevented caving through fear of the motor inner tubes being damaged. They were, after all, scarce before the Great War.

A medieval appreciation of lycopodium spores can be gleaned from the English language. We say of a water bearing rock

'its porous'

SPELUNKING, WEST VIRGINIA STYLE

by Gary Pilkington

During the fall of 1968 I had the opportunity to work and cave in Greenbrier County, West Virginia, one of the more important of the United States caving areas. Greenbrier County is situated in the Appalachians, the first mountain barrier to confront the early settlers along the east coast. The mountains reach a general height between 4,000 to 5,000ft. with the caves lying around the 3,000ft. contour. The scenery offers nothing spectacular for the eye to behold, consisting in the main of heavily wooded ridges. Nevertheless the area does have its own particular charm, especially in the Autumn when I was there.

West Virginian caves attract spelunkers from the majority of the caving states, although the more active participants are naturally from the adjacent regions in the northern and central portions of the Eastern or Atlantic Block of states, i.e. Virginia, West Virginia, Pennsylvania, New York, New England, Maryland, Washington D.C., and Tennesee. W.V.A.C.S., pronounced "weevax" stands for West Virginia Association for Cave Studies; and, one thing it does not take the outsider long to grasp is that Weevax is West Virginia caving, or at least Greenbrier County caving. Most groups, and some select individuals, are members of the Weevax organisation which is just as well since Weevax possess the only caving hostel in the area. They organise all or certainly the majority of cave research carried out in the area; usually the surveying and location of new passages and caves, of which several seem to be found each month. Like most of the caving groups in the U.S., Weevax are strict adherents to the National Speleological Society caving code. Some other U.S., groups push organisation to the point of fanaticism, with over-indulgence in minor detail, certainly putting many over organised scout groups to shame. However, that’s another tale better told over a pint safe in the hills of England since rumour has it that the Flint Ridge Cavers have sworn allegiance to the C.I.A.

The thickness of Greenbrier Limestone rarely exceeds 500ft. but this is more than compensated for by the great length of many of the caves. The most extensive system so far explored is the Organ-Hendricks Cave complex, consisting of 17 miles of known passage, part of which is a show cave. Other major systems in the area include The Hole (12-13 miles mapped) and McCling's Cave (12 miles mapped) which is only 500ft. from Ludingtons Cave with 4-5 miles mapped. Caving in the U.S., seems to have developed on the lines of long dry-style exploration, with frequent stops for smokes, food and drink, etc. This can be exasperating to the British caver intent on getting somewhere before hightailing it out to sunshine (ha! ha!) and beer.

Spending some time in the area one soon begins to appreciate the philosophy behind this slower attitude; after all there is no competitive influence and no one in particular to try and impress with high speed caving tales. Furthermore there is no excessive cold to hasten a trip. A 12-15 hour caving trip is the norm rather than the exception to Weevax men, toiling as they have to through many miles of dry extensive caverns to survey some left-over portion

of passage from previous weekends' activities,, Wetsuits are seldom to be seen. It is worth a mention, however, that many wet caves do exist in the area; but, "Who wants to get wet when there's so much dry cave still open, waiting to be explored".

Nife cells are not easily obtained, but I feel that the American caver prefers carbide anyway. Here it's interesting to note that some clubs provide plastic containers for spent carbide on trips to avoid major contamination underground; an idea that might do well to catch on in Britain. Ladders are fairly standard on small pitches (or 'drops' as the Yanks tend to call them), but prusiking techniques take preference on drops of about forty feet or more.

At first I found the prusik method extremely tiresome to say nothing of the alarming aspect of dangling in space on a single rope which merged into darkness above as well as below, and at times whirling like a Dervish. But, one improves with time and I now regard the technique as the most rewarding of all speleo. activities. It also has a distinct weeding-out tendency - into vertical cavers and none vertical cavers. By comparison mountaineering sorts its followers into rock gymnasts and hikers respectively. Once mastered, prusiking would undoubtedly prove a valuable asset to British cavers. Consider the effects on major expeditions to foreign lands, both from a budget point of view and weight economy underground. For a 200ft. pitch, instead of somewhere in the region of 8 ladders plus 200ft. of rope (or most likely 400ft. of rope if a double lifeline is to be considered) all that is necessary is a single length of rope, personal Jumars and a rappelling device. It would be wrong for me to delve into the pros and cons of this highly controversial subject in this account, but the matter requires serious consideration. My feelings are that its going to hit Britain with a bang, soon! At this point it might prove of some interest if I describe a fairly typical weekend's caving trip in Greenbrier County, down Fuller's Cave.

As usual the Saturday morning meeting place is in the Court Restaurant Lewisburg. A noisy clamouring throng of newly arrived spelunkers from various parts discuss the proposed day's activities. Discussion is something at which the Yanks are quite adept; the British instead have mastered the art of objectiveness, or the capability of being objectionable. A few weeks previously I had developed an interest in an extensive underground drainage system, the main feeders being the Mclaughlins-Culverson Creek system and Fuller's Cave. Mclaughlin-Culverson consists of several independant streamways merging into a Master drain, "Culverson Main Drag", which sumps after some considerable distance, the way on being blocked by flood debris and lack of airspace. The unexplored section beyond continues for around 1,000ft. to where the water re-emerges through two sumps called "Twin Syphons" into the main streamway of Fuller's Cave.

Our objectives for the day were to investigate the practicability of placing a charge over the Twin Syphons in a likely looking "breakdown" and also to investigate the extent of a new roof lead heading in the direction of "Dream Syphon" at the downstream end of Fuller's Cave. This lead was discovered whilst we were surveying the week before, but was left unexplored after the discoverers had reached a deep canal. Our party on this occasion consisted of four; Tom Vigour from Virginia, an experienced Fullers man, Bill Biggers from

Washington D.C., (Bill is a sort of living legend in the area's caving circles), Skip Miller, a native West Virginian (and sounds it), and lastly yours truly the only person on the trip to have Fuller's experience besides Tom.

The drive across country to the Fuller's homestead takes us through miles of typical West Virginia territory, mainly settled by sheep and cattle farmers - the hillbillies. Bill's rather dilapidated auto didn't fare too badly as we wound through the heavily wooded ridges, with numerous shake holes to add variety to the vista and the occasional clearing supporting some small farmer's shack. Eventually our route led off the road along a farm track. This is followed for a couple of hundred yards until we encounter the Fuller's house; a square wooden structure with a large patio. We pile out amidst the scattered chickens and pigs to pay our respects and obtain permission for our mission. After but a few minutes we are allowed to continue, for farmer-caver relations are pretty good in West Virginia. The last stage of our journey along the rough track is through steep-sided valleys for half a mile or so, lush green grass occupying the former domain of trees. Our clothes changing spot is directly adjacent the entrance of Fuller's Cave. Bill and Tom begin the laborious business of putting on the standard U.S. (U.S. might in this instance be given a different connotation) dry suit - a garment which ultimately transforms the wearer into a ballet dancer clad in material a little like mother's washing up gloves, a dazzling yellow. The state of my wet suit hanging in tatters causes like mirth, but I'm used to this having caved in this condition for the last two years (all donations welcome, thanks).

A wierd but familiar silence envelopes our party, and the sun blazes that little bit harder as though admonishing us for our foolishness. I glance from side to side searching for that inkling of hope, some distraction from our purpose, that streak of logic that makes its only show in these circumstances appealing to sanity and reason. But no, my persecutors manhandle me down the entrance slope oblivious to warnings and entreaties of care with my person. Once more I experience the despair that overcomes the committed in the gloom of cave entrances. After being hustled towards the sound of tumbling water they release their captive in the confines of the underworld. In desperation a wild hope flashes through my frantic brain; off I plunge into the depths, feeling revulsion as the walls close into a narrow meandering rift passage and water surges around my thighs. Behind I hear the gurgle of maniacal laughter mixed with terms such as hard hat, drop, pit and belly crawl, etc. My plan is to take refuge in the relative sanctity of roof level until my purgers are far below. With back pressed hard against the vaulted arched rock, breathing down to a standstill, fingertips and toes trembling with the effort, I cling to my perch. The sound of voices nears, halting directly underneath. Mumblings ensue and a lamp beam cuts through the blackness sweeping the highest recess of rock; a pair of startled pink eyes blink, and bird man crashes to the ground. After undue congratulations are thrust upon me for having located the high level route over the sumped crawl below, we scramble on. This inadvertently found deviation from the main passage is similar to the Poetic Justice link in Easegill Caverns and brings us back to the main stream passage.

The rift characteristics are lost on reaching this stretch of cave and it takes on "ten-wide" by

"ten-high" dimensions (local idiom) with slippery pools demanding care. Skip grumbles a little at having got his feet wet, gaping in disbelief when I inform him that the wetter the better as far as most British cavers are concerned. "You guy's sound's like you's gone plum loco over there" he mutters; a look of genuine concern mixed with pity on his face.

Our cave unfolds in a like manner for fifteen minutes or so, until the first drop (pitch) is reached, conveniently placed at the far end of a crotch deep pool. Belaying the ladder to a hairy looking thing that they assure me is a bolt (looked more like a Dexion to me), I gingerly grope my way over the edge, wagging a warning finger at Biggers who looks like he's going to pull his fags out. Six or so feet down, one involuntarily joins the "Cave Flying Group" or the "Underwater Research Society" owing to the vicious little spout of water spurting everywhere. I chose the Flyers'. The pitch is reminiscent of the wet ones in Ireby Fell Cavern with fluted walls and yellow-golden brown rock seen through a veil of water. However, it's only 20ft. deep so we all survived. Immediately we arrive at the brink of the next drop, with the same sort of belay situation as before lending impetuosity yet delicacy to our descent. No excitement with this one though, just a 25ft. dry climb down a narrow rift. All eventually assemble in the passage below which has greatly increased dimensions. Wading downstream our lights scan the darkness above only to perish miserably in the black void. The height is probably around 90 to 100 ft. with walls 6 to 10 ft. apart. As the senses are just beginning to pall of this feature an inlet is encountered. Cateract Avenue, adding considerable volume to our already sporting streamway. The previous weekend, along with a native of the area, I had followed this inlet in the hope of establishing a high level connection with Mclaughlins. Hopes were good for the venture as the passage had only been traversed once before, but we managed to eke out only a couple of hundred feet of new cave before impenetrable crawls were encountered in all directions. The inlet caught my imagination at the time, reminding me of the Torrent in Meregill Hole; altogether 3,000ft. of sporty scrambling. Today our task is not in this direction so we continue downstream.

The two streams, now wed and inseparable, tumble downwards in search of more placid parts; a journey apparently doomed to failure. Eventually, sandbanks offer some relief along the saturated lower levels and we cross these for some distance. Now the passage has taken on the twenty-wide by twelve-high proportions of a minor master cave. Then change in tactics is necessary as a jumble of huge angular boulders provides a maze of obstacles; one of the more memorable ones being "Squire-somebody-or-other’s-broken-back-slide", although this doesn't prove a serious problem. (I am told that Squire-somebody-or-other managed to walk out unaided even with his broken back). Having scaled and traversed the maze we can move rapidly once more. This stretch reminded me of the previous weekend's trip down the cave when my comrades had grown fearfully agitated at my rendering of a dirge which I abandoned for the sake of Trans-Atlantic relations. Ahead of us we could hear the increasing turmoil of even heavier waters.

The section which brings us to the "T" junction of Fullers feeder cave and the "Main Drag", winds through steep mud banks. At this point we find ourselves confronted with a river around two feet deep and ten feet across. The opposite bank disappears at an acute angle into

the gloom above a mountain of rock and mud. Upstream the river gushes from beneath a shelving rock wall, while downstream it meanders out of sight to sump after a few hundred feet in "Dream Syphon". The "T" Junction provides us with a good spot for a moments respite since we are now around the half way stage so far as the overall distance is concerned. If one were to do a direct traverse from daylight to "Twin Syphon" and back again one would cover a total distance of 24,000ft., all of which is a "stand up and walk" passage. On our trip I calculated that it took seven and a half hours to complete this journey, discounting the five and a half hours that we spent probing and exploring.

The water in the "Main Drag" is, for some curious reason, warmer than in Fuller's Cave. Cave temperatures in this part of the U.S. tend to be higher than in Britain, which has a dramatic effect on the fauna encountered underground. Huge white crickets, maybe two inches long, are to be seen in all caves at any distance underground, while transparent white fish and crayfish ("Crawdads") provide sport in the catching, or attempts to do so.

Everyone fed and recarbided, and the long slog up the mud mountain gets underway. Here one begins to perspire a little on the long climb over mud coated boulders. However, several minutes later the slope levels off and the mind becomes occupied with groping a way over a chaos of treacherous footholds. Gradually things develop into easier terrain and a long dry mud slope downhill offers a welcome relief. My team mates laugh when I exclaim about the size of the place for I can see nothing but blackness in any direction; they tell me of one cave in the area that has a mile of similar passage. We continue to the streamway where things are a little more comprehendible. The stream wanders for a while through large conical mounds of silt and mud, the roof still barely visible but gradually descending to a more discernible height. Eventually our tunnel narrows to twenty-high by twenty-wide proportions. After thirty or forty minutes of wading through knee deep water progress begins to get a little tedious; but then a forking of the way provides us with a diversion. I argue that the right hand passage is the one to follow, basing my convictions on prior consultation with the survey. Tom, however, feels that we still have some distance to cover before considering any tangents. I argue more forcefully and we take the passage, to be proved correct, arriving moments later at "Twin Syphons".

"Twin-Syphons" reminded me strongly of the final sump in Penyghent Pot, only in this instance the water flows upward and outwards. A short search reveals a kind of false wall on the left hand side of the sump. Squirming up behind this wall I can work myself upwards, slithering on glutinous mud until a point approx. 15ft. up is reached. Here I can see where the last bang had done its work (this was carried out two years earlier by cavers from Colorado). Its legacy was a ten inch high three feet wide steeply inclined crawl or shute. The remaining obstacle being a rock wedged upright, hardly in a position to remove with explosives but looking as if some hand-work might do the trick. Peering upwards beyond the wedged rock one could see into a narrow vertical rift, not generating much promise but issuing a draught none-the-less.

I pulled and jerked until I was exhausted, but with no success. Biggers says to let him have a

go so I don’t argue. He fights his way to the rock, yells down some obscenities, amongst which I caught the word "Britisher”, and then informs all that the rock is removed. Several minutes of grunts and teeth gnashings later Bill shouts that it does not go, inviting disbelievers to go look for themselves. We all declined, but spent half an hour or so scouring the area for other possibilities. None came. The only thing to do now was to re-trace our steps down the Main Drag until we came across the high level lead. This we did, splitting into two groups and traversing the upper edges of the giant mud piles. Eventually, the party working downstream on the left hand side located the entrance. This being oval in shape, twelve-high by eight-wide, with a shallow muddy trough of water underfoot.

The two former explorers as I have already mentioned were halted by a canal after a short distance. Now faced with the same obstacle, a deep, gloomy looking expanse of water, we take stock of our own condition. My companions have for sometime been moving around with dry suits unfastened as a heat outlet and are in need of considerable reorganisation. I on the other hand, clad in wet-suit am fully prepared for the assault and slide tentatively into the water, offering my farewells as I depart with a metaphorical Union Jack fluttering in my wake and the air ringing with North American threats and protests, to say nothing of crude profanities mixed with the term "limey". A short swim brings me to the opposite wall where I can feel my way along with toes on a submerged ledge, the water just tickling my ribs. Two hundred feet of aquatics follow until the floor shelves upwards and I can flounder on to dry land. The passage at this point is thirty odd feet high and in the region of eight wide with a dry sandy carpet. Many large funnel shaped holes, some in the region of fifteen feet deep and twelve across, provide minor challenges and slow progress drastically. Soon the other three members of the party catch up, and halted by a rather vicious looking hole in the floor, we take the opportunity to estimate the amount of new ground covered so far. We all wildly disagree, but compromise on about 500ft.

The gaping hole in front required a little more push than the ones already overcome, and since we could not determine the depth it required some pretty hairy back and toe work to cross. Having thus traversed the hole and deciding that a return journey looked an alarming prospect, we continued. The passage beyond increased in proportions, getting higher and wider; our excitement increased likewise. Skip, who is out in front at this stage suddenly halts and lets out a whistle, we join him and gaze in disbelief, nothing; just nothing in front, nothing above, in fact nothing but darkness anywhere! The ground in front just disappears, dipping sharply towards the sound of water.

The awful truth dawned on us in no time; we have only come a 1,000ft. or so since leaving the main stream passage so we must be back in the Main Drag having looped around a giant oxbow. A rapid descent to the streamway soon confirmed our fears. Consoling ourselves with the fact that 1,000ft. is something anyway, four weary cavers trudge off towards Fullers and the long drag back to the surface and the early morning.

Fuller's Cave is an inspiring system; it's big, it's wet, and it's long. It gives one the feeling of having followed the Lancaster Master Cave for several miles. "Dream Syphon" is two and a

half miles as the crow flies to the resurgence, and certainly deserves its name being twenty feet across, forty feet long and looks super diveable. No one has had a go yet. You come away with the feeling that the whole system is only just beginning. One day somebody is going to come running out of Fuller's screaming EUREKA!

CLIMBING IN SWILDON'S HOLE BEFORE 1966

by R.G. Lewis

It is little wonder that rock climbing as a specific caving technique is generally regarded with less awe than, for instance, cave diving, and with considerably less interest than is inspired by "squeezemanship", conservation of energy, excavating and the like. With the possible exception of "classics" such as Willie Stanton's traverse of the Black Hole and E.A. Baker's allegedly lifelined passage of the Double Pots, news of climbing tends to be brief and of an infrequent nature; forgotten in a welter of diving "ops" and digging undertakings. After all, there are better places to climb than underground, and other more direct means of progress along cave passages rightly must take pride of place. Ignoring instances where tackle is for some reason unavailable, what does one do when faced by a descent or ascent but drop the ladder or erect the maypole? In addition, it is relatively uncommon, on Mendip at least, for larger extensions to be gained by any means other than digging or diving. The further reaches of Black Hole Series, entered in 1950, probably still ranks as the most extensive piece of cave discovered on Mendip by somebody climbing into it; this is a fair judge of the importance (or otherwise) of the subject of this account. Thus, having provided the reader with ample reason for not pursuing the matter, we pass on undaunted for the record.

Prior to 1950, when all that was known of Swildon's Hole was the streamway as far as Sump Three and the Upper Series, climbing does not appear to have played any great part in original exploration here. H.E. Balch, in his "Swallet caves and rock shelters" describes the "awkward climb" at the 12ft. drop in the Wet Way and the various means evolved for crossing the Double Pots which are too well-known for any detailed mention. The first climb up out of the streamway as such would seem to have been that by N. Cooper and E.K. Tratman on November 12th 1921 (only a matter of weeks after the first complete trip to Sump One) when, of course, Tratman's Temple was found.

The Black Hole Series was discovered late in 1949 by four (then) MNRC members, but not until early the following year was the passage above the Ten-Foot Overhang reached. Between 1921 and this date, little or no free-climbing had taken place in the cave, although one must suppose that both the 40ft. and 20ft. pots had been climbed without assistance from time to time as they are today, though probably less regularly.

Here one should bear in mind the distinction between free-climbing and artificial methods. For instance, we see in a recent MNRC publication that the climb to Turner's Grotto in Lamb Leer is graded A.2 or "very severe". This is blatant nonsense. I would challenge any "artificial" rock climber capable of completing a free route of very severe standard to free-climb any A.2 route - there is no just comparison between the free gradings and the artificial, since only in cases where free-climbing is for some reason out of the question are pitons used nowadays. Quite correctly, they were used in Lamb Leer on this occasion. Piton climbing is generally laborious a process, in or outside the caves. In Swildons this statement

is borne out in that nearly all serious climbing has been either free or with the use of a maypole. Any climber who has seen the line of U.B.S.S. rawlbolts in Fault Chamber will appreciate the vast quantity of time and energy which might have been saved by the presence of a competent free-climber or even a maypole.

As noted, with the exception of the standard short climbs in Swildons to Sump One, the first ascent of note was that by Tratman and Cooper in 1921. Tratman, having asked permission of Balch (the leader) to press on whilst photographing in Barnes' Loop continued, progressed as far as the large pot immediately beneath the hole in the floor of the chamber before the Temple. Alone and with a candle for illumination, he confirmed that an ascent by this route was impossible. Returning upstream, however, he succeeded in climbing the present-day route to the boulder which forms a bridge above the stream. But from here he was unable to reach the handholds on what must have been a sheer mud slope on the left-hand side of the bridge (facing downstream). Present-day cavers will know that even now, with adequate footholds, this little scramble can prove slippery if not awkward. Upon the fortuitous arrival of Dr. Norman Cooper, combined tactics were employed. (For the uninitiated, the term combined tactics crudely refers to the oft-employed and time-honoured practice of one man standing on the back, shoulders or head of his unfortunate companion in order to reach higher holds. The second man is generally brought up on a rope or with similar assistance). Both were then able to enter the main portion of Tratman’s Temple.

The youthful William Stanton, must have been considered something of a phenomenon. It is not unusual for an achievement in caving to fall to one individual, and not be repeated for a little while. However, Stanton’s solo excursion across the top of Black Hole late in 1949 was quite outstanding. This traverse was not repeated until August of the following year, and then it was done with the aid of a loop of ladder strung across the climb. One must not forget that the availability of open, unexplored passage in Swildons had been very limited for the previous ten years or more, and yet with such an incentive awaiting, only Stanton was capable of free-crossing the Black Hole. Later generations have proved that this was clearly not a question of lack of ability (nowadays, in spite of the guide book rating, Black Hole Series can only constitute an "average" trip for anybody truly active), but rather a question of distance and equipment, especially warm clothing. Shall we say it was a matter of "le sang froid", which might be whimsically translated as "the bloody cold".

The Black Hole, whether by the tricky "Old Approach" or through Kenney’s muddy tube, was an expedition which demonstrated a major step forward in cave-climbing techniques. It was probably (and I say this without having had recourse to the opinions of those involved in the early exploration) years ahead of any other climbing done in Mendip caves, or for that matter, in caves anywhere. Despite the cleansing of the Ten Foot Overhang and the removal of debris from the actual traverse, the trip retains a technical difficulty of some repute even now. One can quote numerous results of this aura of severity, but one of the most surprising to my mind was the failure in 1965 of two of the climbers most prominent in the ascent of Fault Chamber to cross the Black Hole. This cannot have been caused by the distance involved or the difficulty. For example, Mike Wooding, turning from rock-climbing to

caving (also in 1965) completed a trip to Swildons Four, Double Trouble and Black Hole, passing the traverse without either difficulty or lifeline protection, on but his third or fourth caving trip. Nevertheless, Martin Mills of Blue Pencil Aven renown considered the crossing more difficult than the traverse in Fault Chamber.

As full details of the original crossing of Black Hole may be found in the W.C.C. Journal Volume 2, No.26, and in Volume 10, No.120 (December 1968) I shall not dwell further on this subject.

Serious climbing in Swildons blossomed after the discovery of Paradise Regained Series. The first of the sustained attempts were those by U.B.S.S. between 1957 and 1960 in Fault Chamber, which ran almost concurrently with the early climbing in Cowsh Avens. "The Spelaeos" obtained the services of one of their climbers (David Tyrwitt) to reach a ledge 30ft. above the floor of Fault Chamber on December 14th 1957, and followed-up with five trips during 1958, two in 1959 and two in 1960. The culmination was on 22nd April 1960 when "Kit" Eaton (C.J. Eaton) climbed the rawlbolts placed on previous trips to reach a height of 90ft. where "the aven bent over to the right like the crook of a walking-stick and closed down into a pool". The U.B.S.S. chose to climb directly above the 30ft. ledge, ignoring the opening on the west side which was gained in 1965 by the Severn Valley C.C.

Other climbs, one of which was to lead ultimately to the discovery of the South-East Inlet Series, took place even earlier than the U.B.S.S. ascent. Oliver Wells, writing on 20th June 1955, just after Paradise Regained was found, claims of the passage leading north-east from Shatter Pot, "The rift can be climbed near the head of the pitch (Shatter Pot) - before you actually reach Pitch Chamber - to reach a high-level passage which once again ends in a chamber where scaling equipment would be needed. An enterprising member of the party climbed up and was able to look into a large passage but did not feel like risking the last few feet". This tricky ascent, less difficult since Stanton placed an iron spike as a handhold at the top, is the route up to Sidcot Passage. Derek Ford in 1961 also speaks of "the awkward climb". It was originally maypoled in October 1955 and the passage above was found to close down after 50ft.

Swildons Four was entered through Blue Pencil Passage in June 1957. When the Westminster Speleological Group heard of a proposed ascent of Cowsh Aven by R.M.A. Sandhurst they produced a maypole with which they got up the first pitch above the streamway. The exploration of the aven series beyond was conducted jointly over a period of six years; first by the original party, in 1962 by S.M.C.C. and M.N.R.C., and in 1964 by S.V.C.C. with Mike Wooding and Keith Hanna (U.B.S.S.).

On the first trip, the maypole ladder was climbed by Len Dawes, Frank Darbon and Mike Thompson, who missed the passage to Great Aven and continued to Wright's Aven. The rest of the party (Ken Dawe, Jerry Wright and others) went into the base of Great Aven. "The rest of the party had meanwhile taken the other turning and emerged at the foot of a big and wet shaft. This was obviously the main route so the maypole was dismantled and hoisted into this second aven. Len Dawes tried to climb up but was defeated by the amount of water falling on him.

Several others had a go but with the same result".

On February 23rd 1958 all those named above returned to Great Aven but were unable to climb any higher than the head of the maypole. "Immediately above the wall bulged out and beyond that there seemed to be a ledge. We next turned our attention to Wright's Aven where we had noticed a ledge 15ft. up". A maypole was used on this occasion, but it was free-climbed by Jerry Wright on a later trip to an impassable crack 50ft. up. Ken Dawe and Mike Thompson climbed the rift just above Cowsh Aven to an ascending passage above the stream, ending in a pitch of about 40ft. back down. The lower half of Great Aven was finally conquered on another trip in 1958 by Noel Cleeve, whose abandoned equipment was noted in 1962 by P. Mellor, M. Boon and others.

On December 17th 1961, Steve Wynne-Roberts and Bob Pyke climbed into a series of passages beyond Keith's Chamber in Paradise Regained. Pyke (W.C.C. Journal No. 7. No.85) gives a detailed account of the ascent, including the initial climb from Keith's Chamber, for which a maypole had been carried: "The climb looked hard but turned out to be easily negotiable without using the maypole at all... " The vadose trench in the passage above appeared to be the result of water falling from the roof, and Steve Wynne-Roberts was able to chimney up to the top: "After about 25fto he reported that there were no visible nail-marks. A smooth traverse followed by a hard chimney climb up holdless rock allowed him to traverse back and into a mud-floored passage without boot marks". The series entered, though generally unimpressive, remains one of the most extensive reached as the result of a free-climb on Mendip. The Terminal Chamber at the "upstream" end was subsequently maypoled by Steve Wynne- Roberts and Mike Boon, but closed down after 30ft.

The Cowsh Aven trips of 1962 were facilitated by the opening of the streamway route to Swildons Four, enabling the use of a maypole of more ample proportions. The party of May 20th, consisted of Mike Boon, Bob Pyke, Bob Craig, Dave Turner, Ron Teagle, Pat Mellor, David St. Pierre, Shirley Drakes and various S.W.E.T.C. members. Boon, Mellor and two others reached the ledge in Great Aven by maypoling: "After inspecting a blackened nylon sling and rusty karabiner (left by Noel Cleeve) we took a look at our next scaling problem. This was a smooth semi-cylinder rising sheer from the ledge; it appeared to grow narrower overhead and the stream sprayed gently down from it. Free-climbing was out of the question so we decided to plant the foot of the pole on a projection on the far side of the aven". Whilst being hauled up in one length, however, the maypole disintegrated upon those left below - an incident humorously recounted in the S.M.C.C. Journal of May 1963. The pole was erected on the ledge as planned, but during an attempt to lengthen it by adding an extra section it collapsed once again, leaving the topmost section and the ladder hanging out of reach. This was retrieved but a sudden increase in the volume of falling water caused the vacation of the ledge and thereafter of the cave.

June 10th 1962 saw another "vintage" trip to Cowsh. Teagle, Turner, Boon, Mike Thompson and Dawe formed the main team, with Bob Craig, Fred Davies and J. Letterson

surveying up to the furthest point yet reached. The maypole was used, this time with success, to surmount the steep first 20ft. above the ledge in Great Aven. A rawlbolt was placed to secure the pole at the top. The opinion of Ken Dawe was that above the bolt the way was climbable. Boon then moved a short distance above the bolt whereupon a hold which he was testing fell and struck Mike Thompson who left the cave with Ken Dawe. Mike Boon, in the S.M.C.C. Journal, writes: "I found a minute lip of chert on which I could drape a sling, and a crack of about ¾ in., across which I wedged two pitons. Fred had by now arrived and I climbed up from the deadly little cluster of running belays on sloping ledges for a further 10ft. to the top of the aven. The aven narrowed considerably in this section, and a tight passage carrying the stream entered on the line of the main axis". After clearing the "exceptionally tight" opening, Boon, Teagle, Davies, Turner and Letterson continued to Main's Aven, again a large, wet shaft. In spite of an attempt by Fred Davies to climb the left-hand wall, it was agreed that it would not be possible to free-climb to the top. There was no chance of maypoling the new aven since the squeeze at the head of Great Aven was a right-angled bend after the fashion of that in Blue Pencil Passage and would admit only the very shortest sections of tubing. Thus, in spite of a remarkable operation, the majority of the series remained untouched until two years later.

A joint Wessex/S.M.C.C. attempt late in 1964 was forestalled by Severn Valley C.C. The first trip, with a view to getting up Cowsh Aven free, was abandoned as the writer fell about 15ft. when a jug handle upon which he had both hands chose to become detached. Present on this occasion were Ken Higgs, Dave Milford, Brian Towler and three others including a novice in caving named Mike Wooding. On October 4th a maypole was requisitioned from Sump Three by the above minus B. Towler, and Wooding placed a bolt in honour of the doubtful piton above the initial aven. It was not possible to pick out the ledge in Great Aven though Wooding climbed about 30ft. in the corner below it.

On October 7th, assisted by Keith Hanna (U.B.S.S.) Mike Wooding free-climbed to the ledge, placed a ring bolt there, and erected the maypole above, belaying the top of the pole with another of what he often termed "doubtful pegs". From the piton 20ft. above the ledge he repeated Boon's free-climb of 1962, which he found "quite easy but a little exposed". In a letter dated the 7th, Wooding describes the situation: "Great Aven goes free up to the ledge quite easily (up the corner crack for 43ft.). There is a rawlbolt in the floor of the ledge, and at the moment a rope tied to this rawlbolt and hanging down the pitch. The ladders we had were brand-new U.B.S.S. and not supposed to be used on Mendip so we had to take them out. The maypole is erected on the ledge and is belayed at bottom and top (not well). However, there is a rawlbolt hole on the right of the pole near the top that would be much better if you took the requisite bolt with you. There is no ladder on the maypole, but a rope hanging down from Main's Aven. This double rope is not belayed at the top, only passed through a crab. However, it seems to be jammed. The free-climbing above the maypole is easy, bridging on huge jugs, but the squeeze is a bit tight. P.S. After the Cowsh trip, which took 10½ hours, we went to see Phil Davies of Wessex and he asked us if we knew who was using their maypoles!! "

On October 10th, Wooding, using prusik slings, climbed the rope to Main's Aven and dropped a ladder for future parties. He and I scrambled about in Main's Aven, Mike getting about 20ft. up the right-hand wall, but finding nothing. The next day, without Mike, Paul Allen and Ken Higgs (S.V.C.C.) reached Main's Aven. When the party had almost given up hope Paul spotted an opening in the far wall which involved a rather awkward climb of about 15ft. which the writer took some time to scale. The passage above appeared to close down, but a hole which Paul investigated in the roof was large enough to admit Ken Higgs who traversed the crawl above to the head of a large shaft. In the opposite direction from the new shaft the passage connected with the top of Main's Aven itself. Mike Wooding got through the same squeeze a week later, dropping a ladder for the writer down Main's Aven, and laddering the new shaft. He descended about 40ft., free-climbed the remaining 20ft., and found a further pitch below but made no attempt to descend alone.

The next day a party consisting of Paul Allen, Ken Higgs, Mike Wooding, Brian Roach, Oliver Lloyd and the writer set off for Cowsh. Brian fell off Greasy Chimney in Paradise Regained and turned back attended by Oliver. An abseil-cum-hauling rope left in Main's Aven (strung round a 'stalactostalagmite' which was demolished at a later date by N. Hart, T. Reynolds, J. Giles and Co.) was jammed; and, as Wooding found it impossible to prusik, it was necessary to by-pass Main's Aven as before. Having laddered Bladder Pot, we left Paul and Ken as the lifeline party and proceeded to descend: "Bob wriggled into the slit and pronounced the way on climbable. I had a little trouble with the squeeze (as I was wearing a helmet!) but soon joined him at the foot, in a little chamber with an obvious exit in the form of a pitch. This we laddered, a mere twelve feet or thereabouts". The passage below led to a drop into the Swildons Four streamway, as was discovered by Mike Wooding and others on a trip of October 24th. Prior to this, U.B.S.S. members carried out a survey of the series in the course of which the first new shaft found (Bladder Pot) was free-climbed in its entirety. This is largely a question of straddling, similarly to the pot just below (Boss Pot), and is by no means excessive in difficulty, as later de-tackling parties found.

The trip of the 24th, was notable for Wooding's traverse across the top of Great Aven to a slot seen previously, and the entry thereby, at a later date, of the subsidiary aven which bears his name. Mike Wooding also undertook a quantity of climbing in the roof of Swildons Four, assisted by Paul Allen on this occasion, including the pioneering of a mud traverse between the top of the initial Cowsh Aven and the pitch from the other end of the series.

Quite unrelated to the events in Cowsh was the undertaking by Shepton Mallet C.C. in Blue Pencil Aven. On November 22nd., 1964 the party consisted of Martin Mills, Phil Romford, Roger Biddle, Bob Craig and Barry Lane (B.E.C.). Roger Biddle climbed the first 40ft. to a ledge in the aven, reached by previous parties. He states that "the rock was rotten, and the stream falling on one's head made it an unpleasant business". He was joined by Martin Mills who then took the lead: "At the ledge the aven had a cross-section of about fifteen feet by six feet but our lights did not reach the top". After a short retreat for cigarettes, Mills continued by means of what he calls easy straddling on very loose rock to the top of the aven, 30ft. above the ledge. He placed a piton and fixed a ladder for the remainder of the

party. With Biddle he proceeded to explore 70 to 80ft. of passage, over flow-stone with dog-tooth crystals, to a terminal cross-rift and a choke.

With the Cowsh explorations climbing standards in Mendip caves were undoubtedly improved. It will be recalled that the U.B.S.S. climbed Fault Chamber between 1957 and 1960; the main extensions here, however, came after Cowsh, in 1965, when Ken Higgs repeated the climb to the ledge at 30ft. A sketch by Oliver Lloyd dated 14.12.1957 marks the opening on the same level as the ledge of boulders and the emerging stream, but indicates a "holdless slope traverse" between the two. At this time a piton was used for a belay on the ledge. Ken Higgs and the writer, assisted by Bob Holland, traversed to the opening in January 1965, finding no way on. The traverse was unpleasant owing to the apparent instability of some of the surrounding rock but did not have the technical difficulty of some sections in Cowsh, involving the use of simple pressure holds on the roof. On the following trip Ken Higgs passed an inconspicuous squeeze in the short passage beyond to enter an extension which led to the foot of a steep vadose trench floored by a flow of clean stalagmite. Having scrambled up this for a short distance, a steeper shaft was gained; this was slightly more difficult to climb and was estimated as being 40ft. in vertical extent. At the top yet a further aven (Severn Aven), this time very nearly vertical, was entered.

On the same trip a passage above the far end of the traverse was reached and was named "The Trench". It was steep and extremely loose, and was not followed far. On February 14th, a large party consisting of Paul Allen, Ken Higgs, Bob Holland, Geoff Atkins, Graham Horne and the writer took a maypole to Severn Aven to enter a blind passage 10ft. up. Two members of the party again made progress in The Trench gaining a ledge in the large aven (Trench Aven) into which the ascending passage had developed, by the use of combined tactics.

In October of the same year Martin Mills (S.M.C.C.) joined Paul Allen, Doug Macfarlane and the writer in a trip to Fault Chamber and maypoled Severn Aven for some 25ft., but there was just insufficient pole in place to enable Paul to transfer to the rock at the top. He and Martin Mills however free-climbed the Trench and Trench Aven above; a remarkable effort, without the protection of a rope, as far as a loose squeeze some 30ft. above the main ledge which was previously the limit of exploration. The squeeze was passed at a later date to a small aven-cum-chamber which closed down at the top. The rock on this ascent was very unstable (even where stalagmite flows existed these were shattered), and the climb, though not technically hard, must rank among the most dangerous on Mendip. During 1968 Severn Aven was finally maypoled to the top, Keith Glossop (S.V.C.C.) climbing above the head of the pole to make sure that no way-on existed.

Mike Wooding, as we all know, had turned to cave-diving, with a great measure of success, and through the Wessex Journal he describes a large aven above the terminal sump in Swildons Twelve (W.C.C.J. Vol.8. No.102); "The passage is high and exotically sculpted and towards Sump Twelve the roof soars up out of sight into Victoria Aven. This aven, which has a strong draught, is 25ft. in diameter at its base. It is possible to climb for some

way up a chimney in the south side when a very tight squeeze leads back into the aven which may be climbed with difficulty to a height of about 150ft. above the stream". Here the aven, according to Wooding, becomes larger and more exposed, and the ascent is, to date, incomplete.

The South-East Inlet Series, the Cowsh Series and Fault Chamber are all inlets associated with the Priddy Fault which runs roughly WSW-ENE meeting the surface close to the Priddy Green Sink and not far from the present entrance to the cave. The Cowsh and Fault Chamber avens have been developed by splash and small streams which presumably found the disturbance of the rock sufficient to provide a line of penetration. Blue Pencil Aven seems of similar origin and all offer climbing of a characteristic nature. However, individual pitches differ according to their proximity to the fault zone and the occasional stalagmite coating in various stages of decomposition. In general the avens which are situated within the fault-place are less steep owing to their inclination along the plane. Elsewhere verticality is the rule.

I was tempted at one stage to terminate the account with a graded list of climbs in the Cave. I found the compilation of the same amusing, but its publication would have been unjustified as I have not even seen, let alone ascended, all of them (and neither has anybody else). What one can truthfully say is that, whilst cave-climbing standards are extremely low technically, the untrustworthiness of handholds, lack of light, inadequate adhesion of rubber on wet rock, and the dramatic consequences of any serious fall, place a certain limitation upon such activities. In any case rock-climbing in caves as an end in itself is seldom undertaken ... at the present. But is this only the beginning?

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Other accounts will be found in Shepton Mallet C.C. Journals, Severn Valley C.C. Newsletters and Journal No. 2.

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The Geomorphology of the South-Central Mendip Hills, by D.C. Ford and W.I. Stanton. Proc. Geol. Assoc. Vol. 79, Part 4 (1968) pp 401-427.

Mendip has attracted the attention of geologists and geomorphologists for well over a century and it is a strange feature of the area that no recent comprehensive account of the geomorphology is available. The lack of written statement on a problem is generally a tacit confession that the problem is a difficult one and by inference a problem that nobody wishes to state in the forthright terms demanded by stark black print. This parlous state of affairs is now at an end with the publication of the work of Derek Ford and Willie Stanton. The paper deals with many aspects of the south-central Mendip area but its main theme concerns the overall evolution of the region.

The evolution of a region geomorphologically necessitates the establishment of a chronology, and all aspects of the landscape are involved in building up such a picture. The evidence used is frequently difficult to evaluate and this is especially the case when landforms that are dominantly erosional are involved. This approach is normally known as the construction of a denudation chronology. Such a technique has been widely used particularly in Britain, for many years and indeed many would argue that this special aspect of geomorphology was developed to the detriment of any other. Despite this chronological bias and the inordinate number of local regional studies no comprehensive account exists for Mendip and thus the current account assumes an importance beyond that of a purely local context.

The first problem encountered in a regional chronological study is to establish the date of the initial surface on which the original drainage pattern commenced. This problem has several special local difficulties. Firstly, there is the difficulty of establishing the part played by mid-Tertiary folding, and secondly the possible existence of very much older features in the landscape which could be of Triassic age or exhumed marine planation surfaces of a variety of Jurassic and Cretaceous dates. The authors take the view that the region was gently domed in the Miocene and that in the late Pliocene a sub-aerial surface was formed fragments of which can now be found at altitudes of about 800 feet. Since that time there has been an overall fall of base level and that detailed field mapping enables the recognition of several stages which are tentatively correlated to stages recognised by other workers over a very much wider area. It is worth noting that the heights of the erosion stages recognised do not correlate well in detail with the usually accepted pattern for Great Britain. In part this may be due to the effects of subsequent solutional lowering on the surface cut into the limestones, the authors deal most competently with this problem.

These chronological aspects of the work are a major contribution to the geomorphological chronology of Britain as a whole and the closely reasoned arguments have a most convincing ring. It is impossible to meaningfully discuss the origin of the Mendip caves and associated features without this broader account of landscape evolution.

The account of dry valleys, gorges, enclosed depressions and basins which forms the second half of the paper is equally to be welcomed and again represents a major advance on anything

previously available. The gorges are thought to be sub-aerially formed valleys and a detailed long profile shows an abundance of knickpoints, the lower of which can be correlated to the various base levels postulated from a study of erosion benches. The upper part of the gorges are thought to have formed in the late Pliocene-early Pleistocene, before the drainage had gone underground, and the lower sections during phases of Pleistocene permafrost when the drainage again returned to the surface.

The depressions and their larger brethren, the enclosed basins, are genetically considered as doline percees. That is they have originated due to solutional activity working down from the surface and not due to cavern collapse in the normally accepted sense of the word. The basins are conceived as due to a combination of a drier climate and permafrost, the latter tending to seal off previously active stream sinks. This led to ponding up of the waters, deposition of clay and the cutting of "overflow" channels. The authors stress the relatively recent nature of many of the Mendip landforms and emphasize the role played by periglacial and permafrost activity.

The paper is assured, rightly, as having pride of place as the key work to the geomorphological evolution of Mendip. The twenty-six pages are 'fact-packed' and as many will know are based on several years of detailed fieldwork by both authors. This overall account highlights the fields in which further detailed studies are required. Personally, I would select for detailed study the deposits, including those in the caves, the surface depressions and those associated with the periglacial fans. The key comparative studies needed from other regions to more fully understand the evolution of Mendip in the past are from similar limestone lithologies to Mendip but situated in areas of contemporary permafrost.

Since some form of criticism is inferred in any form of review let me select two aspects. Firstly, I am not fully convinced that the relationships of water table, cave levels and height of resurgences are as well related as is suggested in this paper. The oscillation of high and low sea level change during the Pleistocene glacials in erosion surface studies rarely comments on phases of low glacial sea level. What does one make, for example, of major water flow well below present sea level as seen in the Big Spring tapped in the Severn Tunnel? Also, there are all those horrible lycopodium spore traces! Secondly, one has some reserve on the comments made upon the nature of cave fill deposits and their correlation with specific Pleistocene climatic phases, this reserve has been heightened when the results of the July 1968 are seen.

May I suggest that the biggest compliment that can be paid to this study is that it should be on the bookshelf of every serious Mendip caver. Advances in caving on Mendip will gain immeasurably from this paper and indeed further advances in the geomorphology of Mendip will rely on careful studies by cavers.

D. Ingle Smith.

Note: If sufficient members wish to purchase offprints of this paper they should get in touch with the Editor before August 31st, 1969, and arrangements will be made for copies at cost plus postage.

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Mountain Rescue - The Handbook of R.A.F. Mountain Rescue Teams. PAM (AIR) 199. 178 pages. 74 Illustrations, 38 Cartoons! H.M.S.O. Price 12/6d.

Though this is the second edition of this famous Instruction Manual, it is, in fact, the first time that it's been made available to the general public. It reflects the experience gained in over 20 years of mountain rescue work, and considerable care has been taken to ensure that as much of this as possible is passed on to the reader.

One's first reaction to the book is one of surprise - surprise not so much at its very high overall standard, but rather at the fact that it in no way resembles those very dull, unimaginative Service Handbooks of yesteryear. This "face lift" is so successful that, with the exception of those parts dealing with the administrative side of R.A.F. Mountain Rescue Teams, and the occasional inclusion of Ranks, Stores Numbers etc., the reader can almost forget the book's original purpose.

A large number of exceptionally good diagrams accompany an excellent text, and provide sound, detailed advice on all aspects of mountain rescue work. The result is a training/reference manual of above average standard. The section dealing with climbing, knots and rope work is probably unequalled for its simplicity and clarity in any other publication.

The chapter on First Aid is well laid out and manages to strike a happy medium between confusing the rescuer by its complexity, and being so basic that he becomes a positive danger to his victim!

The 46 page Annex (appendix) contains much useful information - a short Bibliography; an extensive list of First Aid Posts and Rescue Organisations (including Caving ones) with, in many cases, emergency 'phone numbers as well as addresses; a section on Mouth-to-Mouth Resuscitation, and a fairly detailed account of the causes, effects and treatment of exposure.

Though there is no index, the list of Contents is broken down in such a way that finding a particular topic presents little problem.

Probably the greatest surprise is the inclusion of a series of most effective cartoons illustrating points made in the text. Drawn especially for this edition, these add a final touch of humour to an already outstanding publication.

The caver is most likely to buy this handbook out of general interest, though members of Cave Rescue Teams will obviously find much of value in it. But whatever its appeal, I'm convinced that at such a modest price it will find a welcome place on many bookshelves amongst volumes of a purely caving nature.

H.A.P.

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Scout Adventure Advisory Unit	c/o C.A.J. Beauchamp.
Sidcot School Spelaeological Society	Sidcot School, Winscombe, Somerset.
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