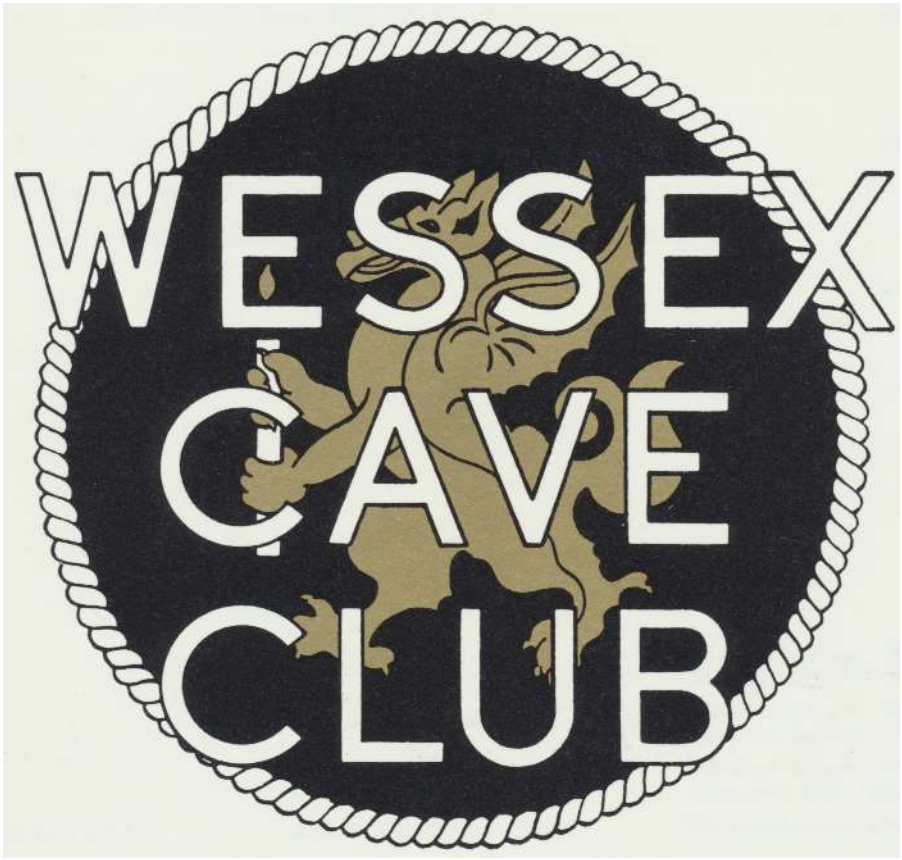

WESSEX
CAVE
CLUB

WESSEX CAVE CLUB

Journal No. 110, Vol. 9. February 1967

CLUB NEWS

New Headquarters Project at Eastwater Farm

At the time of writing the access drive to the site has been surfaced with hard-core, and a fence erected. The next task will be the drainage of the marshy west end of the site and its preparation as the car park area. It is hoped that by the time of publication this may have been completed or be well under way, weather permitting. Thanks are due to a hard working nucleus of members who have spent a great deal of their weekends and Christmas leave on these site works. We trust that the New Year and coming of Spring will see many more faces coming forward to offer help, and all members are urged to take an active role in this project. We must not expect that a few should bear the brunt of the labours when we have so many members who will benefit from the project when it is completed.

To date, of course, we cannot start any works concerned with the actual buildings, although the mains water supply has been laid on and connected by the authorities. We have been informed that our application for a 50% Grant has been recommended to the Department of Education and Science by the Somerset Education Committee, and we now anxiously await the former's final decision. When we receive confirmation of any decision we must then submit formal building plans for the approval of the Local Area Planning Authorities. The plans will be strictly based upon the drawings circulated to all members last Autumn, only they will have to be presented in much greater detail as complete working specifications. These formalities always take time of course, and it may not be until well into the Spring that work can commence in earnes. Such timing will be ideal, however, as the whole of the Summer will lie ahead; an admirable period in which to build at this delightful spot. Let us keep our fingers crossed, therefore, and all respond fully when the time comes to the biggest challenge the Club has ever undertaken.

At the end of 1966 our total funds for the project stood at £1,080. Of this figure about £100 will be outgoing for materials used in preparing the site. We strongly appeal to those members who have not yet contributed to give us their utmost support in sweat and money! In the next Journal we hope to report that your response has been worthy of all the hard work which your Officers and Committee have put in to this project and the confidence shown by those who have already donated so willingly

In addition, those members who collect Green Shield Stamps or cigarette coupons might like to give them to the Club so that we can save money on the interior fittings of the new by using the "free gifts" obtained by cashing the stamps or coupons. Members who do not as yet collect either stamps or coupons perhaps might be interested in starting. In any case the Hut Warden, Jim Giles, would welcome all donations from this source.

The 1967 Annual General Meeting and Dinner

Will all members please note the following date in their new diaries SATURDAY 21ST OCTOBER 1967.

Full details will be announced in subsequent issues of the Journal. However, it is certainly worthwhile even at this early stage to draw attention to the fact that any member who wishes to take an active part in the administration of the Club and would like to stand for office should take steps to notify the Hon. Secretary by 30th September of this year. Nominations should be formally written and signed by the proposer and seconder. A simple inspection of the vast number of administrative jobs that need doing in a large club like ours will serve to remind members that our efficiency and future well-being depend entirely on the willingness, initiative and enthusiasm of individuals who are prepared to undertake responsible duties.

1966-67 Annual Subscriptions

Members are reminded of the following extract from the Club Rules, No. 8:-

> "Any member whose subscription has become more than three months overdue shall be named in the next Journal and, if, within one month, the subscription has not been paid the member's name shall be removed from the list of members, and notice to this effect shall be sent to the member."

In accordance with the above, members whose subscriptions are currently overdue have been listed in this Journal. Please forward your subscription without delay to the Subscription Treasurer if your name figures on the list. The annual rates for subscriptions are:-

Full Members -	£1.0.0
Joint Members -	£1.2.6.
Affiliated Members -	5.0

New Members

We welcome the following new members, elected on 18th December 1966:-

Miss J.F. Banker, Y.W.C.A., Kings Road, Windsor, Berks.
Miss P. Smallwood, 14, Beaufort West, Bath.
Miss R.S. Merrett, 4, Beaufort West, Bath.
A.F. Tringham, North Longwood, Beggar Bush Lane, Failand, Bristol.

Caving Equipment Sales

At present the sales officer, George Pointing, states that he has no Nife sets in stock and all the spares are at Hillgrove. When the Club obtains some more Nife sets this will be announced in the Journal, but until then all Nife set spares sales will be handled by the Hut Warden and Deputies at Hillgrove.

CLUB MEETS

Saturday January 28th 2.30pm. Stone Mines

Leader: Will Edwards, 91 Rookery Road, Knowle, Bristol (Meet Bath Bus Station).

7.30 p.m. Umpteenth Night Party Red Lion Hotel, Wells.

Tickets 7/6d., from Roy Staynings, 8 Fanshawe Road, Hengrove, Bristol.

Saturday February 4th 2pm. Hunters Hole

Leader: Tony Dingle, 107, Waverley Road, Stoneleigh, Epsom, Surrey.

Saturday February 18th 3 p.m. G.B.

Leader: Hugh Pearson, 111 Hampton Road, Redland, Bristol 6.

Saturday February 25th 3pm. Pine Tree Pot

Leader: Roy Staynings, 8 Fanshawe Road, Hengrove, Bristol 4.

Saturday March 4th 2.30pm. Eastwater

Leader: R. West, Elm Tree Cottage, Hallatrow, Clutton, Bristol.

Weekend March 11th/l2th South Wales

Leader: Tim Atkinson, Bottom Flat, 25 Richmond Terrace, Clifton, Bristol 8.

Saturday March l8th 2.30pm. Burrington Caves & ladder practice (Beginners welcome).

Leader: Will Edwards (address above).

Easter March 24th/27th Yorkshire

Initial enquiries to: C. Pickstone, 126 Knowles Street, Radcliffe, Nr. Manchester.

Saturday April 1st 2.30pm. Longwood/August Leader: R. West (address above)

Sunday April 9th 11am. St. Cuthberts

Leader: Jim Giles, C.P.O's Mess, R.N.A.S. Yeovilton, Yeovil, Somerset.

Weekend April 15th/l6th Agen Allwedd

Leader: T .Charles Bryant, Glyncoed, Victoria Road, Maesycwmmer, Hengoed, Glam.

Saturday April 22nd 3pm. Eastwater

Leader: Pete Gibbs, 40 Hollywood Road, Brislington, Bristol 4.

Saturday April 29th 2.30 p.m. Swildons (Troubles Round Trip)

Nife cells, wet or goon suits considered essential.

Leader: T Reynolds, Yew Court, Pangbourne, Berks.

Weekend May 27th/29th Derbyshire

Leader: D. Westlake, Tristan Drive, Creech St. Michael, Taunton, Somerset.

Trips planned to: Giant's Hole, Oxlow Mine and Eldon Hole. In addition it may prove possible to visit Carlswark Caverns and Jug Holes.

Saturday June 3rd 2.30pm. Eastwater Leader: R. West: (address above).

Saturday July 8th 3pm. G.B. Leader: Pete Gibbs (address above).

Weekend October 7th/8th Derbyshire Leader: A. Wicks, 193 Redland Road, Bristol 6.

Hon. Secretary: J.D. Hanwell, "Chaumbey", 50 Wells Road, Wookey Hole, Wells, Somerset.
Asst. Secretary: R.M. West, Elm Tree Cottage, Hallatrow, Nr. Bristol.
Hon. Treasurer: Mrs. B. Surrall, 216 Evesham Road, Headless Cross, Redditch, Worcs.
Hut Warden: P.M. Giles, C.P.O's Mess, R.N.A.S., Yeovilton, Yeovil, Somerset.
Editor: T.E. Reynolds, Yew Court, Pangbourne, Berks.

TECHNICAL PROJECTS REPORT

A.J. Surrall

1. Research Project 1967

During the coming year it is intended to start at least one major project of a scientific nature with the hope that it may lead to the location of suspected or hitherto unknown cave systems,, For this work Bristol University have loaned us some Georesistivity earth testing equipment,, The name of this equipment may seem a little fearsome, and suggests a large quantity of complicated ironmongery, etc., but this fortunately is not the case. What the apparatus does is to measure the electrical resistance between sets of conductors set into the ground. If the ground between the conductors is soil or clay it will show a low resistance, if it is rock the resistance will be higher, and if a cavity is present the resistance will be higher still, The sketch shows in diagram form how the effect is produced and how it can yield information which may indicate a concealed cave passage. This brief note is only to whet your appetites, and a much more detailed account of the whole procedure, including theory, practice, and data reduction, will appear in a later issue of the Journal.

Considerable help will be needed in this project, which could well take a very long time to examine ALL the likely spots on Mendip,, But one major point emerges "The days of the twig twitchers are numbered". For those really interested, the following references are worth digging out of local libraries.

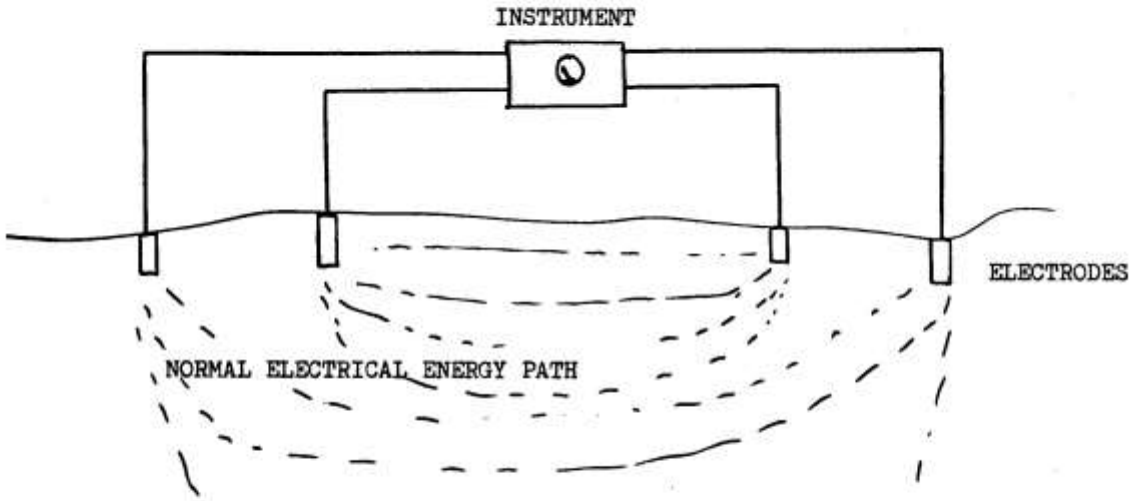
Palmer L.S	Location of subterranean cavities by geoelectric methods, Mining magazine 91 137 (1954)
Palmer L.S	Geoelectric Resistivity Measurements, Mining magazine 88 16 (1953)
Palmer L.S	Examples of geoelectric surveys, Proc. I.E.E., 106 A (1959)
Morgan J.H.	Resistivity prospecting, Instrument Practice, Oct. 1959
Aitken M.J.	Physics and Archaeology, Interscience publishers 1961, Chapter 4.
Palmer L.S	Pen Park Hole (C.R.G.) Club Library.
Palmer L.S	Preliminary report on some earth resistivity measurements near Tynings Farm, Mendip. U.B.S.S. Proc. V. 6, No. 1.
Palmer L.S.	Earth resistivity measurements near Bath Swallet, Mendip. U.B.S.S. Proc., Vol. 6, No. 2.

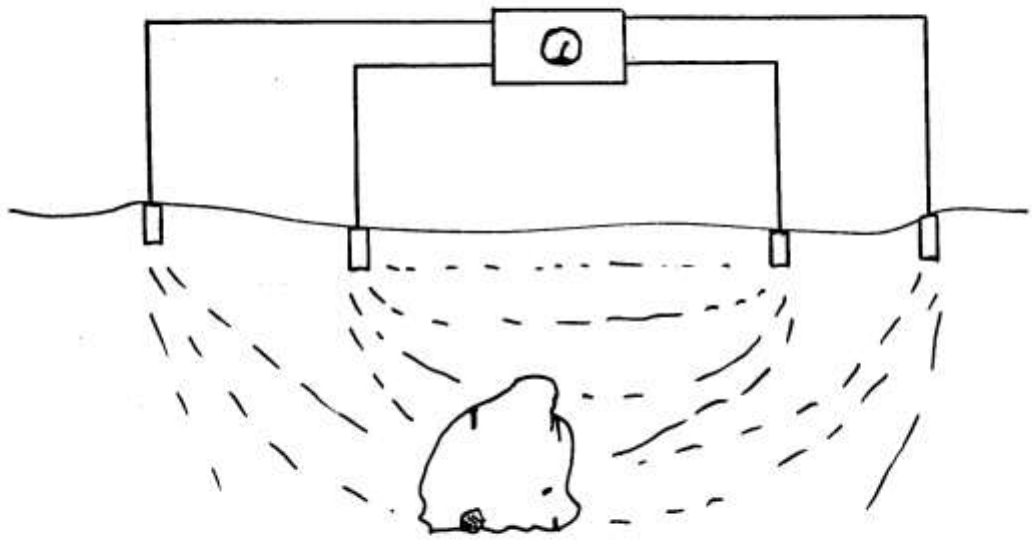
The club librarian should be able to help with the U.B.S.S. and C.R.G, papers for those interested. Thanks to John Wilcock, C.R.G., for help with the above list.

2. Club Dig Report - Fairmans Folly.

By October the dig was well established, with a heavily timbered shaft penetrating some 20 ft. into the lias. At this point work ceased for the winter, but efforts were made to divert the stream into the shaft. By late December this was seen to be doing a grand job by removing clay from between the boulders at the bottom and opening up a number of interesting fissures. At least the dig will be considerably cleaner when work is restarted in the Spring. Anyone interested in working at this highly mechanised and promising dig should contacts Alan Surrall, 216 Evesham Road, Headless Cross, Redditch, Worcs. Work will be resumed just after Easter, when access is less difficult, on Saturday April 8th,, Who knows what the new season may bring? See Club Events for a more complete programme.

DIAGRAM SHOWING SIMPLIFICATION OF RESISTIVITY SURVEY





IN THIS CASE THE APPARENT RESISTANCE IS HIGHER DUE TO THE AIR FILLED CAVITY.

WESSEX IN THE PYRENEES, 1966

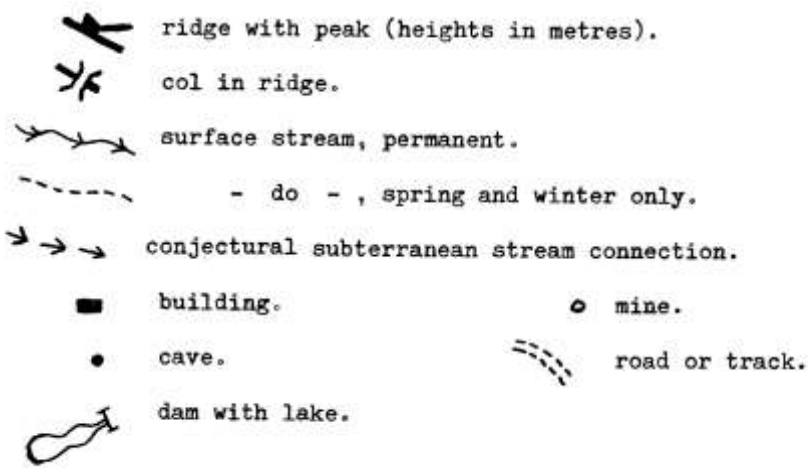
T.C. Atkinson and T.E. Reynolds

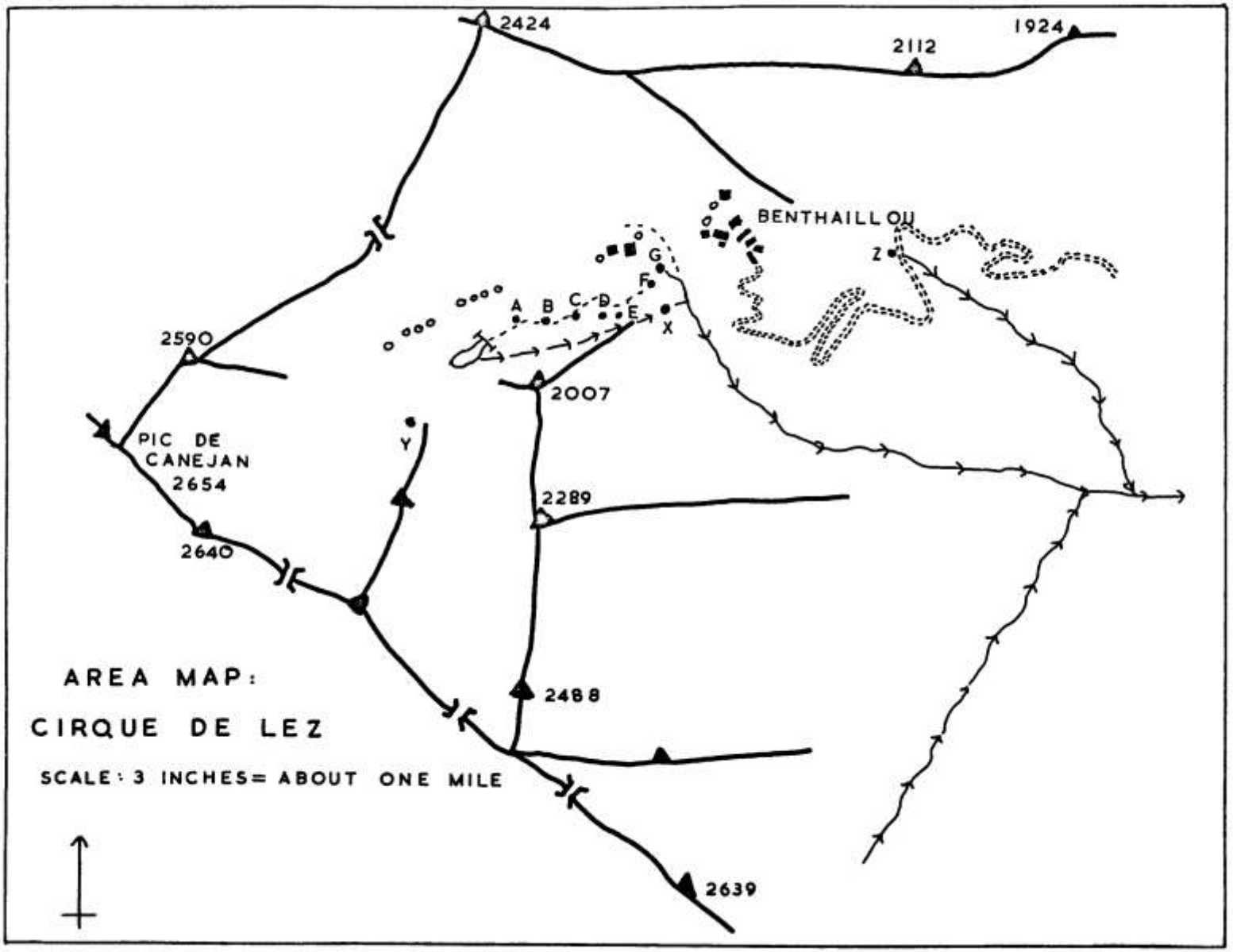
In spite of the adverse weather conditions experienced on last year's Club Trip (WCC Jnl. No 105), five of us, Jim Giles, Carl Pickstone, Gary Pilkington, Tim Reynolds and Tim Atkinson, decided to return to the Pyrenees this year. Our object was to follow up the work which was begun in the Cirque du Lez last year. Originally, we had hoped that we might make another attempt on the ninth cascade of the Grotte de la Cigalere and perhaps reach the end of the cave. Our application to the controlling authority at the subterranean laboratory at Moulis was turned down, however, and we were refused permission to explore the Cigalere. The cave is closed, we were told, until further notice for the purpose of carrying out biological and mineralogical experiments. We therefore decided before we left England, to content ourselves with further exploration and survey of the Resurgence de Benthaillou, a cave that we discovered last year, and with an examination of the rest of the Cirque for other unknown caves.

A sketch map of the Cirque du Lez is given on the opposite page. It is a steep sided bowl, or amphitheatre, ringed by peaks of up to 8,500 ft. and with a single exit down a narrow valley to the village of Bocart 1½ miles away.

Key to the map on page 153

A Small cave with sound of running water.
B Choked rift 15 ft deep.
C Sink (dry in July 1966).
D Collapse depression.
E Small cave, for survey see page 156.
F Sink.
G Small resurgence.
X Resurgence de Benthaillou, for survey see page 158.
Y Grotte Haevos, for survey see WCC Jnl. No 105, op page 9.
Z Grotte de la Cigalere.




2424
2112
1924
BENTHAILLOU
Z
G
F
A
B
C
D
E
X
2590
2007
PIC DE
CANEJAN
2654
Y
2289
2640
AREA MAP:
CIRQUE DE LEZ
SCALE: 3 INCHES= ABOUT ONE MILE
2488
2639

The sides of the bowl are wooded in their lower parts and rise steeply in a series of cliffs and grass slopes from 3,750 ft. to 6,000 ft. To north and south the mountains continue steeply upward without a break to 8,000 ft. On the west side, however, there is a break in the slopes at about 6,000 ft. forming a shelf from which valleys rise to the frontier ridge, 1½ miles to the west. At a level of 5,500 to 6,000 ft. several streams resurge from underground. The largest of these come from the Cigalere and Benthaillou Caves.The sources of this water are not fully understood, though the Gouffre Martel is known to contribute to the stream in the Cigalere, and the Resurgence de Benthaillou is thought to derive its water from a small dammed lake about a kilometre to the west, the Etang de Chichoi.

There are other sinks and resurgences, but the bulk of the water seems to accumulate underground, collecting in streams fed chiefly by trickles. In addition man has made his mark on the area in the form of extensive zinc and lead mines. The main group of these are to Benthaillou. They are now worked out, but there is still the mining camp left - Benthaillou - which consists of a cluster of disused buildings below the main entrance to the mines, and fairly close to the caves we wished to explore. The camp can be reached by a track which hairpins up the side of the Cirque at an average gradient of 1 in 10. About 250 ft. below Benthaillou itself, the track degenerates into a path. Under normal conditions a hardy driver can take a vehicle as far as this point.

Having described the geography of the Cirque du Lez, and stated the objectives of the trip, we now go on to the course of the expedition itself. For the drive to the Pyrenees and back we decided that the best plan was for all five of us to travel in one vehicle, no one had a vehicle of suitable dimensions' we bought a Bedford Dormobile for £70. Soon after we had bought this vehicle, it created alarm and despondency by breaking a half shaft, which had to be replaced before we left. Apart from some interesting moments on the outward journey the vehicle performed very well at a top speed of 45 mph. Once arrived in the Pyrenees its low bottom gear and high ground clearance were invaluable.

We crossed from Southampton to Le Havre on Friday, July 15th,, The crossing was pleasant enough, and we were on the road by 10.30 p.m. However, before we had gone very far we discovered something radically wrong with the brakes which caused violent swerves to the right when applied and finally ceased to work altogether. Two hours hard work revealed that the slave cylinders of one brake were jammed. This was repaired by 1.00 a.m. and we set off again. The next incident occurred near Tours, where the engine developed a curious rattle. To our horror, investigation revealed that the accelerator pump linkage had disintegrated. Improvisation with bits of wire seemed to result in a slightly improved engine performance, and we turned our faces south once again. Just after Limoges the Dormobile delivered its final attack on our nerves when it suddenly lost power in a most dramatic fashion and was only able to reach 5 mph flat out. A quick check showed that one plug lead had fallen off, and another plug was loose in its seating.

Everything was reattached and the vehicle climbed into the hills of Dordogne in fine fashion. We finally reached Bocart at 9.30 p.m. and began the drive up the rough track to the Cirque in the dark. A further mishap occurred here when Tim Reynolds fell off the track when pushing the vehicle. Luckily the fall was a short one but Tim sustained a nasty cut on his head. We finally turned in in a Refuge at the foot of the hairpin bends at 1.00 a.m.- just 36 hours after leaving Pangbourne, Berks.

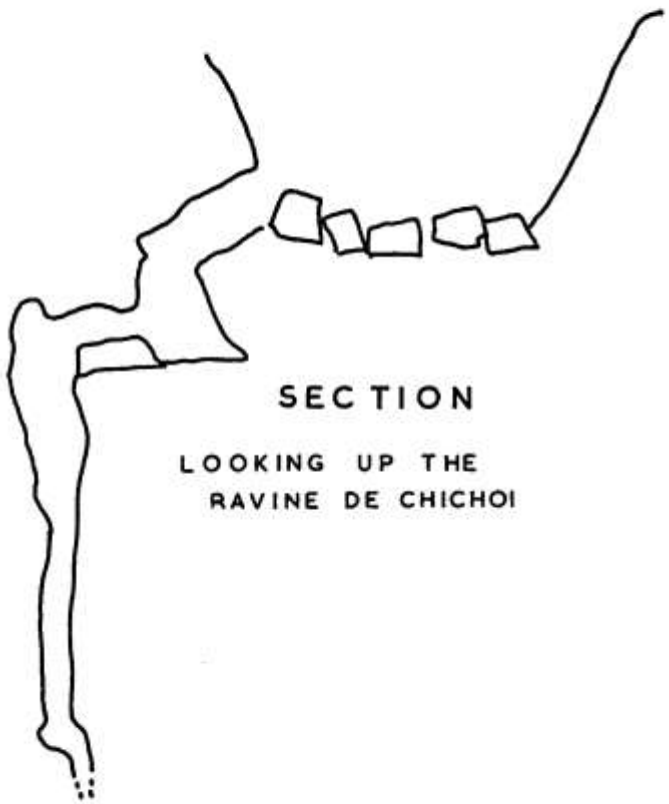
The next day, Sunday, we started the vehicle up the steep part of the track. Tim Atkinson was coerced into driving and Carl into coming as observer and chief pusher. After a long struggle, during which the smell from our aged clutch became stronger and stronger, we reached a point where the track had fallen away into the valley, about a mile from Benthaillou. We parked the vehicle and began carrying as it became dusk. By dark we had carried enough equipment to allow us to camp and eat for the next few days. It began to rain as we carried for the second time, and so after a damp supper, a dry bed. During the night a storm broke over us and we were kept awake by the sound of the wind whistling and howling over a nearby col. In the morning we peered out into a snowstorm. Our planned early start was promptly forgotten and we waited for the weather to clear. Eventually we were forced to emerge and clear the tents of snow. We were able to use a break in the persistent snow and sleet to get the rest of the food and caving kit up to the camp.

Monday was less cold, but misty. We decided to try maypoling the climb which stopped us last year in the Resurgence de Benthaillou. The tackle needed was negotiated with much gripping to the climb, and the pole set up. Carl climbed up and reported a stal flow at the foot of a high aven, 15 ft. by 10 ft. and at least 70 ft. high, though we could not see the roof. We all climbed up to join Carl and noticed that while the aven itself was impossible to scale with our 25 ft. pole, there was a recessed slot about 16 ft. up one wall. We pulled the pole up, again with a certain amount of backchat and gripping, and Jim scaled it to find that a quick wriggle into the slot, which was exposed and greasy with mud, led to a boulder over a 30 ft. pitch. Tim A joined him at the slot, and by transferring the ladder from the pole, Jim was able to descend to a second pitch of ten feet into the passage we had maypoled from. The accident prone Reynolds received further injuries on this occasion when a rock fell on his hand. The trip was concluded after five hours or so by lack of carbide. The tackle was left in the cave for the surveying party.

The next day Tim R., Gary and Carl, walked up a valley to the frontier looking for sinks. They found nothing of note. Meanwhile, Jim and Tim A. completed the first and worst part of the survey, the razor edged, tight, wet, drain of the entrance passage. In view of the difficulty experienced in traversing this passage, let alone surveying it, we called it the "Struggle". Similarly, the avens found the day before were named "Grippers' Avens". The following day was spent in what we optimistically called “rest”, which involved a walk of about 12½ miles down to Sentein and back. We dared not trust the Dormobile to climb back up the track should we take it down, with the result that this day was one of the most tiring of the whole expedition. It was in some measure compensated for the next morning, when we discovered from a Frenchman on a walking holiday that we were camped quite close to a Refugee As the weather had been consistently

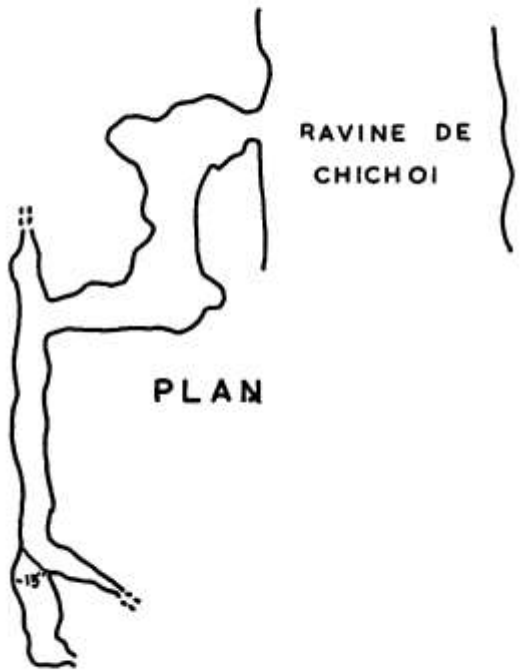
SKETCH PLAN AND SECTION OF CAVE AT E

SCALE : 1 INCH = ABOUT 5 ft.



SECTION

LOOKING UP THE RAVINE DE CHICHOI



PLAN

T.C. ATINSON

abysmal, we moved all our cooking things, and Carl's and Gary's beds to the Refuge, which was a comfortable stone hut equipped with table, stools, and a sleeping-platform.

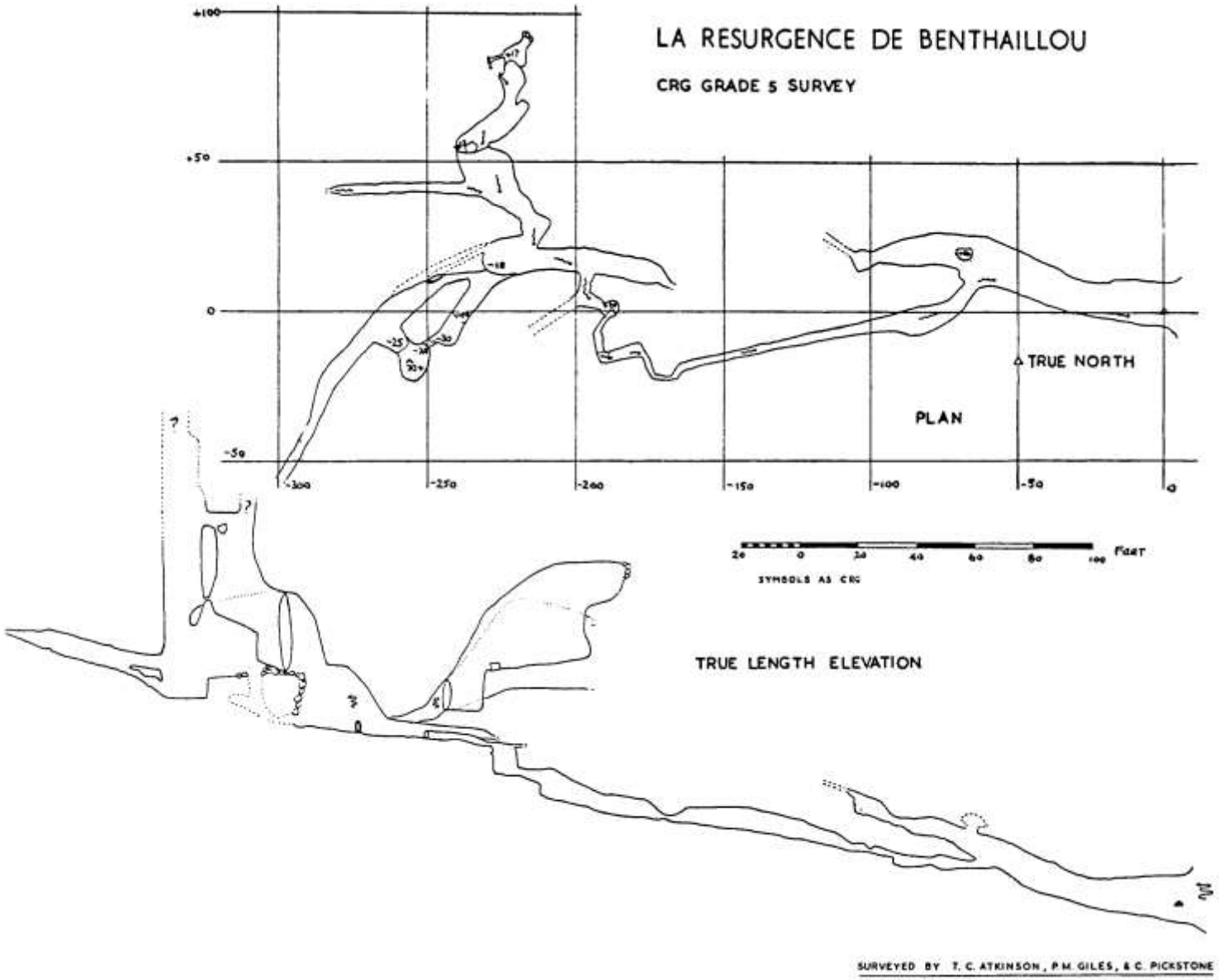
Our third trip into the Resurgence, on the same day, had the object of completing the survey, and of digging at the terminal choke, through which a stream could be heard. Tim R., Gary, and Carl were unsuccessful in forcing the choke, which needs explosives to loosen and remove the recalcitrant mixture of stalagmite and earth of which it is composed. The survey, as all surveys are, was a long and cold affair. Jim and Tim A. were pretty miserable by the time the others gave up digging and Carl came to lend a welcome hand. Meanwhile, Gary and Tim R. started carrying our tackle out of the cave. When the survey was finally completed, the last vestiges of keenness were lost in a flood of gripping in the rush to leave the cave.

The following day was spent in prospecting the gully called the Ravine de Chichoi (see map on page 153). This gully descends parallel to that below the entrance to the Resurgence, and a little to the north of it. It carries a small stream in its upper parts, and debris shows that a torrent flows here in winter and spring. Jim, Tim R, Tim A, scaled the gully via several rather desperate rock pitches and found several small caves and dolines in the upper part of the gully. The longest was about 40ft. in length, and 20 ft. deep (see survey on page 156) (E) Gary, meanwhile, had descended to a large cave entrance visible from the zigzag track in the valley. It turned out to be merely a rock shelter however. At the same time Carl dug away stones and earth from a small resurgence at the edge of the great scree of spoil from the mine entrance.

The following day, 24th July, we set off to Carl's resurgence (G). Further excavation showed that water did actually flow from the bedrock and not from the scree, and we were able to open a way into a small chamber. Our attempts at entry were frustrated by two large boulders which blocked the way on. We therefore repaired to the sink in the Ravine de Chichoi (F), thinking that it might be the source of the water in the resurgence. Inspection showed, however, that Carl's resurgence was at a higher altitude than the sink!

Since we had more or less exhausted the immediate speleological possibilities of the area, Jim, Tim R, Tim A., climbed a peak on the frontier ridge, the Pic de Canejan, 8,625 ft. The view from the top was very beautiful, though parts of the mountain itself were rather dicey.

The 25th July was our last full day at Benthaillou, and we spent it in packing-up and taking gear down to the van. We were by this time on very good terms with some French and Belgian cavers working in the Cigalere, and most of our day was spent in chatting to them, and in exchanging addresses, etc. The following morning we packed up, said goodbye to the French cavers and drove to Toulouse, where we left Gary to hitch hike to Jugoslavia. We drove on through to Montauban, where we had a meal out and camped,


LA RESURGENCE DE BENTHAILLOU
CRG GRADE 5 SURVEY
+100
+50
0
-50
-300
-250
-200
-150
-100
-50
0
TRUE NORTH
PLAN
20
0
20
40
60
80
100
FEET
SYMBOLS AS CRG
TRUE LENGTH ELEVATION
SURVEYED BY T. C. ATKINSON, P.M. GILES, & C. PICKSTONE

the plains seeming very restless and noisy after the stillness of the hills. A drive next day to Padirac, where Jim and Carl admired the cave and the engineering works, was followed by a further journey through most of the night to Sees, about 90 Km from LeHavre. On the 27th we caught the boat and returned home.

Notes on the survey and on the area.

The Resurgence de Benthaillou was surveyed by Jim Giles and Tim Atkinson, with help in the latter stages from Carl Pickstone. The instruments used were a hand held prismatic compass read to half a degree, a hand held Watkins Clinometer, read to one degree, and a 33 ft. Fibron tape, read to the nearest three inches. Sketch sections were drawn at intervals, and offsets and dimensions recorded at every station. GRG Grade 5 is claimed, though the Grippers Avens are surveyed to Grade 3 only.

Insufficient is known of the layout of the Resurgence de Benthailiou to postulate its origin. With the exception of the Struggle the cave is well developed, with large passages, and shows good internal evidence for a past history of one, possible two or more, cycles of erosion, aggradation, formation of stalagmite, and further erosion, separated by an extensive collapse of passages. The presence of inlets passages, fossil passages, and overhead tributary shafts (Gripper's Avens), as well as the complexity of the plan, suggest that it may be a fragment of a branched network in which the stream is progressively seeking a lower level, as is the case in the Cigalere. The relationship of the Struggle to the main passage is obvious. As the dimensions of past and present erosion features show, the modern stream is smaller than those which flowed through the cave in the past. The cave became completely blocked with mud and stalagmite during the last aggradation phase, and the stream, lacking the power to remove the solid choke near the entrance, simply found its way down smaller channels, and bypassed the choke. The anastomoses and half tubes which originally took the diverted stream may be seen at places in the roof of the Struggle.

The present stream in the Resurgence is thought to come from a small tarn, which is dammed back. This tarn, the Etang de Chichoi, has no water exit visible. The connection has not, to my knowledge, been proved. This supposed stream connection is a local one, suggesting that the contribution of the Resurgence de Benthaillou to the overall drainage pattern of the area is but a small one. The key to the puzzle is the Cigalere with all its associated tributaries. The main stream passage of the Cigalere is a sort of "master cave" for the whole of the Cirque, and water is known to enter it, via the Gouffre Martel, from the Portillon d'Albe, nearly a mile away. It is a pity therefore, that all cavers except teams already having a history of several years work in the area, and of course the biologists and mineralogists whose workplace the cave is, are at present denied access. However, Pierre d'Ursel, the Belgian leader of the team we met, estimated that it would be at least ten years before the answer to the hydrological puzzle of the Cirque du Lez

would be known in rough, let alone in detail. So perhaps we may look forward to a time when we and the French run a joint expedition to the Cigalere.

Notes on the cost of the expedition

The idea of buying a single vehicle large enough for the whole party to travel in, and of selling the vehicle after the trip, was a success, though how much of this was due to luck is a matter of opinion.

The vehicle which we purchased was a 1958 Bedford Dormobile, fitted out with seats and windows behind the driver, it cost us £70. We altered the position of the seats so as to seat five people leaving the remainder of the vehicle free for carrying kit. This meant that, in addition to ourselves, we were able to load about 700 lbs of kit and by careful packing, it proved possible to load caving gear, camping gear, personal gear, and food for five people for ten days into the Dormobile without having to resort to a roof-rack. Apart from the incidents described, in the article, the Dormobile performed very well on the trip, and on our return to England we were able to sell it for £65, As a result, the total motoring costs of the trip were:-

Petrol and oil	£ 17.	15.	9d.
Repairs	15.	7.	0.
Depreciation		16.	5.
Insurance (inc. Green Card)	2.	12.	6.
	£39.	11.	8.

During the trip, we covered a total of 1,421 miles, and so the running costs worked out at 6½ a mile or about 1½d per person per mile. Over the whole trip, including the climb up the track to the Cigalere, the Dormobile averaged a fuel consumption of 25.2 miles to the gallon. As a result, the cost of the whole trip worked out surprisingly cheap, the cost per head, details of which might be of interest to future trips to the Pyrenees, being as follows:-

Food	£ 3.	9.	0d.
Petrol, oil and insurance	4.	10.	0.
Depreciation and repairs	3.	17.	0.
Ferry bookings	9.	16.	0.
Miscellaneous	1.	1.	0.
	£22.	13.	0d.

MENDIP NOTES

by

Cheramodytes

Pirate Chamber

Since the early summer of 1965 Tim Atkinson has been interested in pushing the choke at the far end of Shatter Chamber in Swildon's Hole. A squeeze through some boulders near the roof appeared promising, but he was beaten to it by the free-lance Mike Wooding, who wriggled through and found a chamber beyond. This was considered an act of piracy and so the chamber was called Pirate Chamber.

Your Scribe has not yet visited these parts, and Tim has supplied him with some more recent information. Digging began in Pirate Chamber in October 1965. This passage appears to be one of the main ways on from the Shatter Series, but it is blocked by a cone of boulders. These have fallen from a cavity, whose size is unknown, above the end of the chamber. The technique used was to remove all the loose debris, bang the most obvious keystone, return to clear up the rubble and fire another charge. In this way a 35 ft. passage has been excavated upwards into the choke, beneath a fairly solid roof. This roof is a bedding plan dipping steeply down to the North (70 deg).

This may be hard to understand, since it is well known that in most of Swildon's Hole the dip is about 30 deg. to the South. But at about this point there is a faulted syncline, and beyond that the dip is reversed. This part of the cave is about parallel with Sump 7, where the bedding is said to be almost vertical.

Tim was working down in Pirate Chamber again early in December 1966. The boulders are very loose, which makes things difficult. He has now discovered a space with a solid roof but very loose boulders on all other sides. He has not yet entered it. It is about 15 ft. long by 6 wide and 5 ft. high, and he has got his head and shoulders into it through a slot between two of the loosest boulders. The choke continues above with no sign of an end.

New Cave at Axbridge

This cave is said to have been revealed when the old railway cutting above Axbridge was being widened for the by-pass road. It is near the western end. It appears to be a passage about 12 ft. long sloping down at an angle of 45 deg. It is not highly decorated.

A new Mendip Folk Sport

At Northill Swallet work is still going on at lowering the bottom of the shaft. It is easy digging through the gravel and small stones at the bottom. A side show for those on the

surface is the helmet-band throwing competition. The object is to throw a head-band of a long deceased helmet so that it drops onto the top of the pole of the derrick, rather like hoop-la. Two people take part in each game, throwing alternately. The first person to get the band over the pole three times wins. But if the band goes down the shaft, which is directly underneath, then the thrower not only loses the game, but has to climb down to retrieve the band.

Loss of kit by theft

There were more thefts of kit on Mendip on the evenings of18/19.11.66., both at Priddy Green and outside the Hunters Lodge Inn. Members are reminded that the previous theft was from Maine's Barn on 7.9.66. It would appear that one can no longer be careless about one's property on Mendip.

The Order of the Yugoslav Banner

We must congratulate our Child, which has recently been decorated with the above named order, for having bottomed Balinka Pit, and removed thence the remains of certain Yugoslavian heroes of the resistance. These partisans were shot by the Germans and their bodies thrown down the pit. Two years ago the South Wales Caving Club got down by means of a winch to a deep ledge, and this year they scrambled and laddered their way from there to the very bottom. There was no cave development, so that spelaeologically their achievement was not remarkable. As a technical feat however, it was considerable, and politically it was a resounding success. Your Scribe has been shown the insignia. It has a blue ribbon with thin red and white lines and a large spiky silver and gold star.

Which pub?

At a recent Committee Meeting a suggestion was made that a pub in Bristol should be advertised as a meeting place for Wessex members, rather like the Coach and Horses. However, since no one knew a good pub (9 out of the 14 are not Bristolians), certain members, particularly the Hon. Assistant Sec., were instructed to do a "Which" report for the Committee. To date a fairly large number of pubs have been examined.

A GRIM TALE OR THE NORTH HILL SWALLET SAGA

Heardian

Once upon a time Mike and Jim found a small, grassy glade in which a tiny bubbling brook sometimes flowed. When the rains and snows came in the winter the little brook became quite a large stream, but it always seemed to disappear into the ground at the same place whatever the weather. As it was close to some big, dark caves which young boys and girls, and even old men, used to explore, they wondered whether their little brook went into a cave as well. There was nothing for it but to ask the kind farmer if they might try to find out where the stream went by digging a hole at the place it disappeared.

In the summer sunshine now long ago the little stream dried up altogether. Mike and Jim took their spades and buckets and started to dig a deep hole in the glade. They spent all their holidays digging, and became very very excited as their hole got deeper and deeper. Secretly they dug every Tuesday evening and Sunday afternoon after their holidays had come to an end, and soon they had to prop up the sides of the hole with wood to stop the earth from falling in again. When they left their dig each time they would cover it over so that no-one would know what they were doing, and no animals would fall in.

One Sunday when they were ever so deep in their wooden-clad hole they saw a tiny crack in the rock with a dark space beyond. When they shouted through the crack it echoed like a big cave usually does, and a cold, damp draught blew out of the tiny hole. Mike and Jim became very excited now, and were sure that they had found the cavern where the stream tumbled and ran underground. Quickly, Mike made the hole just big enough to squeeze through into the darkness beyond, and Jim followed him after making it even bigger because he was rather fatter than Mike. They found themselves in a narrow, deep cleft in the rock, with water drip-dripping from the jagged roof on to a floor of jumbled boulders. But, alas, they could not follow the water as it trickled through the little gaps between the boulders; and so, very disappointed, they wended their way home, stopping at a wayside inn to quench their thirst.

Returning to the glade one lovely summer's evening the farmer told them that a stranger had been snooping around their hole, and had enquired what the hole was for and who had dug it. The kind farmer was very cunning and did not give away Mike and Jim's carefully guarded secret. He described the tall stranger, and immediately Mike and Jim realised from the farmer's description that it had been big Willie! He was famous throughout all the land for the caves he had explored, and the exciting books he had written about them. Mike and Jim had often read big Willie's stories at bedtime. Indeed, they had often lay awake all night, gripped with fear and admiration at big Willie's tremendous tales and adventures.

The farmer told Mike and Jim that big Willie wanted to help them dig the hole even deeper to find where the water went. Soon Willie, Mike and Jim were all working happily together digging an even deeper hole in the glade. As they got deeper the shaft became crooked and seemed likely to collapse. It was also very difficult to haul the buckets full of earth upwards and around the sharp corners. Willie had a bright idea. They would dig another shaft beside the crooked one. It would be a much bigger and better shaft. Now Willie did not have any work to do, and was having such a lovely long holiday, and Mike and Jim suspected at first that he wanted the new shaft just to have something to do with all the free time he had. In the end however they all agreed and started digging the new hole. It was such a beautiful hole; lined with lovely smooth concrete pipes which stuck out above the ground just like the chimney of some underground fairies' cottage. Sometimes even smoke poured out when they banged away at the rocks deep down in the old cleft below. They built pretty little walls of boulders to help hold the pipes up, and it was really cosy working inside. What a good idea it had been to make this new shaft! But when, oh when, would they find where the water went?

Many friends came to help Willie, Mike and Jim work in the new shaft. There were great friends nearly as big as Willie, small friends like Freddie, lean friends just like Mike, brawny friends like Jim, brown friends and black friends such as Walter, grey friends, tawny friends like Ken; grave old plodders like Howard, and gay young friskers like Paul; fathers, mothers, uncles, cousins, families by tens and dozens, brothers, sisters, husbands, wives! All gathered in the glade as often as possible to have the time of their live. So they picnicked, sang songs while they worked and played games like dropping lighted paper down the shaft on those below, and spent a lot of time basking in the sunshine. The hole got deeper and deeper, and the heaps of rubble on the surface bigger and bigger till it almost now fills up the glade. They had to use a ladder to climb the long way to the bottom of the shaft, and it took longer and longer to haul up the buckets to the top. But where, oh where did the water go.

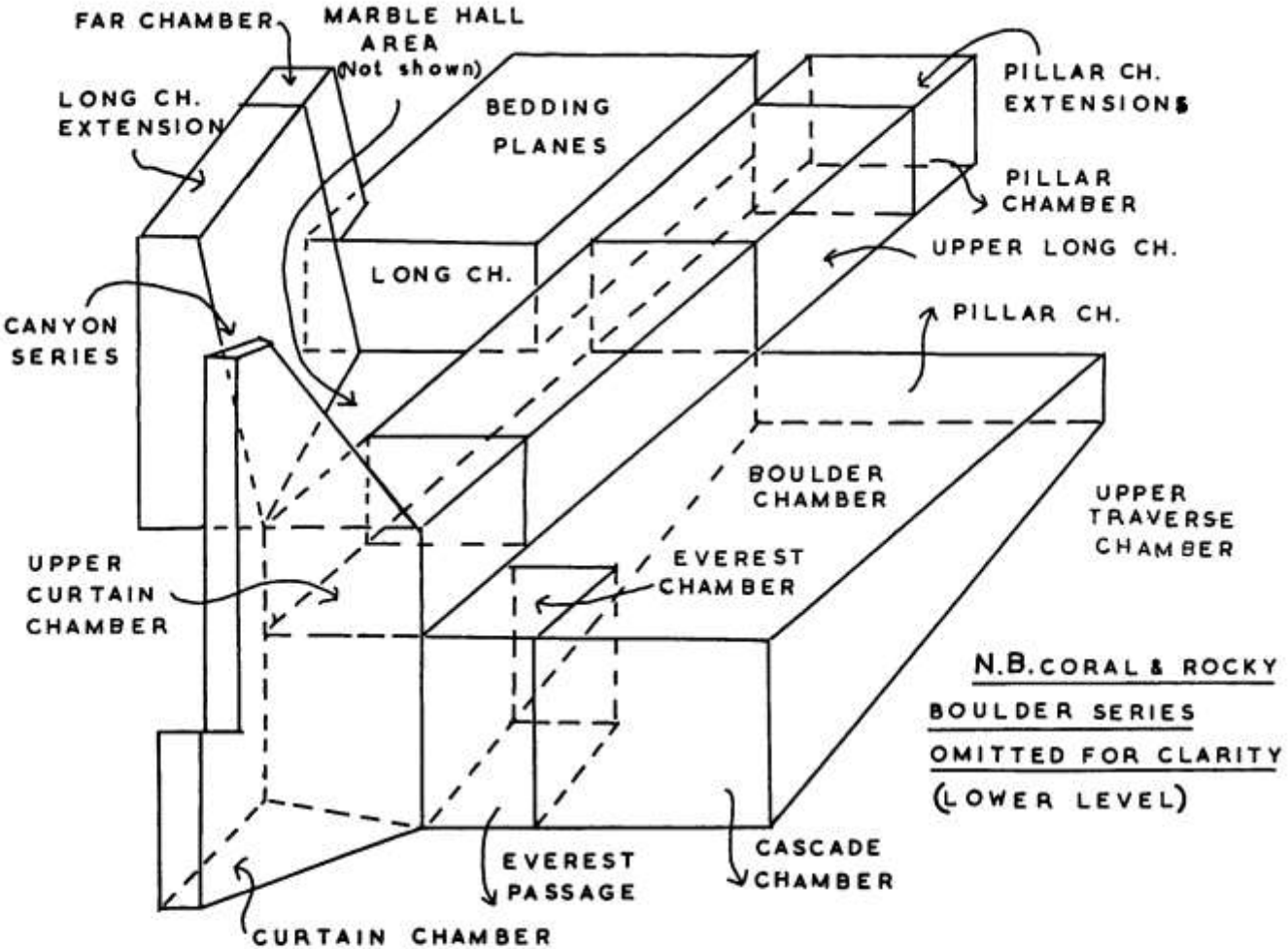
All too soon the long warm summer evenings got shorter, and a lot of the friends went home. Willie, Mike and Jim built fires to keep warm and dry, and just as it seemed they had found at last where the water went it became so cold and wet even they had to stop for the winter. Willie decided to hibernate to another cave which he said would be much more cosy, but Mike and Jim only laughed at him.

The following spring, as the sun climbed higher in the blue sky, and Willie climbed out of his winter cave to the sound of the cuckoo, the three friends decided to go back to their hole in the glade. But, poor, poor Willie could not join them after a while for he had to go far away across the sea to a distant land to work at last. Mike and Jim waved goodbye to him very sadly and promised to do all they could to find out where the water really went. Yes, they would write and tell him all about the exciting cave they were going to discover.

First they tidied up the mess left by the winter storms and floods, and hopefully continued to dig at the bottom of the hole. They thought how wonderful it would be to write and tell Willie about their new discoveries. But, oh dear, once again the hole got smaller and smaller. It was such a tiny hole. Jim could not get anywhere near the end, so Mike tried because he was long and thin, but he could not get around the odd shaped corners; Ken tried, because he was an odd shape anyway, but he too failed. Paul, Barry, and Freddie tried, but despite each being slightly smaller than the other they also could not reach the end. Even Richard nearly got stuck, and he is so thin that he is difficult to see when standing sideways. There was nothing for it but to dig the shaft wider and deeper along what appeared a short cut straight downwards. They just had to find where the water went? How hard they worked that second summer, but even now they have not been able to write that letter to Willie. Several times the friends nearly came to grief. First the nasty ladder broke when Ken was climbing it, and Barry nearly fell too, but Freddie, who was always so good at climbing, was so thirsty one night that, in hurrying to get out, he fell the whole way to the bottom. He was very lucky not to get blown into incy wincy little pieces, because he landed on some plaster being used to make the hole bigger. Everyone was horrified, and were very relieved when Freddie shouted out some words that meant he was all right. They even called him “Free Fall” Freddie to tease him, but in their own minds they had all learnt to be more careful.

But, being as careful and as hard-working as all the friends were, they haven’t yet found where the water goes; and there’s still that letter of course. Willie must be getting very homesick? The shaft gets deeper, and deeper, and deeper, and.....

There must be a happy ending. Perhaps when they get to a significant depth, previous high level phreatic enlargement and abandoned channels may have captured the present young inlet and permitted subsequent vadose entrenchment, or even splash pot development where coalescing streams have swollen the amount of water which sinks throughout the local catchment area.



BLOCK DIAGAM OF LONG CHAMBER SERIES
ST. CUTHBERTS SWALLET (UPPER LEVEL).

ST. CUTHBERT'S

Dave Irwin

During the last four years a concentration of effort has been made in the Long Chamber area of St. Cuthbert's by the B.E.C., resulting in about 1500-2000 ft. of new passage being found - making the total length in this area approximately 3000 ft. (Total length of St. Cuthbert's Swallet approx. 12,000ft.). This latest phase in the exploration of the cave is the third over the period since it was first discovered in 1953. The first phase was the initial exploration during 1953-1956; the discovery of September Series, Catgut Series and the Maypole Series during 1957-1958 produced the second phase. There was then a lapse of over four years until Bennett and Eatough discovered Long Chamber Extension, probably the largest chamber in the cave next to Boulder Chamber, in 1962, commencing the third phase. It is a description of this latest phase with which this article deals.

Those who know the cave will understand the problem of the maze of the system in general. If one can imagine this maze condensed into an area of some 300 ft. square the complexity of the Long Chamber area will be understood and also the reason why so many people have been confused in the past.

Not until a rough survey of this area was drawn up by the author did the maze make any sense at all. In fact the complex is basically very simple, consisting of two distinct levels, the upper level being the Long Chamber Series and the lower, Coral Series, Rocky Boulder Series and the Marble Hall area. The illustration shows the upper level schematically. In the upper level the chambers are separated only by collapse points. The lower level is quite extensive, stretching across the cave as far as the "New Route", Marble Hall being under Long Chamber Extension, Coral Chamber under Upper Long Chamber, part of Rocky Boulder Series is under Boulder Chamber. Until 1962 all that was known in the area was Long Chamber, Annex Chamber, Coral Chamber and Rocky Boulder Series, as well as one or two passages only partially explored because of their instability.

In May 1962 Bennett and Eatough discovered Long Chamber Extension. Eatough wrote in B.B. No. 178 - "In Long Chamber I managed to find a way into a boulder ruckle, and pushed through into what was obviously a very large chamber. I immediately went back for Roy (Bennett) and together we made a preliminary investigation. This large chamber was found to lie along the fault which forms the western limit of the St. Cuthbert's system and thus fills a gap in the survey. We soon found that the chamber was of considerable size and in places was divided into smaller chambers by a tremendous confusion of boulders lying against the hanging wall of the fault …" This and subsequent trips added some 600 ft. to the length of the cave.

In March 1963 Cornwell reported finding a large chamber (Upper Long Chamber) up dip of Long Chamber. The following few weeks found a series of parties searching the chamber for further extensions - little of note came of it though some boulder-choked passages and

Chandelier Passage were discovered. This last is a fine vadose trench heavily decorated with stalagmite. One of the finest clusters of helictites in the entire system is found here. It would appear that this area (except Chandelier Passage) was entered by Hart and Davies (W.C.C.) in December 1963 who had maypoled the hole at the head of the water feed by Kanchenjunga but they became hopelessly lost and so confused they did not know where they had been. Talking to Nick later he said that he reached Long Chamber Extension by crossing a rift but he did not know the normal route out to Long Chamber. As his carbide lamp was running low he became a little worried when trying to retrace his steps back to the Maypole.

The next stage came with the discovery of the Marble Hall area in July 1964. It has been recorded in the 1963 Christmas BB that Luckwill and Miller had discovered a route through a ruckle in the floor of Long Chamber Extension connecting Coral Chamber. Off the ruckle they discovered, or rather rediscovered, a rift the whereabouts of which had been forgotten by Bennett. Armed with this information Irwin and party found a continuation in the floor at the end of the rift leading to a lower chamber with a “hollow” boulder floor. Another chamber could be seen through the floor, but a small jammed boulder could not be moved to increase the hole to a caveable size. Having failed in cool persuasion a large pile of boulders were kicked aside, revealing a gravel-filled fissure that was soon cleared, giving access to the chamber. Unlike the chamber above, whose walls, floor and roof were large boulders, here was solid rock again - on one wall only. This appeared to be the end until a small slit in the floor was noticed. Clearing a flat slab of rock out of the way a large chamber could be seen. This was Marble Hall. A large rectangular chamber about 40 ft. long by 25 ft. wide and some 40 ft. high was, in itself, a significant find. Here for the first time was found an upper continuation of the Gour Lake fault. The polished wall was of the black limestone so common in Swildons and Eastwater, but was the first time it had been found in St. Cuthbert’s except for small polished fragments found in the Dining Room dig. Horizontal slickensides were also noted high up on the wall. The wall, quite vertical and flat over the whole length of the chamber, creates an impression of height - much more than it really is. The wall is beautifully marked, with wide calcite banding giving the appearance of marble;hence the chamber’s name. On a later trip it was noticed that under the stal-covered stones in the corner of the now "middle" chamber above Marble Hall was a void deep enough to enter. The following weekend a party of three (Irwin, Kingston and Luckwill) broke through into a phreatic tube that appeared to close down to an impossible sized hole. The way on actually lay down through this, a small, near vertical hole, just wide enough to slide oneself to the bottom. No thought was given to the return journey. Below this narrow “squeeze” of some 10 ft. was a stalagmite-covered rift entering a very small chamber. In the floor a narrow opening led to a pothole about 3-4 ft. in diameter, some 25-30 ft. deep. An easy climb down led to a gravel choke at the bottom. A glance at each other told a story better than a thousand words - how to get back up that squeeze! Once entering the tube or “squeeze” it was found impossible to place an arm above the head and that the only way to return was by "standing to attention" and a toe and heel technique had to be used. A small extension ending in a squeeze that has not yet been passed has been found at the head of the pothole. It is the opinion of the author that Marble Pot is the lower part of the choked shaft

at the top of Coral Chamber known as Coral Pot. Until an accurate survey has been carried out, this cannot, of course, be proved. Stones fall away below the choke indicating further chances of more extensions at the bottom of Marble Pot. The only trouble is getting people to come and dig! Any volunteers?

Late in 1964 extensions were found above Pillar Chamber including a deep pothole (for the cave - 54 ft.) connecting with Upper Long Chamber. In addition, interesting phreatic passages were found high up in the roof of Long Chamber Extension - mostly heavily coated in fine white or cream stal flows. Also a large vadose trench was discovered having a length of over 100 ft. It's size (10ft. wide x 20 ft. deep) indicates that this was an inlet passage of some importance. It is of interest now because of three clusters of cave pearls in the same pool! Above the passage is one of the finest chambers in the entire Cuthbert's system. Originally found by Bennett and Eatough in 1962; rediscovered by Roberts in 1963 and then lost again as the route could not be found, it was rediscovered for the second time in August 1964. It contains stal flows of all colours, from cream, red, brown to the finest white. The highlight here is a superb erratic some 18" long!

Without doubt the finest discovery was made by Luckwell in January 1965. When on a trip trying to locate the rift found by Cornwell in the southern end of Long Chamber Extension, Luckwell noticed a high level hole above a cracked stal flow on a near vertical wall. Climbing the wall and removing a boulder he found himself in a series of passages formed along a bedding plane. These led him quickly to the top of a large shaft, later proved to be the top of Curtain Chamber. The drop of over 100 ft. has since been climbed by B.E.C. members, but is not to be recommended due to the possibility of damaging the fine curtains in the lower section of the chamber. At the head of the pitch a traverse was passed, entering a fine stream passage leading up dip containing a number of short potholes. At the top of this passage the area opened into a bedding plane cut into by vadose trenches. A squeeze at the lower end of the series led to another canyon, ending in a large chamber over 50 ft. long. The whole area is lavishly decorated with formations of every kind, many being the only examples in the cave. The two crystal pools found are without doubt the finest to be seen anywhere on Mendip. This discovery has since been named Canyon Series.

So much for the Long Chamber area. What has been happening in the remainder of the cave?

High Chamber has been climbed by Wynne-Roberts and Grimes to a height of some 200 ft. Hart maypoled to a beautifully decorated passage off High Chamber in 1964. More recently, in January 1966, Allen and Lane (S.V.C.C.) have investigated passages and avens off Escalator Passage in the Maypole Series - these appear to have been explored some time ago by King (1958?) and Kingston (1963) though some of them may be new.

Digging by Bennett, Kingston and others revealed over 50 ft. of very muddy passage off Cerberus Hall. An extension was seen, but the dig was abandoned when a connection was orally made with the Dining Room dig.

Although only dug on odd occasions, the Dining Room dig shows some promise. A small extension was broken into early in 1966, but digging now involves a team of at least six to extract the infill from the now 50 ft. long passage, and these are not often found. The new survey of Cerberus Series shows clearly that the two digs are part of a fault running parallel to the main Gour Lake fault at a distance of about 20 ft. It is probable that the Sump Passage is also part of this fracture. Whether this fault is complementary to the main fracture is difficult to determine Parts of the Dining Room dig show the fault angle to be about 45° while the Mud-Ball dig shows it to be about 60°.

Although the aven near the Cascade has been known to Petty for nearly 10 years it was not until mid-1966 that he pushed the area, revealing an enormous strike rift above the Cascade. The lower wall of this is covered with a tremendous white stalagmite flow that forms the upper part of the Cascade; this makes the height of it some 120-130 ft.! A similar passage to that of the Canyon Series has also been found in this extension.

Cornwell has recently been attacking the sump area and has uncovered some interesting phreatic tubes. One near the Duck has been dug to a depth of nearly 5 ft. and judging from the quantity of charcoal found this must be a recent blockage. A full scale attempt is being planned to dig the sump throughout the winter months in a combined effort with the C.D.G. to pass it. It has been proved to be a syphon and is known to be 10 ft. deep before it starts to level out. Perhaps phase 4 will be the passing of the sump.

Even after 13 years, the cave is far from being completely explored and will no doubt still have much to offer the future explorer.

P.S. Those interested in a more detailed report of the Long Chamber area are referred to B.E.C. Caving Report No. 11 (with Grade 1-3 survey) price 3/6d.

A complete bibliography and miscellaneous notes re flood control, access, leaders list, are to be found in the first part of a new Cuthbert's Report, to be issued in 15 parts, complete with detailed surveys (scale 1/240 (whole cave) and 1/120 (series fully detailed)).

CENTRAL MENDIP WATER TRACING - PRELIMINARY RESULTS.

During the first two weeks of last month a series of water tracing experiments were carried out under the direction of Dave Drew using lycopodium spores (for details of this method, see WCC Jnl. No. 107, pp 88/90) to test the water which entered the major central Mendip swallets. These tests were carried out with the joint backing of Bristol Waterworks and the University of Bristol Geography Department. The swallets tested (from West to East) were:-

Longwood/August, Manor Farm, Swildons, Eastwater, St. Cuthberts.

Collecting nets for the spores were placed at the following resurgences:-

Axbridge Rising, Cheddar (1st and 2nd Feeders and below the Lake), Halfway, Honeyhurst Borehole, Rodney Stoke, Springhead Rising, Hollybrook, Easton, Wookey Hole, Glencot Springs, St. Andrew's Well and Westbury.

At the time of going to press, the following results had come through

To Cheddar:-	Longwood/August
	Manor Farm
To Wookey:-	Swildons
	Eastwater
	St. Cuthberts

All the above results were described as 'strong positive'. Details of the times involved, and the other results, will, it is hoped, be published in full at a later date.

LETTER TO EDITOR

"Dear Sir,

Dan-yr-Ogof

It is a pity that Derek Tringham's splendid article (page 140 of the last Journal) contained a mistake in the first line!

Dan means under not over; therefore, Dan yr Ogof means Under the Cave, not Over the Cave. The Welsh for Over, according to Y Geiriadur Newydd, is: Tros, dros, uwch, uwchben, ar draws.

I haven't lived in Wales for very long - ond rydw I'n dysgu Cymraeg!

Yours faithfully,

T. Charles Bryant"

Editor's Note: Owing to an editorial mix up, the survey which accompanied Derek's article had no acknowledgement. This survey was in fact a line sketch reproduced with kind permission from a survey of Dan yr Ogof I by Alan Coase, and from a sketch survey of Dan yr Ogof II by B. Foster and D.B. Thomas. This lack of acknowledgement is very much regretted and apologies for the omission are due to those concerned.

THE B.S.A. CONFERENCE 1966.

T.E. Reynolds.

The 1966 British Speleological Association Conference was held on Saturday and Sunday, 10/11th September in Bristol at the New University Union Building. This was the first time that a B.S.A. National Conference has been held in Bristol since the war, and from the observer's point of view, appears to have been a great success. Altogether over one hundred delegates attended the Conference, and there were a large number of exhibits from various clubs from the North as well as the South. One of the more interesting "non-caving" stands was that of the Bristol Wire Rope Co. Ltd. which had bits of ladders, ferrules, and sundry other parts for ladder making on show. Also on show, though not actually in the Conference building, was an exhibition on Chechoslovakian Caves and Karst in the City Museum, Clifton.

The Conference was opened by Sir John Wedgewood, who is a Wessex member and has also been down the Gouffre Berger. In his address, which was mainly directed at the Press, he said that everyone he met looked on him as a madman for going caving in view of the supposed danger. However, he said that he had done some approximate calculations which showed that caving, far from being dangerous, was in fact as safe as, or safer than, air travel. The first lecture in the Conference was, "The formation of Irish Potholes" by Prof. E.K. Tratman. In his lecture, Prof. Tratman first described the main geological features of the area which he was dealing with - Co. Clare near Lisdoonvana. He then divided the potholes in the area into groups according to their position in relation to the surface boundary between the limestone base rocks and the shale which overlies the limestone in certain places (on Slieve Elva and Poulacapple). The groups into which the potholes fell were: - those on the shale edge, those beyond the shale edge, and those within the shale edge. The formation of the potholes on the shale edge was due to the water running off the impermeable shale and sinking in the limestone and called for little comment. In the case of potholes lying beyond the shale edge, Prof. Tratman proposed a new theory. The previous theory, by Coleman and Dunnington (1944) suggested that these potholes were formed when the shale edge extended much further than it does at present, and so these potholes were much older than the ones on the shale edge. However, Prof. Tratman stated that he had been able to find no evidence of the greater age of these potholes and he suggested that these potholes were formed by collapse from small streams which had gone underground at the shale edge. Regarding the last category of potholes, those within the shale edge; Prof. Tratman suggested that the shales were, in fact, permeable when thin, and so water could go down through the shale, dissolve the limestone beneath, and if there was a nearby cave passage, form a pothole within the shale edge. The next lecture which was entitled "Llanymynech Ogof" was by D.R. Adams of the Shropshire Mine Club and was about the work done on Llanymynech Hill, near Owestry, by his club. The main bulk of their work had been directed at the largest mine which they had found on the hill, the Llanymynech Ogof itself. This mine it appeared, was originally a Roman mine for copper and lead, these being the two most common minerals on the hill, and some Roman coins had been found during the exploration of the

mine. However, in the 18th and 19th centuries, the mine had been worked again. The lecture was delivered in a rather disjointed fashion, the lecturer never quite knowing where he was in relation to the slides which were shown, but in spite of this one got the impression of a keen group doing a lot of valuable work in the shape of surveying, digging and archaeology in the area.

There was then a break, for lunch which was served in the Refractory at the top of the building (the Conference being held on the 1st and 2nd floors). However, some trouble was experienced in operating the lifts which seemed to possess a mind of their own and some delegates were found on the most unusual floors with a glazed expression on their faces as they frantically pressed buttons in the hope of summoning a lift. The first lecture after lunch was, “Micro-organisms in relation to food and energy sources in caves” by Ann Mason-Williams. In this lecture, Dr. Mason-Williams showed that there were three main ways in which micro-organisms might obtain organic materials for food and energy down caves, these being:- synthesis of organic materials from inorganic materials - the organic materials produced by this source were probably too small to act as a main source of energy, but it was probable that this was a subsidiary source. Organic sources from the surface, this was probably the most important single source, organic material being brought in by water, air and man. Fossil energy - it appeared that it might be possible that hydrocarbon materials within the limestone itself could be used by micro-organisms for conversion into organic materials and research was being done at present on this by Cardiff University. In her lecture, Dr. Mason-Williams stressed the importance of taking full details of the humidity, pH readings etc from the area from which samples had been taken in a cave (failure to do this in the past had led to the erroneous conclusion that there were no, or very little, supplies of organic material down a cave) and also the value of the results obtained in previously unentered parts of caves like Dan-yr-Ogof.

The next lecture was, 'The National Park and its effect on the Caves,' by T. Sykes. In this lecture, Mr. Sykes explained the attitude of the Northern Council to access to potholes in the north, and the reason behind their refusal to pay the farmers for crossing their land, It appeared that in 1949, in the National Parks and Access to the Countryside Act, the Yorkshire Dales, amongst other areas, was designated a National Park Under the Act, a National Park was termed an area of extreme natural beauty with good opportunities of open air recreation; and when an area was designated a National Park the intention was to:- (a) retain its beauty and (b) to provide facilities for enjoyment. But, the Act does not provide unlimited access since it also states that the normal life of people in areas which has been designated National Parks must go on unhindered, and so access is to be gained either by negotiation with the landowner in question or by an access order obtained by application to the local Planning Authority. As a result of this act, most cavers in Yorkshire expected that it should be possible to negotiate access agreements fairly easily with the landowners, and if they did not grant access, then it should be possible to get an access order, and once access had been granted that it should be free of charge since charging hardly came within the spirit, let alone the letter of, the National Parks Act. Mr Sykes then went on to explain the various situations which had led up to the formation of the Northern Council and he showed

that direct negotiation with the landowners for access had been a very protracted affair lasting several years, that when they had applied to the local Planning Authority for an access order they had been curtly refused with no reason given, and that in addition several farmers insisted in charging for access even when the paths covered were rights of way. In this respect the Northern Council were hampered that no definite footpaths maps, which showed rights of way, had been published for a considerable length of time., Mr. Sykes concluded by comparing the conditions in the Yorkshire Dales with those existing in the Lake District (another National Park) where ramblers could go much as they pleased and he felt that in the 17 years since the Act had come into force it had not been implemented as far as the Dales were concerned. After this lecture, there was a rather watery interlude in the Union swimming bath whilst first the Technical Projects Unit of the B.S.A., under Dr. Harold Lord demonstrated a submersible pump operated from a 460 volt supply from a generator on a Land Rover outside the building. A pump of a similar type to this one had in fact been used to pump a sump dry in Carlswark Caverns on a rescue. Then the Cave Diving Group under Dr. O.C. Lloyd demonstrated the new sump rescue apparatus, a sump being made for the purpose from three hoops placed at strategic distances.

After the demonstrations, the next lecture was, "Caves and Caving in Australia" by P.V. Rose. This lecture was delivered with great gusto in what one imagines must have been true Australian style. Mr. Rose started by going round Australia state by state describing the caves to be found in each state. He started with New South Wales, this is an area of high rainfall (for Australia) and as a result most caves are fairly wet with large dry galleries, the most famous cave in this area being the Jenolam. The next area mentioned was in South Australia - the Nullabor Plain. This is a large flatish piece of desert with caves dotted about in it. The most unusual feature of this area being the blowholes; these are small holes, generally only a few feet in diameter, which descend to caverns below the surface and owing to the temperature differences above and below ground very strong draughts occur in these holes. Generally speaking, in view of the amount of limestone in the Nullabor, the number of caves is not very large though this is probably due to the lack of water in the area. However, when caves do occur they are usually fairly large - the largest to date being Mullamullang which is 5 miles long, the main obstacles being rock piles and lakes, and the end has not yet been reached. Western Australia contains a large number of caves, most being in the S.W. Corner of the state and in one of these caves, the Jewel Cave at Agusta, there is a straw stalactite which is 19ft. 4½ ins. long. The Northern Territory contains a few caves, but the conditions do not encourage caving, temperatures underground ranging from 65 F to 80 F in the dry season, and 76 F to 98 F in the wet season, also in some areas the caves are infested by foul air, snakes, spiders, flies, and guano. The last area Mr. Rose mentioned was Tasmania - his favourite area - where owing to the high rainfall some really sporting caves could be found - Mr. Rose described them as, 'caves with hairs on their chest.' However, in Tasmania, the main problem was getting to the caves owing to the dense undergrowth caused by the rain forests. In the S W corner of the island there is a further hazard in a type of vegetation known as horizontal scrub, progress of a mile a day through this is considered good going (on this basis it would take 8 days to get from Hillgrove to the Hunters or vice versa). In addition to the areas described, Australian cavers are also getting

interested in New Guinea and Papua which appear to be even better areas than Australia itself - aerial photographs show rivers disappearing etc. Generally it appears that the problem in Australian caving is not so much exploring the cave once you have got into it (it just goes on and on with no trouble) but first finding the cave (aerial reconnaissance appears to be best) and then getting to it with caving equipment (which usually entails a major expedition). Mr. Rose then went on to explain the equipment used which was of an advanced nature and included items like:- ladders with which the rungs were joined to the wires by running the wires through holes in the rungs which were made out of solid rod, and pressing the ends of the rod whilst the remainder was held in a jig so squeezing the rod onto the wire. Maypole joints using two short lengths of R.S. channel bolted together either side of the tubes at the joints, giving a firm round peg in a square hole effect - a maypole had been erected to a height of 63 ft. without bracing by this method. The development of a piece of apparatus for cave divers using throat mikes and earplugs which enabled the divers to speak to base whilst submerged, the use of a 'forest compass' of Japanese manufacture which consists of a telescope, compass, and clinometer all mounted on the same head on a tripod, and finally a weird and wonderful device for burning flash powder under pressure for lighting the larger chambers - the method of operation seemed to be to pump hard, light blue touch paper, and retire .... FAST! After a break for supper the day's lectures finished with a talk and some slides of the new discoveries in Dan-yr-Ogof by Alan Coase. This consisted mainly of the slides that did not make the 'Observer' colour supplement but which were still very good. After this, the day's programme ended with three films; the first showing the formation of the Alps by some multi-coloured animated rocks, the second was in French and appeared to show the discovery of a painted cave by a group of school children, and the last film was one taken in Lamb Leer before the war showing the cable way in action. This film had been taken by Prof. Tratman using paraffin pressure lamps as the source of light.

The first lecture on the Sunday was, 'Progress in Scottish Speleology,' by A.L Jeffreys of the Grampian Speleological Group. In this lecture Mr. Jeffreys described the work done in Scotland by the Grampian S.G. which appeared to be the first real Scottish caving club. Owing to the fact that there were few caves in Scotland, most of their effort had been devoted to mines but they had also started a Scottish Rescue Organisation. The next lecture was, 'Early visitors to the Mendip Caves,' by Comm. T.R. Shaw. This lecture consisted of readings by Comm. Shaw of the accounts written by tourists who came to Somerset and visited the Mendip Caves - mainly Cheddar and Wookey - before about 1800. Since all the readings were reproduced in the Conference Proceedings, Comm. Shaw only read the more interesting of the quotations. He also had a unique selection of slides the originals of which had, in a lot of cases, accompanied the accounts he was reading. When he had finished he had given a very good idea of the feelings of these 'prehistoric' cavers and had traced the development of the tourist industry at Cheddar and Wookey as it is today. After a break for a buffet lunch, we then had the Simpson Lecture which this year was the 'Water-table concept in limestone,' by D.P. Drew, B.A. In this lecture, Mr. Drew first explained the conventional theory of cave formation, which assumed the existence of a zone (the water table) below which the rock was saturated. He then went on to describe the results of water tracing carried out by himself on Eastern Mendip (see WCC Jnl. No. 107 PP 88/90**)** and in Austria

by others (Mayer & Zotl) which showed that streams, whilst remaining entirely separate were able to cross each other on a random basis and one sink was able to feed several resurgences or vice versa. In view of these results it was quite obvious that there was no saturated zone as such, since all the water underground was on the move somewhere. Mr. Drew admitted that the classic concept of the water table was valid for homogeneous porous rocks such as chalk and to a lesser degree oolite limestones, but once discrete streams started to flow through the rock in passages, however small, the water table vanished. However, it was true to say that each stream had its own underground collection area, but a great deal more work remained to be done, since very little was known about what happened to percolation water. But, from the practical caver's point of view, the lack of a water table is a good thing, since it means that when a cave passage sumps, it did not mean that the cave had reached the water table with the result that any further passages would be saturated, but that there was a choke or dam in the passage holding the stream up, and there would be a reasonable chance of open passages beyond the sump.

The Conference then closed with two lectures on cave diving. The first was by F.J. Davies who traced the development of the equipment used by the Cave Diving Group, from Balcombe and Shepherd's early apparatus, through the oxygen and mixture sets used in Wookey Hole, to the use of compressed air equipment as advocated by J.M. Boon - this being the type of equipment now used by the C.D.G. today. The next lecture was by M.A. Melvin of the Northern Section of the C.D.G. who traced the history of diving in the Northern Pennines from the early free dives of R.D. Leakey and the early dives of Balcombe, through the various dives in the 1950's mainly carried out by visiting divers from other areas, though a lot of work was done by local divers, until 1962 when the Northern Section of the C.D.G. was formed and also J.M. Boon went to live in Yorkshire. With this impetus, a considerable amount of diving was done by the Northern C.D.G. which was tragically curtailed when Alan Clegg was drowned on a dive in Lancaster Hole in 1964. But, in 1965, some successful dives by members of the Somerset C.D.G, reawakened interest in the North and this resulted in the rebirth of the Northern Section of the C.D.G. in January 1966. Since then, a large number of dives have been carried out by members of the Northern Section which have resulted in the discovery of an impressive length of new cave passage. After these two lectures the Conference ended with a social evening and dinner. Looking back, the whole Conference had been a great success and had gone very smoothly, for which the B.S.A. and especially the Conference Secretaries are to be congratulated. It is a pity that a Conference of this nature is held in the Mendip area so infrequently, but it is to be hoped that in view of the success of this Conference, and the decision of the B.S.A. and the C.D.G. to combine Conferences in future, that another National Conference will be held in the Mendip area in the not too distant future.

For a full account of the papers presented to the Conference, those interested are advised to consult, 'The Proceedings of the British Speleological Association,' available from the British Speleological Association, Settle, Yorks price 15/- (12/6 to members of the B.S.A.)

Transactions of the Cave Research Group Volume 8, No. 2, July 1966. Cave Surveying by A.L. Butcher and C.L. Railton, 37 pp. 10/- members 15/- non members available from I. Holmes, Lindum, The Homend. Ledbury, Herefordshire.

In an article in the Journal some years ago I referred to the C.R.G. publication "Cave Survey" as the cave surveyors Bible. The first edition has been with us some sixteen years, and the incipient coming of the second edition was awaited rather as a new authorised version of the Holy Book. However, on perusing the latest edition one has a sense of anti-climax - rather as though the new authorised version turned out to be a facsimile copy of the Hussite Bible. (Editors note: Collier's Encyclopaedia refers to the Hussite Bible as "… a revision of a medieval translation". Verb. sap.)

I feel that a great chance to modernise and improve this work has been lost It would be interesting to know if the draft version was submitted to any other cave surveyors for comment before publication as I am sure that many improvements could have been made.

About three years ago a group consisting of virtually every cave surveyor on Mendip met to consider the whole problem of survey grading and techniques. Their conclusions, embodying certain modifications to the original C.R.G. system were forwarded to that Group for consideration. Probably the most important of these modifications was the removal of the anomaly in Grade 4, where bearings were specified to single degrees, while vertical angles were not measured at all. It was, and is, considered that in most Mendip caves with their steeply dipping passages, a survey of this type is valueless, and a recommendation was made to specify clinometer readings to $\pm 2^{O}$ for this grades This recommendation had been completely ignored, with the result that there is virtually no bridge between the Grade 3 that is generally used for a preliminary survey, and the Grade 5 that takes very much more time to make.

Moreover, in the new Grade 4 it is stated " . . the tape or cord to be held level or vertical at or between stations. Distance between stations may have to be restricted to enable this to be done . . ." I suggest that would-be surveyors try to level a tape by eye in a steeply sloping passage and then check with a clinometer - they will soon be convinced of the total impracticability of the procedure. Also, even if it were practicable, the imagination boggles at the thought of the number of legs that would be required in, say, the Mud Escalator in Eastwater using this principle. With regret, we must still say that Grade 4 should have had a clinometer specified.

Two other points which immediately spring to mind on perusing the new edition are the absence of any mention of the fast and convenient method of "leap-frogging" for taking bearings, and the somewhat doubtful method, already remarked on in Journal No. 98, p. 158, of measuring inaccessible heights by angles of elevation from 2 survey points. If the subtended angle is not too acute it is just possible with an Abney level, but for rifts and avens the procedure is of very little value.

On pages 15 and 31 there occurs another statement which I have already shown is fraught with the possibility of error - that of ascertaining the local magnetic field from one point only. This is felt to be a very risky procedure, especially on Mendip, where there is a much greater possibility of extraneous ironwork being present than in more remote caving areas. Incidentally, this particular chapter, far from having been revised is a word for word copy of the same chapter in the first edition. The example given dates the information rather obviously.

The system of grading detail is in general similar to that given in the original publication and also in the recommendations of the Mendip surveyors, but was it really necessary to reverse the order of the Grades? To most surveyors and users of surveys, Class A has come to mean the highest possible standard - now it is merely a sketch from memory! Some of the symbols given in the book are rather esoteric, especially those dealing with ledges and windows. True, it is stated that many of the symbols are not meant for general use, but it is better to follow the first paragraph of Chapter 7 and "append notes in plain language" rather than have an elaborate array of symbols.

As regards the drawing of plans, might I recommend the use of Letraset or similar alphabets rather than the use of stencils. For "non-professional" draughtsmen they are both easier and neater, I speak with some feeling on this, having wasted much time and vented much spleen over smeared lettering on nearly finished drawings. The examples of surveys given, also a direct copy from the first edition, are by no means shining examples of good presentation. It is felt that the North Point should always be "vertically up" on the plan, and this is indeed implied in Chapter 6 (d).

This publication then, is an essential one for all those who are interested in cave surveys, even if they do not intend to make a survey of their own. The fact that it is in some ways disappointing to Mendip surveyors is unfortunate - even more unfortunate to many will be the price. Fifteen shillings is a large sum to ask for a paperback!

BOOK REVIEWS

Exeter University Spelaeological Society Newsletter Vol. 2, No. 1, Jan, 1966. 17 pp. from Devonshire House, Stocker Road, Exeter, Devon.

John Church writes on "The Nickel-Iron Alkaline Accumulator" (reprinted from the W.C.C. Jl.) and Pete Cousins writes of "Rope Technique Underground". He gives a list of books that could be read and includes O.C.L.'s "Cavers Dying of Cold". I cannot quite see the connection between ropes and exposure unless a caver is going to hang himself to avoid the latter.

The usual "Club Log" of trips is included and encompasses Pinetree Pot, Agen Allwedd, and Swildons. In the latter cave they met a party who had got down without paying their shilling. They got in by squeezing under the entrance grating.

The Council of Southern Caving Clubs Meeting is reported on. The Readers Letters section contains a comment on the formation of the Caves of Portland which may be briefly summed up as "Ford was right".

A.D.O.

Nagra grottor i Ostergotland by Leander Tell No. 5. (in the series) Arkiv for Svensk Grottforskning 71 pp. 23 photographs published at 9 Crowns (l2/6d.) by Centrocommerce A/B Soderkopingavagen 71. Norrkoping, Sweden.

The author describes some caves in the province of Ostergotland (Central Sweden - not to be confused with the island of Gotland!) The majority of the caves described are situated in Granites and Gneisses, although one occurs in limestone and another in Ordovician Sandstone and underlying porphyre. Due to earth movements many of the caves are formed in fissures with the entrances partially blocked with glacial debris both typical characteristics of Swedish Caves.

Many stories and legends surround the caves of Ostergotland and the author relates many tales concerning Giants, Monks, and Robbers. How the monks cheated the Ogres and Giants, and how Robbers seized and carried off young Maidens to their secret caves. A curious feature of many stories is the cunning way in which the damsels left a trail of peas in order to show the pursuers the way to the robbers hiding place.

A.D.O.