

WESSEX CAVE CLUB

Journal No. 115, Vol. 10.

February 1968

CLUB NEWS

Caving has been at a low ebb over the last two months to minimise the risk of spreading the Foot and Mouth infection to Mendip. It has been necessary to cancel the planned programme of Club trips until March 1968, when it is hoped that restrictions may be eased. As it appears that the epidemic may be dying out and not spreading southwards we hope to reopen Hillgrove to parties who have not come from or through the affected areas. However, it is emphasized that (at the time of writing) there is still Government restriction on access to agricultural land, and so way leave to caves is not guaranteed. Until the order is lifted things cannot get back to normal.

It has not been found possible to run a Club Draw. Only about thirty slips were returned offering to sell books of tickets, and this number is insufficient to float a worthwhile draw. This is a pity as fund-raising activities are very necessary if we are to raise capital for the new H.Q. at Upper Pitts. While on this ever gloomy subject, we draw attention to the enclosed insert listing 130 members who have yet to pay their subscriptions for 1967-68. Special attention is drawn to the availability of favourable five-year period membership, which you are invited to consider. You can only lose on this if you die in the next seven years, or the value of the pound increases! Period membership gives the Club the opportunity to use future income to erect Upper Pitts (see the Report of the 1967 A.G.M. in this issue). We should be able to start the works this spring, granted the smooth passage of our plans through the final stages with the Local Authority. They have already been approved by the Department of Education and Science.

On 16th March there will be a Social Evening in the Red Lion, Wells, at the modest price of 10/- a ticket. Plenty of beer will be available, and we look forward to seeing as many of you as can get along, after your long enforced absence from Mendip. A buffet supper, and the possibility of coach transport, will help beat the breathalyser, so do try to come.

During the lull there has been a complete review of our tackle requirements, and it is likely that as a result of renewal some old tackle may be up for sale. Anyone interested should contact Peter Cousins, the Tackle Officer.

David Drew had to postpone the water tracing programme last December, but is planning to go ahead as soon as possible. While the official ban remains it is not possible to predict an exact date for this survey, but if you feel able to help please write to Dave at the Department of Geography, The University, Bristol 8. Incidentally, if you have not purchased a copy of the Club's Occasional Publication on the first two phases of this Karst Hydrology research, please get in touch with the Hon. Treasurer, Tim Reynolds.

<u>Hon. Secretary</u>	D.M.M. Thomson, Pinkacre, Leigh-on- Mendip, Bath, Somerset.
<u>Asst. Secretary</u>	R.M. West, Elm Tree Cottage, Hallatrow, Nr. Bristol.
<u>Hon. Treasurer</u>	T.E. Reynolds, Yew Court, Pangbourne, Berks.
<u>Subscriptions Treasurer</u>	A.E. Dingle, 32 Lillian Road, London S.E.13.
<u>Hut Warden</u>	M.W. Dewdney-York, 8 Lyndale Road, Wyke Regis, Weymouth, Dorset.
<u>Editor</u>	J.D. Hanwell, 'Chaumbey', 50 Wells Road, Wookey Hole, Wells, Som.
<u>Journal Distribution</u>	P.R. Cousins, 3 Kinver Road, Sydenham, London, S.E.26.
<u>Caving Secretary</u>	R.J. Staynings, 8 Fanshawe Road, Hengrove, Bristol 4.

PROGRAMME OF EVENTS

- * Weekend March 2/3rd. South Wales.
Leader: R.A. Philpott, 3 Kings Drive, Bishopstone, Bristol.
- * Sunday March 17th 2.30 p.m. Swildons Hole. Double Trouble. Round Trip etc.
Leader: R.Bignall, Kinsale Road, Knowle, Bristol
- Saturday April 6th 3.0.p.m. Longwood/August Hole.
Leader: J. Thomas, 13, Hale Reeds, Heath End, Farnham, Surrey.
- Weekend April 12/15th Easter. Yorkshire.
Leader: J. Church, 35 Rayens Cross Road, Long Ashton, Bristol.
- * Weekend April 27/28th. South Wales.
Leader: C.H. Kenney, Tudor Cottage, Beryl Lane, Wells.
- Weekend May 11/12th. Agen Allwedd.
Leader: P. Cousins, 3, Kinver Road, Sydenham, London S.E.26.
- Weekend May 18/19th. Devon.
Leader: D.M.M. Thomson, Pinkacre, Leigh-on-Mendip, Bath.

NOTES: Please give the Leaders prior notice of your intention to join any trip.

* Wet suits and nife cells essential.

REPORT OF ANNUAL GENERAL MEETING HELD ON OCTOBER 21ST 1967
AT PRIDDY VILLAGE HALL

The Chair was taken by the President, Frank Frost. Seventy-three members were present and the meeting opened with the President's address. Frank Frost said it was pleasing that so many had come on such a wet afternoon and this, with the large number of people attending the Dinner, made the Club's future appear bright. He went on to thank the retiring Committee, on behalf of the Club, for their work during the previous year, especially Jim Hanwell who was retiring as Secretary. He hoped the members present would contribute to the discussions to guide the incoming Committee.

Apologies for absence were received from Mr. & Mrs. T.C. Bryant, D.C. Bryant, Dr. D.C. Ford, Dr. A. Fincham, Eric Hensler, C.R. Hobbis, D. Kemp, Dr. W.I. Stanton, C.H. Kenney, D. Tringham, P. Weston, Dr. R. Pyke, Dr. O .C. Lloyd and C. Beauchamp.

The minutes of the 1966 A.G.M. had been previously circulated and were taken as read.

Matters arising from the previous A.G.M. were as follows:-

- a) A Subscriptions Treasurer had been appointed.
- b) We had explored the possibility of producing the Journal by means other than voluntary Club labour. It was now being printed by offset litho processing.
- c) More rescue practices had been held, as requested by the Secretary of M.R.O.
- d) The Treasurer's Report had recommended the transfer of £400. to the Hut Fund and this had been done.
- e) Negotiations had continued with the Dept. of Education & Science for a 50% grant towards the cost of the new Upper Pitts Headquarters. The Secretary's Report for 1966/67 had appeared in the September Journal before the news had reached us that the grant had been approved.

The adoption of the Minutes was moved by Mr. L.W.E. Devenish and seconded by Mr. R. Staynings.

The Hon. Secretary's Report for the Club Year 1966/67 was taken as read, as this had been printed in the previous Journal, but he raised the following points:-

- a) Prof. Palmer's geo-resistivity gear was under the care of John Church and he would welcome the assistance of anyone who had expert knowledge.
- b) The first Occasional Publication produced by the Club was on sale at the meeting. The paper by Dave Drew, Tim Atkinson and Colin High on Mendip Water Tracing had been produced and printed professionally and was on sale at 5/- to members.
- c) A Club Handbook was in the course of preparation. This could also be used as a Club Prospectus for new members.
- d) Ideas for raising the Club's half of the cost of Upper Pitts were to be sought for the guidance of the next Committee. The Chairman was investigating the possibility of a Club draw.

Discussion on these points followed. The problem of a draw would be distribution of tickets and recovery of money. If every member sold £1's worth of tickets this would bring in £300, but this would be reduced to about £200., by prize money and administrative costs. Most schemes for raising

money meant that members had to dip into their pockets. Possibly firms with whom we dealt might be persuaded to donate prizes. The best price for draw tickets was thought to be 1/- as 2/- would result in a lot of sales resistance. The methods of distribution, recovering money and unsold tickets, the capital expenditure required and, as an afterthought, the legality, were discussed. Mr. C.W. Harris said he would rather not answer questions about the legality and it was decided to refer the whole question of a Club Draw to next year's Committee.

The Club Journal, under the Editorship of Tim Reynolds, had been published five times during recent years and the President asked for views about whether this number of issues was sufficient. It was felt that four issues a year were insufficient as people got out of touch, and that there was sufficient material for six issues, or possibly five issues and an Occasional Publication. An insurance firm had shown interest in paying for inserts in the Journal and this would be pursued by next year's Committee, on the basis of guaranteeing four issues. There was a considerable minority feeling, -expressed by Mrs. Par Davies, against inclusion of any advertisements, apart from those directly related to caving, and in deference to this it was agreed to limit any advertisements to inserts. Other advertisements might detract from the Club's good name. The Journal Editor was asked to enlarge on the proposed change of format of the Journal. "This", he said, "was under review, but some alteration in methods of binding might prove necessary."

At this point the question of arranging Club Social meets in Bristol was raised. The Secretary pointed out that these had been arranged in the past, but that attendances had been erratic and that at one important meeting only three people were present. It was also observed by the Chairman that the greater proportion of club members lived away from Bristol. It was concluded that it was really up to Bristol members to arrange such meetings if they wanted them, and they could be advertised in the Journal.

Treasurer's Report The Club Balance Sheet was published for the Meeting. The Club expenses were slightly down on 1965/66. Journal expenses were £2 down as the Club had bought enough covers to last two years. The Journal costs were very little more when done professionally. The Auditor's Report was then read by Tim Reynolds as Howard Kenney was recovering from surgery and unable to attend.

Auditor's Report - year ended 30th September 1967

1. The Balance Sheet and attached Income and Expenditure account have been prepared from the Club's books of account and are in accordance therewith.
2. During the year, subscription income has not been handled with the necessary degree of care and the recording of subscription receipts was inadequate. At the end of the year cheques received in respect of subscriptions totalling £50.5.0 had not been paid to the bank but of these £24 has since been banked. The balance of £26.5.0 is in respect of out of date cheques which will have to be redated by the members concerned before they can be banked. This figure is shown in the accounts under the heading of debtors. It has not been possible, in the circumstances, to verify the figure shown in the accounts as subscription income, but from a comparison with the membership list and last year's income, the total figure for subscriptions appears to be close to what one would expect.

WE33EX CAVE CLUB

BALANCE SHEET

As at 30th September, 1967

<u>1966</u>				<u>1966</u>			
	<u>Hut Fund</u>				<u>New Headquarters Project</u>		
552	As at 1st October 1966	821	5	3	<u>Freehold Property - Eastwater</u>		
	Add Transfer from				Cost to 1st October 1966	124	4
	Accumulated Funds as per				Add: Materials used during		
75	A.G.M. 1966	400	0	0	year	<u>326</u>	<u>12</u>
107	Donations	232	7	10	Hut Fund Investments		450
58	Proceeds of Jumble Sale	21	6	0	Somersetshire Building		17
7	Proceeds of Raffle	2	6	3	Society 'P' Shares	1000	0
22	Interest on Investments	<u>32</u>	<u>6</u>	<u>7</u>	Cash at Bank and in hand	<u>58</u>	<u>14</u>
821							<u>1052</u>
				1509	11	11	1509
	<u>Survey Fund</u>				<u>Survey Scheme</u>		
	As at 1st October 1966	33	2	8	Stock of surveys at cost	13	12
	Add Profit on surveys sold in				Cash in hand	<u>25</u>	<u>1</u>
	year	8	4	5			
		<u>41</u>	<u>7</u>	<u>1</u>			
	Less Clinometer for Club use	<u>2</u>	<u>12</u>	<u>6</u>			
33							38
				38	14	7	38
	<u>Accumulated Funds</u>						
	As at 1st October 1966	660	8	7	<u>Current Assets</u>		
	Add Surplus for the year	<u>133</u>	<u>18</u>	<u>11</u>	Stock of goods for resale	54	16
		<u>794</u>	<u>7</u>	<u>6</u>	Debtors	27	15
	Less Transfer to Hut Fund	<u>400</u>	<u>0</u>	<u>0</u>	Cash at Bank	<u>253</u>	<u>2</u>
660					Cash in hand	<u>20</u>	<u>8</u>
				394	7	6	411
	<u>Current Liabilities</u>						2
20	Subscriptions in advance	8	2	6			5
-	Sundry Creditors	<u>8</u>	<u>12</u>	<u>5</u>			
				16	14	11	
<u>£1534</u>				<u>£1959</u>	<u>8</u>	<u>11</u>	<u>£1959</u>
							<u>8</u>
							<u>11</u>

1966

Hillgrove Hut Expenditure:-		
10	Repairs and Renewals	13 3 11
10	Rent	10 0 0
28	Heating	23 17 4
8	Insurance	7 12 2
5	Rates	5 19 7
61		60 13 0
Eastwater Hut Expenditure:-		
5	Rent	5 0 0
3	Lighting and Heating	14 4
1	Insurance	3 0 0
28	Tackle Expenditure	15 3 6
2	Club Dig & Georesistivity Project	3 2 0
167	Journal	157 1 11
1	Library Expenses	6 1 0
24	Insurances - Third Party	25 12 0
1	- Duplicator	13 6
65	Stationery, Postages and Telephone	57 18 0
4	Meetings Expenses	10 0 0
-	Bank Charges and Cheque Books	10 0
-	Lamb Leer Expenses	4 8 5
4	Cave Research Group	3 0 0
4	Charterhouse Caving Committee	5 0 0
2	Council for Southern Caving Clubs	-
-	Stretcher for Mendip Rescue Organisation	5 17 6
372		363 15 2
400	Excess of Income over Expenditure carried to Balance Sheet	133 18 11
£772		£497 14 1

1966

269	Subscriptions	245 15 5
21	Affiliation Fees	11 10 0
8	Entrance Fees	3 5 0
10	Donations	10 5 0
153	Headquarters Fees	137 14 3
11	Eastwater Hut Fees	7 5 0
3	Tackle Fees	2 4 6
4	Use of Duplicator	12 5 0
264	Surplus on Goods supplied to members	12 10 10
6	Journal Sales - Volume 1 Reprint	2 1 3
5	- Volume 8 Supplement	4 5 0
4	- Back Numbers	23 4 6
6	Profit on Dinner and Parties	8 14 10
7	Charterhouse Caving Committee Permits	7 13 6
1	Sundry Receipts	-
£772		£497 14 1

3. The Accounts should be read in conjunction with the notes attached.
4. Subject to the above, to the best of my belief the attached accounts fairly disclose the financial position of the Club."

Mr. L. Teasdale spoke of item No. 2 on the Auditor's Report, as follows:-

The system adopted by the Club was for the Treasurer (or Subscription Treasurer) to issue a receipt when a subscription was received, and enter the payment into the Accounts. At the end of a Club year the entries were checked against the receipts for balance. The weakness of the system was that the entry in the Accounts was technically a record of receipts disclosed and there was no real check of the subscriptions actually received by the Subscription Treasurer. This was a standard system used generally for small accounts. Normally a cross-check was introduced by checking against invoices and in our case there was the final check of the published names of members who had not paid the current year's subscription.

During the past year the Subscriptions Treasurer put some of the cheques received into a drawer and ignored them. Sometimes receipts were issued and sometimes not. Subsequent preparation of the Accounts showed that the total subscriptions accounted for were what would be expected. It was emphasised that there is no evidence of misappropriation or any other illegal act, and therefore maladministration alone was involved. The Committee's responsibility in this matter leads to two possible criticisms; firstly poor assessment of an individual in the particular appointment of this Subscription Treasurer (but this the Club must share since its members elected the Committee Member concerned), and secondly insufficient periodic checks on money income. The latter was always made difficult by the lateness of payment of subscriptions which drags out the procedure. The bank balance was checked at each meeting against last year's figures and found to be very comparable. Unfortunately, insufficient allowance was made for reduced expenditure, and the discrepancy gradually increased during the year.

The Committee had considered what changes could be recommended to prevent a recurrence. They had concluded that no system could be evolved to completely check on subscriptions received, and that we must assume the honesty and efficiency of the Subscriptions Treasurer. Members could help by insisting upon receipts, whether cheques or cash were sent, and of course by paying early.

Expenditure had been significantly lower this year, largely because we had not purchased any tackle while awaiting the incoming Tackle Officer's assessment and report which would be rendered to the next Committee. This report would recommend the expenditure of £50. per annum over the next two years. Mr. H. Ashworth proposed the adoption of the Treasurer's Report and Mr. Will Edwards seconded this. Mr. Howard Kenney communicated that £130 from the surplus might be transferred to the Hut Fund and this was agreed.

Amendments to Club Rule 8

On Committee recommendation the amendment was put: "that the subscription be raised to 30/- per annum". The amendment was to stand from the date of the meeting, so that if people had already paid this was their good fortune. The Club would not ask for the balance, but would not

mind receiving it. A further suggestion was made that after three months unpaid subscriptions should be doubled automatically, but it was pointed out that this made it cheaper to resign and then re-join. It was decided to leave it to the incoming Committee to consider any suitable penalty.

Mr. L. Holland asked if any one item of expenditure had necessitated such an increase? The Secretary replied that it had been advised by the Upper Pitts Committee because the income for the next two years covered little more than administration, and ready cash was necessary for buying materials for the new Headquarters.

It was further proposed to introduce Period Membership. This was to enable the Club to acquire sums of money now against membership fees over future years, viz. £7.10.0. for a five-year membership. This was hoped to bring in about £600, if forty-five members took advantage of the scheme. The building at Upper Pitts necessitated our raising £2,000 in the next two years. If we raised £600 by period membership it would leave £200 to be found from other club activities. Mr. L. Teasdale said that this was a method of calling on our future income and Committees in three to four years' time might well have to run the Club on a reduced income. Such a situation was a way of getting future members to help to pay for Club facilities. Mr. Phil Davies felt that the number of period subscriptions ought to be limited to a practical number, say forty or fifty, and Tim Reynolds suggested thirty as the maximum number we could accept without straining Club finances at a later date.

The increase in subscription and introduction of period membership were put to the vote and passed by fifty-three votes, with none against.

The Officers and Committee for 1967/68 were then elected, (see Journal No. 114). The President thanked the retiring Secretary and Committee and was pleased to note that Miss Jenny Murrell was joining the Committee.

It was hoped that Mr. Howard Kenney would continue as Hon. Auditor and he was proposed by Mr. Luke Devenish and seconded by Tim Reynolds.

A formal vote of thanks to the retiring Committee was proposed by Mr. Phil Davies, with special thanks to Mrs. Barbara Surrall, the retiring Treasurer. This was seconded by Mr. Denis Warburton. The retiring members were Geoff Moore, John Cornwell, Alan Surrall, Paul Duck, Jim Giles, Chris Hawkes and George Pointing.

The meeting closed at 5.15 p.m.

The Annual Dinner, held the same evening at the Caveman Restaurant, Cheddar, saw a record number of members and their guests present. It was a major highlight for the end of the Club Year. The coach from Hillgrove was packed by those wishing to enjoy an unrestricted evening of drinking!

THE NEW SURVEY OF READ'S CAVERN

W.I. Stanton

Introduction

These notes are prepared in accordance with the recommendations of the Mendip Cave Survey Colloquium, 31st August 1963.

The original survey of Read's Cavern was made by the discoverers shortly after they dug into the cave in 1919, and was published in the first issue of the UBSS Proceedings (1920). Professor Tratman recalls that it was chiefly concerned with the Main Chamber and the archaeological finds made therein. Side passages, including the way out, were mostly sketched in. The North point was shown about 20 degrees too far West.

Several small-scale modifications of this survey, with progressive additions to the side passages, were published in later issues of the UBSS Proceedings (1922, 1946 and 1963), None was basically more accurate than the original, and the penultimate one (by R.D .Stride, showing the lowest passages of Zed Alley) included a North point at variance with both the original and reality.

The impulse to make the present survey came from Howard Kenney's rediscovery of the Browne-Stewart Series, which had never been mapped. The work occupied six trips in February, March and April 1966, during which Howard, Jim Hanwell and Ian Standing were admirably patient stooges. It involved the setting up of 126 survey stations.

The floor of the Main Chamber, especially the west end, is one great boulder ruckle, and for simplicity's sake no attempt was made either to survey this or to show it on the plan and section.

The instruments used These were:-
Oil-filled prismatic compass graduated in degrees.
Metal-reinforced plastic tape 100' long.
Abney Level.
Watkins clinometer.

They were calibrated, mounted, read, etc., as for the "Caves of Cheddar Gorge" survey (WCC Journal 8 (103) pp 324-325, 1965). The "leap-frogging" technique was used throughout. The entrance passage and Main Chamber were surveyed with the compass and Abney level tripod-mounted, hence at Grade 6. In the rest of the cave the compass and Watkins clinometer were hand-held, and Grade 5 is claimed. Passage dimensions were recorded or sketched at all stations except in the boulder ruckles, giving Grade B detail, and making the survey as a whole Grade 5B-6B.

The altitude of the cave entrance was established by an unclosed Grade 6 traverse from the UBSS benchmark at Bos Swallet, leap-frogging with a Fibron tape and a tripod-mounted Abney Level.

Errors

Only one closure was obtained, from the Water Chamber down the Water Rift Series to Junction Chamber, and back via the Offshoot and Main Chamber, involving 33 legs in a length of 292'. The horizontal misclosure was 2.7' (0.9%) and the vertical misclosure 0.3' (0.1%). These figures are

similar to Grade 6 closures obtained using the same instruments in Swildons Hole and the Cheddar Caves. A longer traverse (c. 820', 73 legs) from the upstream end of Browne-Stewart via the Main Chamber to the wet squeeze at the bottom of Zed Alley was not closed through the final creep and too-tight rift, but the apparent voice connection that was made, plus the survey and account of the creep and rift by R.D. Stride (UBSS Proceedings 1946), suggest the closure shown on the plan and section which needs no changes in the survey data.

The error in the closed traverse was distributed round the Grade 5 portion of it in the usual way.

These and several other underground closures obtained with the same instruments and methods (e.g. the Cheddar Caves survey) suggest that the position error of any point on the survey relative to any other point is less than 1% horizontally and 0.5% vertically of the traverse distance between them.

Calculation and plotting

This was done as described for the Cheddar Cave survey.

Permanent survey stations

Five of these were established as described below. They are marked by a black triangle on the plan. A temporary benchmark in carbide smoke at the point 5000.0E, 5000.0N above the cave entrance was unfortunately removed by some preservationist before a permanent mark could be made.

EASTINGS	NORTHINGS	ALTITUDE	DESCRIPTION
4,890.6	5,027.1	486.8	Centre of 8 in the number 18 painted on wall in Water Chamber.
5,016.9.	5,045.9	469.5	Centre of 3 in the number 43 painted on north wall of Main Chamber.
4,933.9	5,059.6	482.3	Angle of 7 in number 27 painted on north wall of Main Chamber, high level.
4,868.0	5,075.5	468.7	Centre of 3 in number 13 painted on north wall of Offshoot.
4,971.3	5,062.8	347.2	Centre of shallow oval hollow in top of thin upright rock in streambed at corner.

Availability of the survey

It can be purchased in the usual way through the Cave Survey Scheme from T.E. Reynolds, c/o Yew Court, Pangbourne, Berks.

READ'S CAVERN

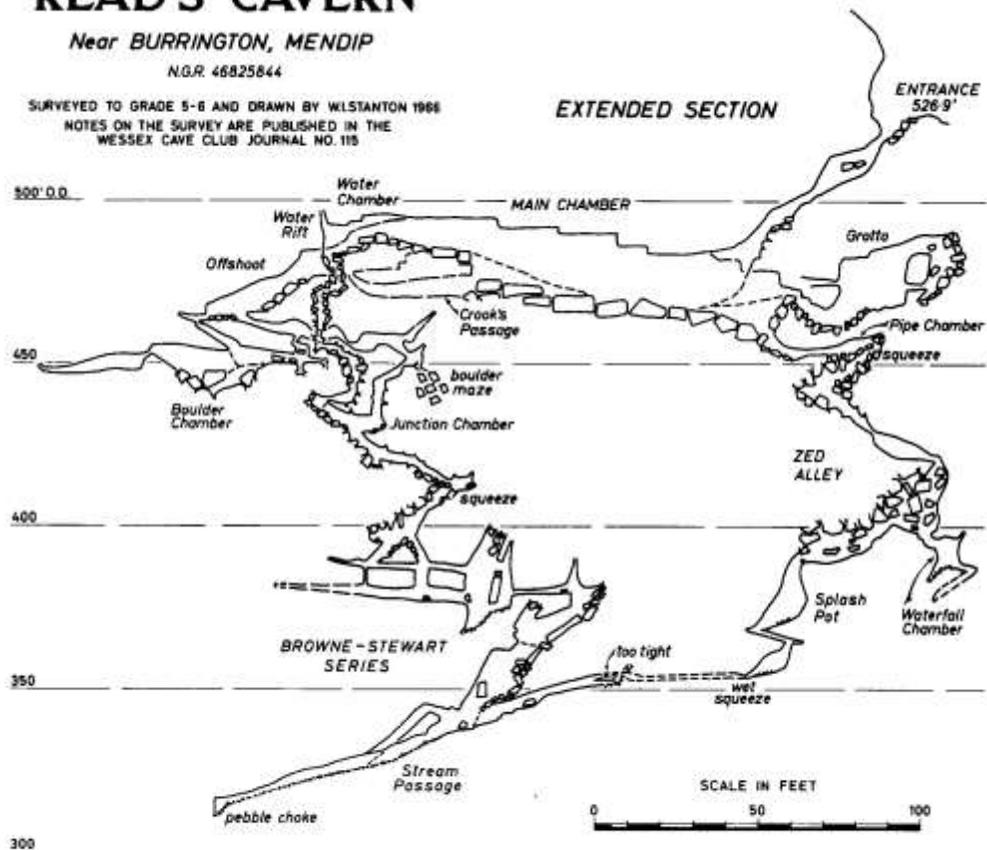
Near BURREINGTON, MENDIP

N.G.R. 46825844

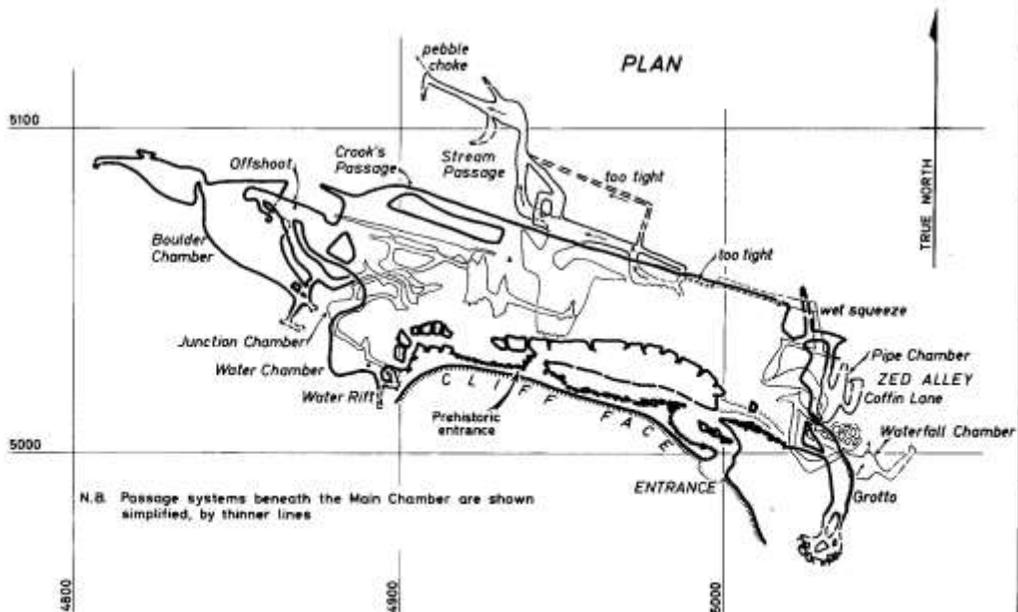
SURVEYED TO GRADE 5-B AND DRAWN BY WILSTANTON 1968

NOTES ON THE SURVEY ARE PUBLISHED IN THE
WESSEX CAVE CLUB JOURNAL NO. 115

EXTENDED SECTION



PLAN



N.B. Passage systems beneath the Main Chamber are shown simplified, by thinner lines

Read's Cavern statistics

Altitude of entrance 526.9' O.D.

N.G.R. of entrance 46825884.

Surveyed passage length 1,677'

Estimated unsurveyed passage in ruckles, say, 223'

Total length 1,900'

Vertical range 216.2'

Discussion

As revealed by the survey, Read's Cavern is more a boulder-choked pot than a cave. Following an unfortunate Mendip custom, the stream passage that drains the roomy vertical development is relatively very restricted, though handsome compared to similar features at the bottom of Pine Tree Pot or North Hill Swallet. Downstream this passage becomes completely choked by the Old Red Sandstone debris (cobbles and pebbles) that is a prominent feature of lower Browne-Stewart, and although a very big stream sinks there in wet weather it does not look an easy dig. Where the stream goes is still a mystery. Professor Tratman has dye-tested it several times without the colour reappearing at Langford or Rickford risings (UBSS Proceedings 1963, p.49). The former, where both the Burrington Twin Brooks and Bath Swallet resurge, is only half a mile away and would seem to be the obvious resurgence. Clearly perplexed by the negative dye tests, Tratty suggests (op. cit.) that the rising could be an intermittent spring at Saye's Lane north of Dolebury, but it is hard to believe that the Reads stream, of Swildon's size or bigger, could reappear in so ignominious a fashion. Another possible rising is the considerable Banwell Spring, which H.E. Balch believed to drain Banwell and Sandford Hills; it is however nearly four and a half miles from Read's. Here is a problem for Dave Drew. Whichever rising it is, the caver at the terminal choke of Read's has gone about half-way to it vertically.

The Main Chamber and the boulder ruckles beneath it are the result of collapse on a large scale, which has been and is being constantly promoted by the copious entry of acid waters from Blackdown, undercutting the ruckles. The form of the Main Chamber is due to its position along the axis of an important fold in the limestone, as described by Tratman (op. cit.). The roof is made of the almost horizontal strata on one flank of the fold, and the north wall by the steeply dipping beds on the other. The Main Chamber has migrated upwards and northwards as sapping from below has caused the collapse of successive shells of strata, and this probably accounts for its extending further north than the ruckles beneath it; If so there is little chance of finding a way on at the foot of the north wall. It has been relatively stable since a lot of the roof fell on the Keltic inhabitants 2000 years ago.

The phreatic origin of most of the low-level passages is still recognisable, but they have been modified to varying degrees by vadose action. The lower parts of Zed Alley are a phreatic network that has never seen a big vadose stream, for although the splash pots are roomy the tunnels connecting them are tight and awkward. Vadose modification has been even less at the west end of the cave. Apparently the main stream has always taken the middle course down to Stream Passage.

I should point out here that there is no proof that a connection between Lower Zed Alley and the upper end of Stream Passage, as shown on the survey, really exists. The evidence consists of (a) survey data, (b) a big stream can be heard at the end of Zed Alley, (c) when surveying in upper Stream Passage we were surprised to notice disembodied voices, complaining of discomfort, emerging from an impassable crack in the wall. They chose not to reply to our polite requests for information, followed in frustration by howls for rescue, but slowly faded away. We concluded that they must have come from Zed Alley, but it is not proven.

Read's Cavern is an attractive system which can easily be fully explored by small energetic persons in one visit. Some of the boulder ruckles are a little breath taking. Small and energetic but excessively short persons may feel that a 20' rope would help the climb down Splash Pot, but otherwise no tackle is needed. My only regret is that the plan is perhaps a little confusing due to the superposition of 3 or 4 passages in certain places.

Early Days in Read's Cavern
E.K. Tratman

In one of my more relaxed moments Dr. Stanton cajoled me into writing this account of the early days in Read's Cavern to accompany his account of the new survey.

When the U.B.S.S. was founded in 1919 the programme of activities, drawn out by the committee and largely by the first hon. secretary, Leo Palmer, included digging out the swallets at the site of the Fox Holes, now more generally known by the major cave as Read's Cavern, with the hope of finding the cave system from the swallet to the rising at Langford where the water was supposed to come out. As one of those induced to join the society after its foundation I took an active part. The east swallet was first attacked contrary to the advice of Reggie Read, who died earlier this year, who wanted us to dig near the west swallet where the hole that would have led into the Water Rift still stays open as a record of his activities.

But the boss, Leo Palmer, said we should dig the east swallet. And we did so. After removing several tons of material an open narrow, jagged-sided rift was found amongst the boulders. Overhanging this was a boulder that was quite unstable so one of us borrowed an ash tree from Mendip Lodge Wood and used part of it to prop up the boulder. Four of us, Leo, Bertie Crook, another and myself squeezed through the opening and forced our way down for about 30 ft. tearing our clothes to ribbons on the projecting fossils. There we reached a small chamber with nothing very stable about it and no very obvious way out of it. As we could not stand upright we naturally sat down to consider our position on the nice flat topped boulder forming most of the floor. As we sat down the boulder settled under us with a nasty crunching sound and loose material fell out of the walls. Just then shouts from above told us that the boulder over the entrance was slipping and if we wanted to get out we had better hurry, which we did and were out just in time.

Meanwhile Reggie had noticed at the foot of the cliff near the swallet a dip in the scree material. He had started to dig there while we were down the hole and by the time we had come up had made a tiny opening in under the cliff face and could see a passage leading off to the right, east. The opening was enlarged and as one of the ferrets of those days I was given the high privilege

of trying to go along it first. The floor and right sloping wall was loose limestone scree some of which promptly slid in and partly buried me. Groping by myself and others removed the larger stones and I could crawl on. After a few feet the scree sloped off up to the right, the site of the present entrance, and I was on top of a flat boulder with a dark hole going off under it. At that time the scree floor was flush with the top of the boulder. Some gardening was done and Leo and one other came along to join me. A rope was produced and I tied myself on with Leo acting as life-liner.

Under the boulder and down through the rift with some slipping on a scree slope. (It is nowadays difficult for visitors to this crave to realise how much very unstable scree formed the slope down to the main cave. After a bit more scrambling accompanied by curses from Leo for putting so much strain on his arm I found myself in the Main Chamber of what is now known as Read's Cavern. My only light was, of course, a candle and then for some inexplicable reason I had an acute attack of wind up. Perhaps it was the gleam of white stalactites at the far end of the Main Chamber that made me think of ghosts. I don't know just what it was. With an effort I controlled my panic but could not make myself untie the rope. Instead I reported that I was in a big cave and pulled down all the remaining slack of the rope and wandered around at the end of it. The extent of the chamber and its direction was realised, the opening leading down to what later was known as Zed Alley and the route to Crook's Passage were both noted. By this time the people up above were getting restive and I started back up. There was more slipping on the loose scree, more bad words from Leo, and I got up. My report on the discovery was greeted with reasonably well concealed incredulity and we walked back to Burrington to tea at a farm house and thence by push bike back to Bristol. During the ensuing week I was the subject of many cross examinations as to what I had seen for no one really believed that we had found a large cave and certainly not one that ran parallel to the cliff face as far as one could see with a candle light. This was Sept. 13th 1919.

The next Saturday of course showed us out there in force. A rope ladder was rigged to a spike hopefully driven into the scree slope and the party went down one by one. Indeed for the first two years descent and ascent was always made one at a time because of the loose stuff that was always being dislodged and it was not until a massive clearing operation had been undertaken that the present more or less safe descent was possible.

Reggie went off to the floor opening that had been noticed, did not like the look of it, and went round the side and on down only to shout up to us that he had found the bottoms of some old condensed milk tins at the bottom. These were in fact the four bronze bands subsequently shown to be the bands from a wooden tankard. Some pottery, a small iron sickle and decayed wood and some charcoal were also found. This was the first hint that this deep cave had been inhabited.

Bertie Crook wandered off keeping to the north wall of the Main Chamber and so entered what was promptly called Crook's Passage. At the far end he climbed up and we were quite surprised to see his light at the end of the Main Chamber, which the rest of us were still examining. He made the next find which he diagnosed as a human radius bone. This was lying covered in a thin film of stalagmite on top of a small flat pebble itself covered with stalagmite and sealed to the floor of the same material. Other finds on the surface of the cave floor of animal bones and potsherds proved on this first day that the cave had been occupied. The survey was put in hand

and gridded so that the position of all objects found could be fixed on the plan. Then began the systematic exploration and excavation.

The cave when first found was very beautifully decorated. There were attractive clusters of stalactites in several places in the Main Chamber and a whole series of long curtains ran down in long folds from the roof to the bottom of the north wall. A way to the Grotto through the stalactite grille was soon found but as we were loath to break this, unlike some of the many recent vandals, we looked around for another way through and found it in the floor of the cave. The Grotto was of indescribable beauty but nearly all the formations have been deliberately removed by vandals and the place is now a wreck.

The first part of Zed Alley was found and Pipe Chamber, so called because a member dropped his pipe through the floor on the way into the Grotto and it was found in this lower smaller chamber. Coffin Lane, so called from its good fit to the human body, was the little offshoot from Pipe Chamber ending in a stalactite coated small funnel leading downwards.

This took us up till October and as we then had no field H.Q. work was called off for the winter and the entrance filled in. There was a second reason for filling in the entrance. The boundary between two properties bisected the entrance neatly and we only had permission from one owner, Sir George Wills, to dig. Next Easter we dug the present entrance. The Easter camp was characterised as having nine and a half days rain out of ten days camp. We were also visited by the University chaplain. A portly gent. He arrived on the day we had got the new entrance open but not gated. He went down the cave. Coming up over the slippery mud sludge he was in difficulties. A rope was fastened round him and some of us pulled with a will. It was quite exciting. First, at the heave, came a wave of mud and then a roll of portly tummy. This was repeated several times and the chaplain was free. He never visited us again in camp.

Under the terms of permission to dig we were compelled to gate and secure any caves we found. So a concrete door frame was put on the entrance secured by an iron gate. The gate did not last long but the frame remained for many years till some idiot finding the entrance way partly blocked by a fallen boulder brought along a sledge hammer and broke up the upper part of the frame. Not content with this, though possibly not the same person, the lower part was also broken up to let the stone slide down. This was after the last war and typifies the stupid behaviour of some of the present day generation of cavers.

Between 1919 and 1925 steady progress was made with the exploration of the cave and its excavation. Zed Alley was explored to below the waterfall. It was Bill Langford and myself who did this together. After I had been down I let Bill down on a rope (it is much easier now). When he started to climb, to my horror I saw that the rope went round the edge of a thin large slab and this was pivoted in hinged-door fashion. Every time Bill put any strain on the rope the slab swung round alarmingly. Once he was up we both gave it a push with our feet and down it went with a crash.

The way back to the east swallet was found but has not, I think, been looked at again. There is very loose material at the upper end of this passage which goes off just short of the entrance to Crook's Passage. The Boulder Chamber was found and the maze constituting the Water Rift series was explored. On one occasion Bertie Crook and I were exploring after the rest of the party had left the cave. We carefully marked our route with little cairns but coming back we must have missed one and found ourselves in what seemed a new large cave. For a little we were worried but soon found that we had come back to the offshoot of the Main Chamber that leads to the Water Rift.

Also down at the bottom of the Water Rift series one early day a triangular opening was found leading through to an open space. The floor of the triangle had an awkward ridge and though I tried very hard I could not get through. Well it was a downhill slope of about 45° so I tried again, feet first, put my hands above my head, exhaled and slid in, losing a little skin off my chest in the process. Inside it was a matter of a step or so forward and I reported back that I had a solid rock roof and walls around me and there was an arch leading on. My recollection is that I said "This is it boys" and walked through the archway. I had just time to note that the walls and roof were solid and only the floor was scree and that one could go on when the whole floor began to slide under me with the stones going away like sand grains down a funnel. I came back through the arch rather hurriedly. Then of course I found I could not get out through the triangular opening. It is one thing to slide down and another to crawl up. I tried head first, no go. I tried feet first with my colleagues giving a good heave on my feet, no go. Tried again on front and back head first but no amount of help by pulling could get me out. So there we sat. I on one side and my pals on the other, while someone went off for a hammer and chisel. These arrived and a fresh snag appeared. Every time they hit the offending rock other bits of rock showered down from all around. Well eventually the half inch was taken off the ridge and I was pulled out. You know I have never been back there again but we had undoubtedly found an entrance to what is now known as the Browne-Stewart series.

On one occasion I can recall having to take the Professor of Geology, Professor Reynolds, round the cave. There were only the two of us. We had gone round the Main Chamber and were coming back down into Crook's Passage from the far, west, end. I dutifully showed Reynolds where the footholds were and turned to get out of his way. There was a sudden slithering sound behind me. I whirled round just in time to see the august person falling head first down the drop and I had a vision of one junior student and one dead professor down a cave and no help anywhere, for it was a midweek trip. But all that happened was that he went head first, with only a cloth cap to soften the impact, through a thick stalactite curtain and then against the wall. There was just a moment of dead silence, then he picked himself up and we decided to call it a day and go out of the cave and cycle back to Bristol.

In the course of the archaeological excavations of the cave it became clear that there must have been another entrance. It also became clear that inside the cave there had been massive rock falls all at one time which had ended the occupation. By painstaking investigation the prehistoric entrance way was located. Digging down from the surface confirmed this but the

prehistoric entrance was buried by no less than 15 ft. of cliff debris. As finally revealed the entrance way was quite easy. One just had to stoop to get in and just there there had been a door for the remains of the two door posts were found and close to the sill a latch lifter of typical Iron Age form though it was much smaller than the usual ones.

The single occupation level was covered in places by stalagmite up to 4 in. thick. Underneath was a black mire, the residue of fires. All excavations had to be made by the light of candles. It was exciting finding objects but perhaps one of the most exciting finds was made when I was exploring under the platform at the west end of the Main Chamber. Looking down a hole I could see an iron knife swinging on the handle rivets which just held it between two boulders. It was just out of reach. The problem was solved by three chaps lifting me up and lowering me head downwards through the hole till I could reach the knife. It turned out that hauling me back was not quite so easy.

The cave was, from the finds made, first called the Keltic Cavern, but as this name was unacceptable to the Ordnance Survey the name was changed to Read's Cavern and quite rightly so.

Finally the period of occupation was comparatively short. The period lies between 150-50 B.C. with the middle of the period being the most likely. The cave was quite well ventilated and lit till the cliff over the entrance collapsed, killing some of the inhabitants and sealing the entrance. At the time of the cliff collapse there were many boulder falls within the cave including the eastern end of The Bridge. There is still, 1967, some hearth material undug but it is buried by the talus cone at the foot of the present entrance slope. Those who see the cave now deprived of its beauty can have no idea of just how lovely it was when it was first discovered. But this, regrettably, is the fate of all caves left open to general access. In all these early explorations and excavations the only lighting available was candles. There were no such things as helmets and one learnt by painful experience to avoid knocking one's head on projections.

DISCOVERY OF BROWNE-STEWART SERIES, READ'S CAVERN

C.H. Kenney

The discovery of this series was first noted in the 1947-49 report of the Mendip Nature Research Committee of the Wells Natural History and Archaeological Society (page 39) by Pat Browne who was perhaps best known for the part he played in the discovery of Stoke Lane 2. He was later tragically killed in a climbing accident. His main colleague in the Browne-Stewart series exploration was Peter Stewart, who is still an active member of the M.N.R.C.

The report by Browne did not seem to make much impact on the caving world, partly because the U.B.S.S. members of the time were very sceptical as to whether anything new had really been found. This is not surprising for the description of the means of access to the new system was so vague in the report that it is doubtful whether it led to any visits being made.

The discovery and initial exploration was in 1947, but in 1948 Browne persuaded me to join him in a more detailed examination. We dropped down between boulders in the Water Chamber through a reasonably stable boulder maze until we reached a chamber which is now known as Junction Chamber. A small hole in the floor of this chamber gave access to two further squeezes and then we found ourselves in what was obviously an unvisited boulder maze. Everywhere small debris lay on the boulders and every time we moved hundreds of other things seemed to move as well, and when one stopped things went on moving for several seconds. I found it an unnerving experience and although I was interested in seeing what had been discovered I made up my mind that it was one of those places a little too dangerous to be worth revisiting. So it was that I forgot the Series until William Stanton became intrigued by the M.N.R.C. report and happened to comment on it to me.

Stanton and I visited the cave in 1966 and we quickly located the entrance to the boulder maze leading to Junction Chamber. Standing in the Water Chamber and looking towards the "Water Rift" (which connects with the West Swallet referred to by Prof. Tratman) one can see the letter K painted on the wall and also a figure 18. Between and below these two archaeological survey marks is a hole in the boulders. Descending this hole, the route is down at every opportunity between rather rough boulders and in places is rather small and awkward. A final squeeze leads to Junction Chamber, which is obviously an end point for many parties judging by the initials on the walls. This final squeeze (which is probably the one which troubled Prof. Tratman) had to be enlarged on a subsequent trip to allow Jim Hanwell to pass. Jim did not favour this "Water Rift Series" route to Junction Chamber and on the way out he found an easier route which comes out in the "Offshoot" opposite a figure 13 painted on the wall. This route has the appearance of being more often used than the "Water Rift Series" route.

The way on from Junction Chamber is a slot in the floor at the lowest point in the centre of the chamber. It seems to be larger than I remember it in 1948 and perhaps has been worked on by later visitors, or is it just part of the ever changing scene of this cave?!

A few feet further on there is a much tighter squeeze, followed by an even tighter one. The first squeeze defeated William Stanton and it seemed obvious to me that very few cavers could have passed this point unless they were good ferrets. I was now in a little-visited cave for every time I moved there was a chorus of rattling pebbles. This time I was not as apprehensive as on my earlier visit 17 years before, for experience had taught me that all new caves can be alarming in this way. But still, too many of the boulders seemed to be in a state of unexplained levitation and I was anxious to pass on to the solid rock passages which I remembered were somewhere ahead. I called back to William that I would just make sure that this really was the Browne-Stewart system and I carried on down through the boulders until I reached a horizontal drain pipe going left and right. From the right came the sound of falling water and a strong draught, and to the left it was choked with mud after only a few feet. But curiously the draught carried on along the drain pipe instead of going up by the way I had entered as one would expect. It is hoped to dig out this passage to see where the draught goes for it may be an upper way to the continuation of the main stream found further on in the system. After a few feet there is a drop to a parallel tunnel and also another entrance to the boulder maze above. This second and lower tunnel leads to a short pitch by way of a squeeze and I remembered using a rope here on my earlier visit with Browne. I thought I would try and manage without and lowered myself at arm's length, but my feet would not reach the floor. I could not see what was below and I hung there for several minutes pondering what to do. Then in a rash moment I let go and fell half an inch! Since my last visit a scree slope beyond had settled and the drop was now 2 or 3 feet less and easy to climb. My enthusiasm now had the better of my common sense and I climbed up the scree slope and on into the next drain pipe. This drain pipe was blocked when Browne first entered it and it is reasonable to assume that he was the first to enter the Stream Chamber beyond. After the confinement of the tunnels and boulder maze the Stream Chamber is quite impressive,, A steep descent over boulders and a scree slope brings one to the main stream. Browne called the scree the "chattering slope" because for some time after passing, it continues to chatter as the scree settles. Conditions were wet on Blackdown and the stream was impressively large. For this reason I could make little progress downstream in comfort and when my acetylene lamp went out I began to realise I should not have come so far alone. Returning to the Stream Chamber, I relit my lamp and decided to return. But could I find the little tunnel which led back to the boulder maze? I searched and searched, bringing down a boulder at one stage. Eventually I resigned myself to being rescued and sat down to wait for the Mendip Rescue Organisation. After a while I began to imagine the inevitable press interview and the question - "Now Mr. Kenney - how did you as an M.R.O. Warden find yourself in this position?" I searched again and almost immediately found the way and returned to a relieved William Stanton who was busy counting up to 1,000 before calling out M.R.O. He was up to 800!

Another day we returned to the Series with a hammer and chisel and accompanied Jim

Hanwell and Mike Thompson, the object being to complete the exploration and begin the survey. The first squeeze was soon widened enough for all of us to pass but the second squeeze was more difficult. I chipped away from below but decided to stop when I realised that things other than what I was chipping were falling.

William and Mike could now pass, but Jim had to resign himself to the fact that he was not the right shape. The exploration was completed and the survey begun. Voices were heard at the upper end of the stream and were assumed to be from Zed Alley. The downstream passage was explored and found to be badly choked with pebbles, and seemed to divide into a network of passages. It does not look a promising dig. The stream was much lower than on the previous visit and is only large when the stream is high enough on the surface to be sinking near the prehistoric entrance shown on the survey.

The survey did not result in any new discoveries, but it was interesting to be in the vicinity of the Waterfall Chamber in Zed Alley when quite suddenly the waterfall started. When we left the cave it was raining and the stream was sinking near the entrance where it had been dry when we entered.

There remains one unanswered question. Was the system visited between 1949 and 1966? Some of the litter seems to indicate that there were some visits, but the amount of loose undisturbed debris makes it clear that visits, if any, were few. Do any readers claim to have been there?

A trip to Read's Cavern can now be both energetic and entertaining if one explores both Zed Alley and the Browne-Stewart series and the possibility of following the stream further is intriguing.

NORTHERN NOTES

Gary Pilkington

Sunset Hole Incident

18 years old Eric Lockhurst died in Sunset Hole, Chapel-le-Dale, on October 7th 1967. Lockhurst died only minutes from the entrance, whilst being cheerfully carried out on a stretcher by rescuers. The call-out came after he had fallen while attempting to ascend the 40ft. pitch in the final chamber of this moderate pot. Confusion in communication between Lockhurst and the other three members of the party was considered the cause of the fall. Apparently the deceased had started to climb back up the pitch without first ensuring that the lifeliner was fully aware of his intentions, presumably because of the high water conditions and noise in the cave at the time. Death was brought on because the lungs of the deceased were punctured by three fractured ribs.

The Calf Holes Incident

On October 14th four cavers had a very lucky escape when torrential rain caused a tidal wave of flood water to sweep through the system. The only means of escape was up the 30 ft. Daylight Pitch, which was laddered but unclimbable due to the water. A farmer heard their cries for help and dashed off for an old rope from a nearby farmhouse. With this, and the assistance of other cavers who happened to be there at the time, he managed to haul the youths out of the shaft.

Black Shiver Pot

Yet another University of Leeds Speleological Society Brook Bros, first! The hole is situated on Black Shiver Moss between Meregill Hole and Tatham Wife Hole on the North West flanks of Ingleborough.

The main features of the system are a seven inch high crawl and a two hundred foot plus pitch.

New Extension to Disappointment Pot

Early last year Derek Tringham and yours truly, whilst on a tourist trip to G.G. via "Dis", noticed a high level passage on the return trip to the surface. Nothing was done at the time, but it was investigated later on the 28th October 1967 by a party of Bradford Pothole Club members consisting of John Green, Peter Gray, Tony Blick and myself. The first aven was climbed to a height of thirty feet to a rather awkward crawl which brought us through into a second aven with a passage visible at the top. The second aven is also about thirty feet high but as yet has defied all attempts to reach the passage at the top.

Mosssdale

Permanent memorials have now been erected at the cave and in Coniston churchyard. Since the disaster cavers in the north have certainly been more cautious, but as someone so aptly put it

"People will never forget the tragedy, let's hope that no-one ever forgets the cause of the tragedy".

Foot and Mouth Disease

In view of the November 1967 outbreaks in the north of England the whole of the Dales National Park was declared a restricted area. Cavers have been requested by the police to refrain from caving, fell walking, climbing or any other activities which involve leaving the main roads. The ban has remained in force to the present time, and so, like most other caving areas, the winter of 1967-68 will be a "blank spot" on the records.

LETTERS TO THE EDITOR

British Speleological Expedition to Rumania 1968,
Organisers: Queen Mary College Caving Society,
(University of London),
Mile End Road, London E.1.

Dear Sir,

Our society is organising a month's speleological expedition to Rumania in the summer of 1968. As you might know, Rumania is virtually virgin caving territory. Although the Rumanians have their own speleological institutions in Cluj and Bucharest, these institutions are only interested in the cave sciences and not just exploration.

Visiting the Hateg area last summer several new finds were made by two Bristol cavers*. There was a limit to what they could do on their own, however. The purpose of the expedition is three-fold; first to explore Şura Mare; secondly to dive Şura Mic; and thirdly to explore the area for other caves. No cave digging has been done and many smaller cave entrances have never been entered.

Notes: 1. Şura Mare 40 metres high and 10 metres wide entrance, which is a resurgence with a sizeable river running throughout its known length. Most of the exploration requires waist deep wading. The distance explored by the Rumanians is 1½ miles while the distance explored by the two British cavers was 3 miles, the limit of which brought them to an enormous chamber (now called Mendip Chamber). The height of this chamber could not be seen and the width was about 300 ft. It is hoped to use this as a camp for further exploration in the cave.

2. Şura Mic Resurgence. Last year a 20 ft. waterfall was passed which led to a sump from which a river emerged. The size of the sump is approximately 40 ft. x 20 ft.

We intend to do as much exploration as possible as well as surveying, photography, geology and biology. The cost of the trip should be £30 - £40, all in. Please contact me if you are interested in joining this trip.

Yours caving,
John Dolman (Wessex member), Hon. Sec. Q.M.C.C.S.

* See article by Tony Oldham in this Journal.

Dear Sir,

Cavers looking out for some good caving are recommended to join an Italian expedition to Sardinia in August 1968. The English contingent of the 1967 "Italo-Belgo-British" Expedition (Fred Barwick, Tim Gilbert and John Fisk from Derbyshire) have already done some caving here including abseil/prussik exploration of shafts and pushing a boulder choke in the impressive stream passage of S'Edera, and demonstrating (unsuccessfully) the British tradition of free diving new sumps naked.

The Italians have been exploring this area, inland from the Gulf of Orosei on the eastern side of the Island, for six years, but there must be a lot more to be found in these impressive limestone ranges. Prospective visitors are really recommended to go in May or June, when it would be tolerably cool, and when there is a considerable reduction in the ferry charge, enabling one to take a Land Rover rather than go by bus and "thumb" as we did. Further information about the August expedition can be obtained from our most helpful host, Lodovico Clo, Unione Speleological da Bologna, Via Castiglione 24, Bologna, Italy.

Yours, etc.
Tim Gilbert and A.D. Barwick.

Dear Sir,

Cambrian Cave Registry

An increasing number of Mendip cavers are actively caving in South Wales and, because the size of the Welsh caving area is so vast, Registrars cannot hope to keep up to date records unless they receive co-operation and information.

I should like to appeal for such co-operation from any persons reading this note. Anyone with knowledge of, or information about, a site not mentioned in "Caves of Wales and the Marches", "The South Wales Sump Index" and South Wales Caving Club Newsletters, is requested to contact me.

The area of my responsibility is the Northern Outcrop; west of, and including, the Hepste Valley.

Yours, etc.

Noel Christopher,
106 Van Road, Caerphilly, Glam.

A CAVING HOLIDAY IN RUMANIA

Tony Oldham

Introduction

To many people the name Romania or Rumania conjures up visions of the gay 1920's when Ruritania was synonymous with romanticism, or perhaps some would think of the legends of the Count Dracula leaving his grave every night, sweeping terror through the land. But in reality Rumania is a country of industrious and friendly people, bordered by the U.S.S.R., Hungary, Yugoslavia, Bulgaria and the Black Sea.

We found the people to be extremely hospitable, and were really overwhelmed by their generosity. At every village where we stopped somebody invited us to stay in their house, in fact they had difficulty in understanding that we preferred our van to sleep in. The farmers genuinely felt honoured that we should want to stop in their fields, so different from camping in England!

The main roads in Rumania are very good, with tarmac surfaces and little traffic, but once off the main roads conditions are not as good. Few of the roads are tar-sealed and they quickly degenerate into potholed tracks which are either very dusty or very muddy, according to the weather. Cars in Rumania are very expensive and for these two reasons most Rumanians travel on foot. Cavers visiting this country should be prepared for a lot of mountain walking in very remote areas where there is no provision for cave rescue.

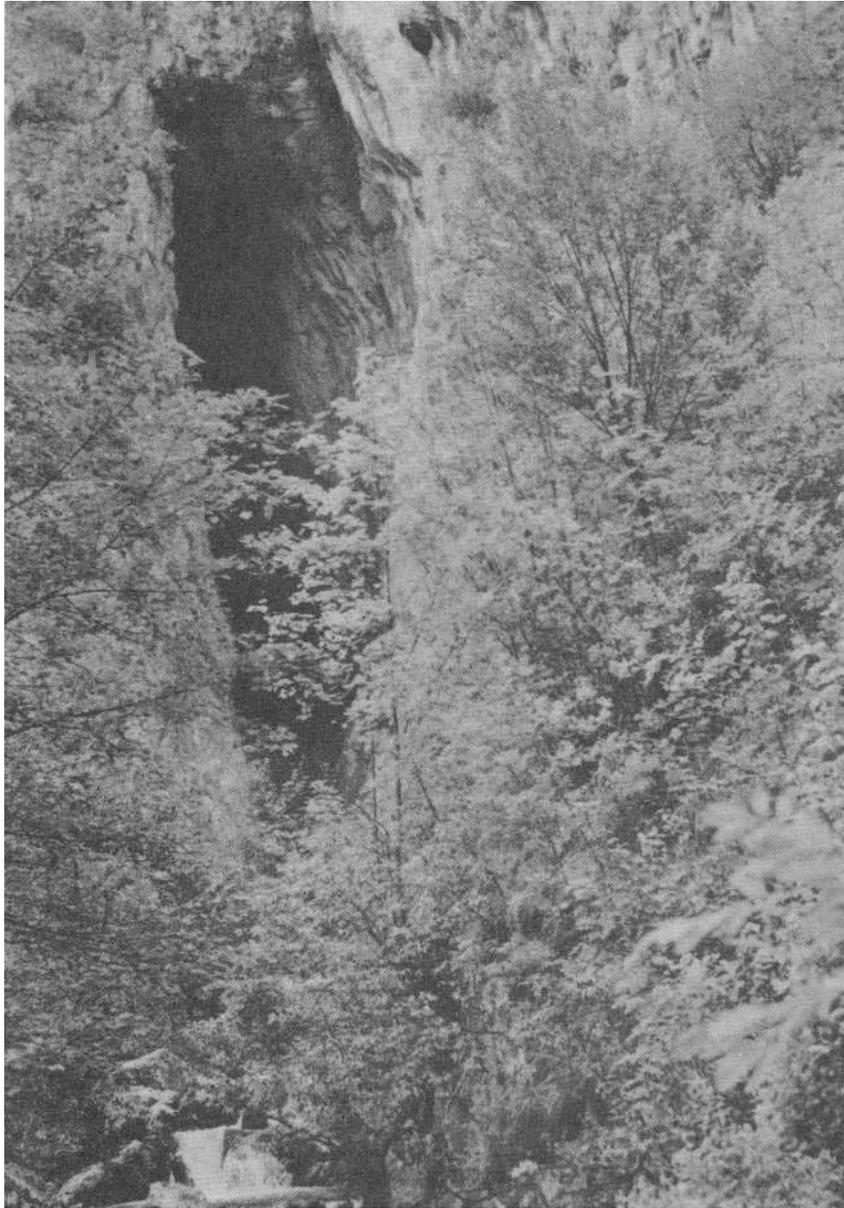
There is very little organised caving in Rumania as we have here in England. Most of the work of a scientific nature is carried out by the Speleological Institutes at Cluj and Bucharest. On a previous visit in 1966 (Refs. 1, 2 and 3) over 20 caves were visited, of which two Peșteri (Peștera = cave; pl. Peșteri) Șura Mare and Șura Mic were considered to warrant further investigation. These caves are situated about 2 km. apart and about 2km. from the village of Ponor, in the sub-district of Pui, district of Hațeg, county of Hunedoara (in Rumania the terms commune, sat, raino and Regiunea are used). On the previous trip we had also planned to visit Peștera Tecuri but this had fallen through due to lack of preparation and bad weather, so this cave, as well as Peștera Scărișoara was also included in our 1967 Itinerary; the latter because of its spectacular reference in literature.

I was accompanied by my wife and J. Dolman, to whom I am grateful for the advice and assistance they gave with this article.

THE CAVES

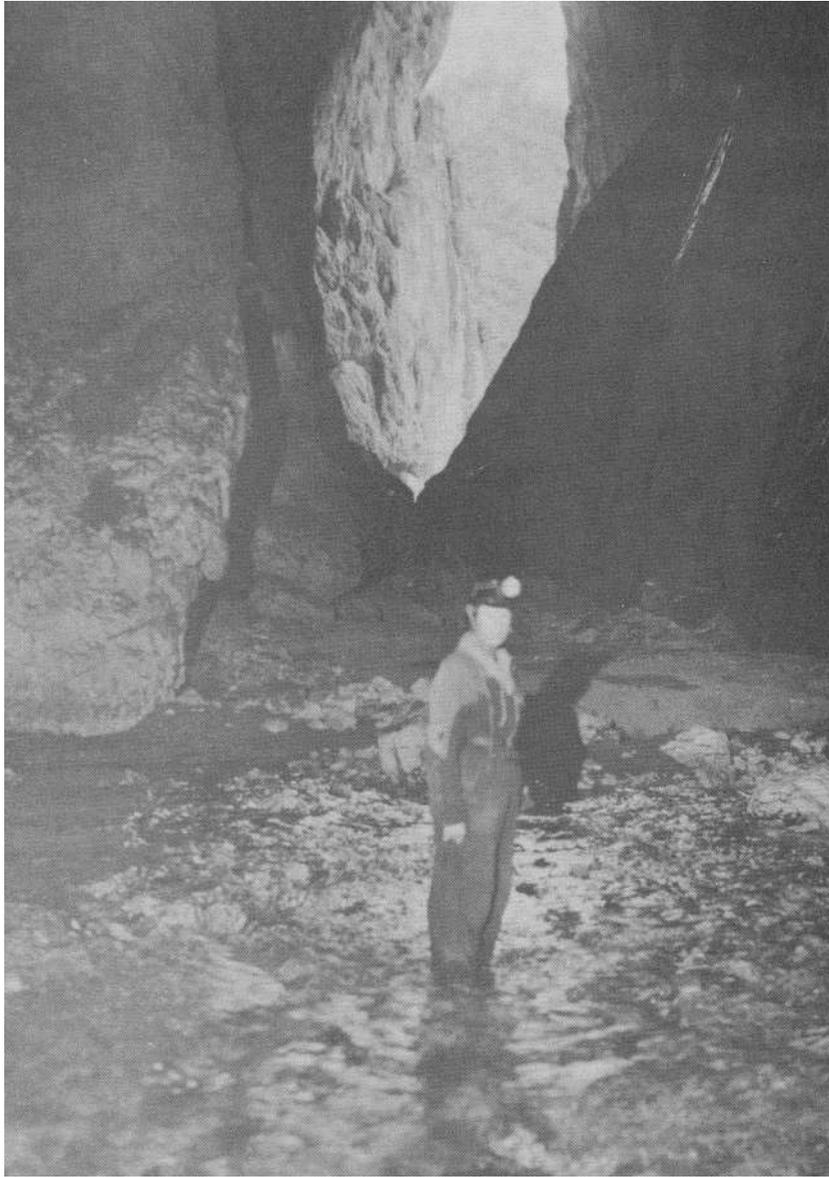
Peștera Șura Mare

(Șura is a simple type of cattle shed and consisting of four poles and a roof, hence Șura is a place where cattle could shelter from the rain. Mare = large).



The 120ft. high entrance to Peștera Șura Mare,

Photo by A.D. Oldham.



Looking out of the entrance to Peștera Șura Mare.

Photo by A. D. Oldham.

The cave is situated at the end of a 500 metre long wooded limestone ravine which has a rushing stream pouring down it. The upper end of the gorge is roofed over to form the cave entrance, an impressive sight, 40 metres high and 10 metres wide. The roof is about the same height throughout the section of the cave which we visited and is never less than 30 metres above the floor. The width fluctuates from great chambers of 40 metres and more across to stream passages 1-3 metres wide.

Just inside the entrance the stream forms a wide pool across the passage. This is where the wading begins. The route into the cave lies between the wall and a large block. The struggle against the stream is just a taste of what is to come. The transformation of the wide, gently flowing stream into such a raging torrent by the closing together of the passage contrasts with the tranquillity of the water as the streamway opens up again. Soon one emerges into a vast chamber. To the left is a large cone of earth, about 20 ft. high, on top of which are hordes of bat skeletons, the remains of the cluster of 60,000 Pipistrelles which inhabit the cave in winter (4), although at the time of our visit there were only a few in the cave.

The cave turns to the right and then to the left; daylight disappears and wading commences again. The silt on the bottom of the stream is a little disconcerting. One sinks up to one's knees in places.

Approximately 500 metres from the entrance the canals begin. This was the limit of last year's trip, when chest deep water deterred the solo explorer. This year we were prepared for all eventualities. We carried ropes, flippers, face masks and an inflated rubber tyre, as well as food and photographic gear.

In we plunged, chest deep, neck deep and (gulp) a little deeper, but with careful steps it was possible to find a route that was more or less chest deep. The bed of the stream was alternately rock and then sand. In places the water was only knee deep. Thus the canals were negotiated and soon another large chamber loomed into sight. This lay to the right (It should be noted that the terms right and left refer to the respective sides of the passageway entering the cave and going upstream and not to the downstream direction as in general geographical terminology.) of the main passage and was over 40 metres high and about 40 metres in diameter, near the roof, with a slope of small boulders going up at an angle of 45° from the streamway. On the left, above the stream, hung an array of stalactites about one metre long, the most noteworthy so far.

Soon we reached our first "Mushroom", a name we coined for the gigantic stalagmite draperies which hang down partially blocking the passage. The base of the "Mushroom" represents an old water level which in this case was about 1 metre above the stream.

The next landmark was an inlet passage on the right-hand side of the streamway. A small stream entered, emerging from a small crawl over a series of pretty red gours.

We continued on upstream, the first major obstacle being a huge "Mushroom" 10 metres high, completely blocking the passage. The climb over the top looked possible, but difficult, and certainly a tricky prospect to reverse, so we investigated at water level. A short wide duck led to a small chamber and another duck. ADO went on but soon came back spluttering. It went on but

it was tight. The force of the water and the stalactite projections from the base of the "Mushroom" caused additional difficulties. John Dolman tied on to the line and attempted the second Duck, only to be confronted by a Sump. In the true traditions of our legendary heroes he plunged in leaving a quaking ADO wondering what he would tell his father. Soon came the reassuring voice over the top "I'm through" and "it goes". We set a deadline of 10 minutes and JD reconnoitred upstream whilst ADO attempted to climb over the Mushroom. The stal was quite hard and rough and not too difficult to climb, only the exposure was unnerving. In the open it would only be classified as Moderate, but ADO decided that the Sump was the lesser of the two evils.

In the meantime JD returned and decided to attempt to climb from his side, only to find a passage-way going down to the streamway again. A nasty duck with roof pendants was the only obstruction. An inspection of the top of the boss revealed a mound of spent carbide. We later learned that the Rumanians had got this far by boating upstream and scaling the Mushroom on a marathon 24-hour surveying trip.

Leaving the rubber tyre and other oddments behind we made good speed upstream. The next landmark was an opening on the left side of the passage. It was about half a metre in diameter at water level and emitted a small stream of water which felt much colder than the main stream.

The water was quite deep in places, especially beneath the waterfalls, the largest of which stood 2 metres above the water surface. Fortunately there was a dry gully up the side, otherwise we should not have been able to climb it against the force of the water. Taking into account the depth of water in front of the fall, the true height was probably in the region of over 4 metres.

Two more "Mushrooms" produced spectacular ducks which proved quite exciting when we were returning. You just had to hold your breath and let the water do the rest and you were quickly swept through. However, in the upstream direction they proved quite exhausting, wet crawls against the force of the water.

Now the scene changed, the stream disappeared beneath huge boulders and the passage became wider, over 40 metres high and 70 metres wide.

Chamber No. 3, or Mendip Cavern, as we later called it, was an imposing sight, our lights barely picking out the walls, yet this cave still went on with the stream roaring in the distance.

It had taken us two and a half hours from the entrance. If one allows half an hour for delays at the sump and the waterfall we had been travelling continuously for two hours. We estimated that our speed was one mile per hour, hence we had covered two miles, or three kilometres. A very conservative estimate in our opinion.

Now was the time for turning back. Our return journey, although easier, travelling with the stream, would be longer as we wanted to stop for photography. We put the inner tube to good use on the way out. We sat on it and floated downstream until it punctured against the wall of the cave. Our slower return journey gave us more time to examine the cave in detail. The rock is very crystalline, a form of limestone which is almost metamorphosed. We also noticed a basal

layer of breccia and how the hard bands of rock formed waterfalls.

It took us 3½ hours to reach the entrance and one hour to get back to the van, but already we were planning an assault for next year, with a stronger party. Who knows, we might even be able to do a through trip, the engulfment is only 4 km. away as the crow flies, from the resurgence.

Peștera Șura Mic

(Mic = Small). The entrance to this resurgence is similar to Șura Mare but on a slightly smaller scale, being only 30 metres high. There is no entrance gorge and only a comparatively shallow valley leading up to the cave. The river bed contains large deposits of tufa, which in many cases have been excavated and used in building the local school and nearby houses. We predicted that this deposition indicated a large flooded zone in the cave, a prediction which unfortunately appears to be correct.

The limit of last year's exploration was approximately 100 ft. inside the entrance, when we were halted by a 5 metre high waterfall. This is made even more difficult by a "bottomless" pool in front of it, which had to be by-passed by a narrow ledge.

Dolman had really come prepared for an all-out assault on the waterfall, with Pitons, Karbs, slings, Piton Hammer, the lot. Being the tallest I hammered in the first peg as high as I could reach. The stal was quite old and the peg went in fairly easily. Being the lighter of the two JD clipped the ladder on to the peg and climbed up. He hammered in a second peg and going great guns he hammered in the third. He clipped on and started to bang in the fourth, and fell over backwards. Fortunately the other pegs did not come out and he managed to get back on to the ledge without getting a soaking.

Having anticipated this pantomime, I had asked the girls to borrow a ladder from a nearby farm and Eney happened to arrive at this opportune moment.

Within seconds we had gained 3 metres, and another 5 minutes work and we were in the passageway above the waterfall. We followed the streamway over a couple of small cascades to a chamber with a duck. This was a little difficult to negotiate as the water was over 2 metres deep and the mud floor sloped down steeply. JD swam through whilst ADO was towed through on a hand line, floating quite happily in his goon suit. To the left the passage continued a short distance with deep water to a sump which we were unable to locate. The way on was through a small tube leading upwards. This led to a small boulder-strewn chamber. The tubes and roof pendants suggested that this cave was normally flooded.

On the way out we bottomed the pool, with Dolman's Nife Lamp tied to a lifeline. It was on an average 5 metres deep.

We learned later from our colleagues at the Institute in Bucharest that this cave contains a flooded lower system, the existence of which had been proved by the use of fluorescein. Fig 1 shows the hypothetical path of the flooded zone.

Peștera Tecuri

We still had vivid memories of last year's trip, of walking for miles in the pouring rain, carrying tons of equipment, without finding the entrance.

This year we kept our equipment to the minimum and hired a horse to carry it. ADO had visions of riding the horse at the head of a procession, meekly followed by his wife leading a train of helpers. However, after most of the gear was loaded on to the horse there was barely enough room for the ladder and the lifelines.

The journey involved a three hour walk up a wooded mountain, in sweltering hot weather. Although we were just carrying cameras we were very relieved when we finally arrived at the cave.

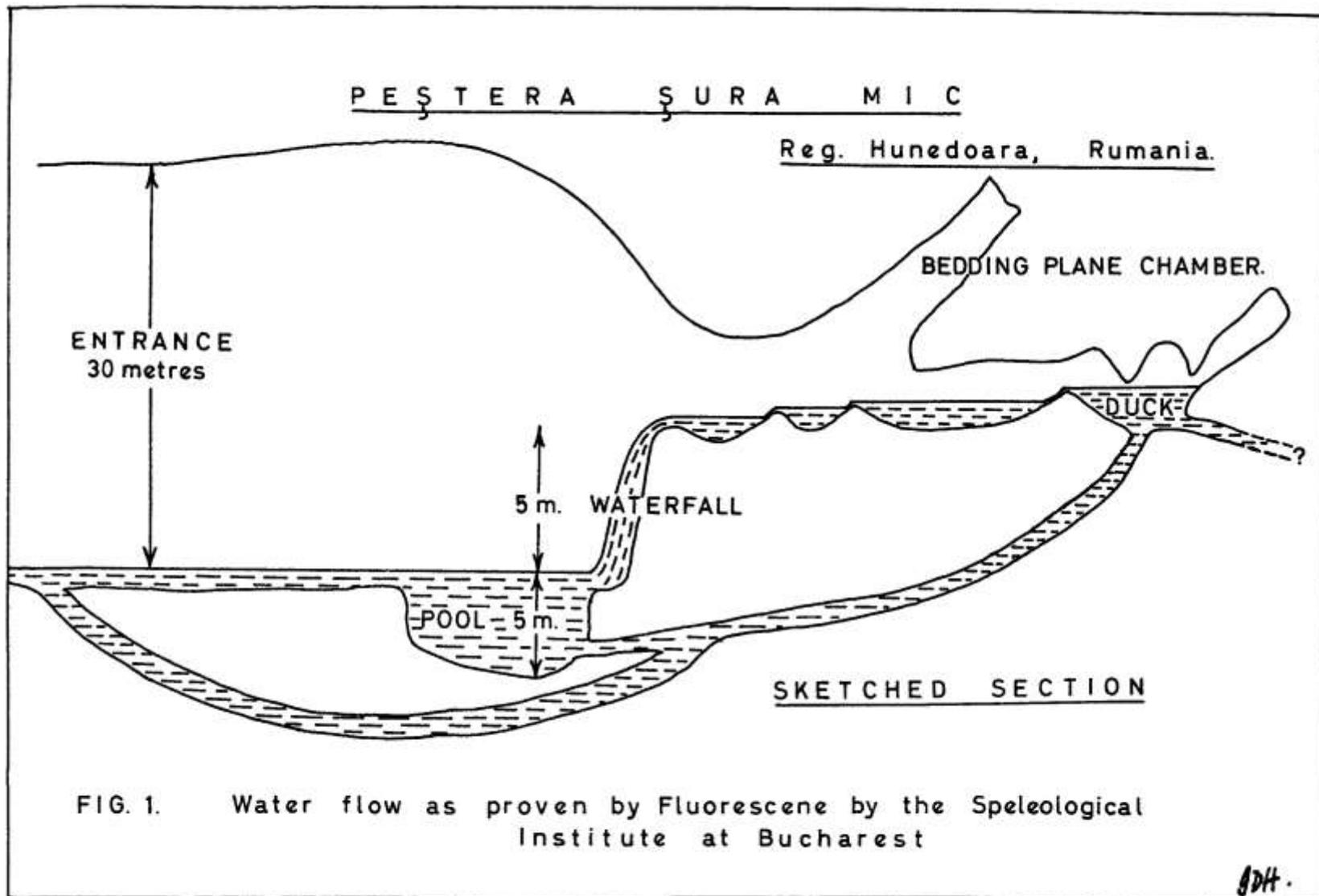
The entrance is a shaft about 30 ft. deep and 8 ft. in diameter. The literature quotes 3-4 metres deep! However, we were not to be caught out so easily. We convert the metres to feet by multiplying by ten, then we know our ladders will be long enough. (Try it yourself, continental cavers always underestimate the length of ladder pitches.) The shaft contained wooden steps in an advanced stage of decay. This inconvenienced us on the ladder. From the foot of the ladder two ways lead off. To the left is a flooded section, and to the right the main cave. The passage narrows down to about 1 metre square, where it is blocked by a gate. Ah! Home from Home, just like Mendip! It appears that the key to this gate had been lost. We were the first party to visit the cave for 10 years or more, but fortunately the forester who was with us had his axe with him so the gate soon swung open.

Through the gate the scene changed and we were soon in a large descending chamber which was 7 metres wide and 14 metres high at the lowest point. The formations were all dry at this point, but nevertheless very impressive. The way on was through a "squeeze" in the stal formations which led to a pretty grotto with a roof covered with calcite flowers. A short climb up brought us into another large chamber, a continuation of the first chamber in effect, separated from it by stalactite formations. This chamber was in turn split into three smaller chambers by two rows of stalactite columns formed along a joint, but regrettably with many broken formations scattered about.

We pushed a squeeze at the end of this chamber which brought us into a passage barely 1 metre high. Here we found a rather unusual formation, a cluster of transparent straw stalactites growing at all angles, flat against the rock wall! We were not the first in this section as the spent carbide showed. Although this cave is scheduled as a natural monument we were surprised at the amount of vandalism in a locked cave. The broken formations showed an unusual cross section as they consist of large and very shiny crystals.

Ghețarul de la Scărișoara

(Ghețarul = The Glacier). Situated high in the Apuseni Mountains (alt. 1200 metres) and a four hour drive from Cluj, this cave is surprisingly easy to find. The only difficulty is the state of the roads, most of which were built during the last war and have degenerated into rough gravel tracks more suited to Land Rovers than cars, although most large vans with a good ground clearance can manage them. Only the last 10 km to the cave is really desperate with short 1 in 6 gradients, hairpin bends and a surface composed of boulders about the size of a fist.



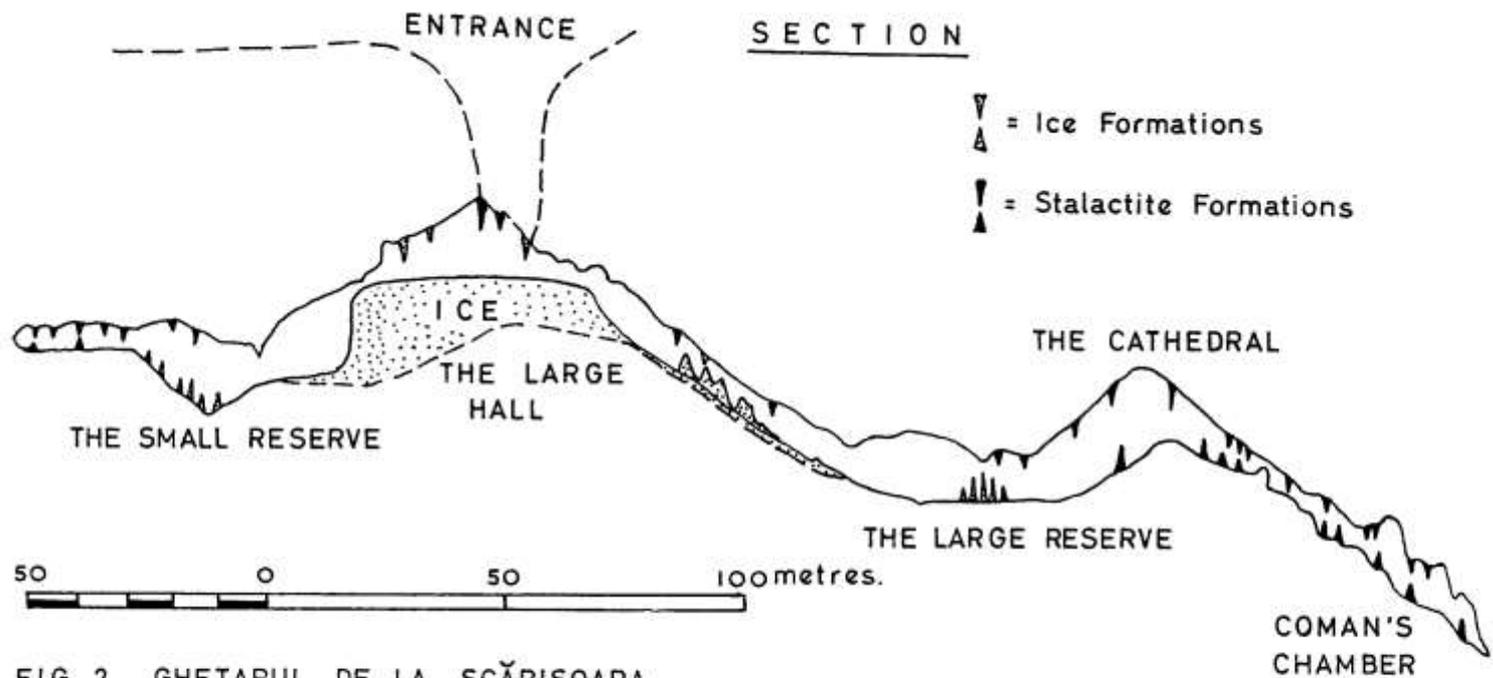


FIG. 2. GHEȚARUL DE LA SCĂRIȘOARA,
 Apuseni Mountains, Rumania.

Reprinted from *Lucrările Institutului de Speologie „Emil Racovița”* T.4. opp. p. 106.

București 1965. with kind permission. Surveyed by M. Șerban, D. Coman, R. Givulescu, I. Viehmann.

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The track ends at the mountain hamlet of Scărișoara which consists of 5 or 6 wooden chalets, one of which is used by the Speleological Institute at Cluj as a caving hut, the rest being peasant dwellings.

The cave is about ten minutes walk through the woods. Our guides, Dr.M. Serban and his colleague from the Institute, had a wealth of knowledge and enlightened us with many unusual facts. I had wondered how the early 19th century traveller had managed to find such an inaccessible cave, but it appears that it was quite well known to the locals as they frequently resorted to using ice formations as drinking water in times of drought. All the descriptions of the cave (5, 6, 7, 8) referred to a 45 metre aven or entrance shaft and we were relieved to learn that the upper part of the cave was commercialised and had quaint wooden steps leading down to the glacier, although, due to its inaccessibility, it was not frequently visited by many tourists.

A descent of the steps leads to the glacier, a large area of ice 50-55,000 m³. To the north west is "The Church", a chamber 30m by 40m, containing numerous ice formations. This is still part of the tourist route. The steps cut in the ice leading down into the chamber seem very exciting for tourists as they are very slippery. To the north east is the "Small Reserve". This is reached by a 20m ladder pitch down a vertical wall of ice. To the south east a 45° ice slope which we descended on a 20m ladder and a 20m hand line, tied on the end, leads to a large chamber 45m wide and 20m high with a splendid selection of ice formations. There is also an unusual sight, a selection of stalactites nearby. Scattered about was various scientific apparatus, water collecting samples, painted stones to ascertain the movement they make when revolved by water dripping from the roof, and apparatus for growing artificial stalagmites.

Further on in the cave we saw colonies of cave beetles feeding on salami. This beetle *Pholeuon proserpinae glaciale* Jeann can survive even at this low temperature of 2° - 5° C.

The way on is through a crawl between a stalactite grill. This leads to the final part of the cave, Coman's Chamber, named after the discoverer. It contains a splendid array of stalactites, stalagmites and curtain formations.

Then, all too soon, the cave ended in a boulder choke.

We returned to Cluj via Cîmpeni and Turda, a slightly longer route which encompasses more tarmac road, and is therefore a little more preferable.

Whilst we were in Cluj we visited the Speleological Institute founded by Racovița, the first of its type in the world. As well as containing the usual laboratories it also had a section set aside as a museum to the late Emil J. Racovița, the instigator of Rumanian "Biospeleology". It contains his desk set out as it would have been while he was using it and all his various certificates and diplomas were hung around the walls. A selection of his notebooks and apparatus he used in the field were also displayed. The dark room that he designed so that one could walk in from daylight without a door via a set of light traps also attracted our attention.

We were most impressed by the meticulous method in which the great man worked and the wide field that his researches covered, not only that of cave biology but oceanographical and general

biological studies.

In this short article I have written all too briefly about our travels and have said nothing about the many people we met and the friends we made. To these we owe a great debt of thanks for all the time and trouble they took on our behalf and for their generous hospitality. In particular I would like to mention Miss Elvira Malina and Miss Dita Jura for liaison services. The Jura family for their hospitality, Dr. M. Șerban and his assistants for so ably guiding us to and around the caves, Dr. Coman for her hospitality, Dr. Orghidan and Dr. M. Dumitresco of the Speleological Institute in Bucharest for their help and kindness, and many others too numerous to mention.

The Apuseni Mountains was a new area for all of us and holds out great possibilities for further exploration.

There is, in fact, a large cave running beneath the lowest part of Peștera Scărișoara, which we hope to visit next year.

In the Hateg region we hope to return and push Șura Mare to its engulfment whilst further south we are planning a reconnaissance of some deep shafts in the Mount Retezatului region, and have great hopes of exceeding the world depth record.

Why not join us?

Epilogue 19-1-68.

After having told the Speleological Institute in Bucharest about our discoveries in Șura Mare they organised a joint Yugoslavian - Rumanian team to explore the cave. They confirmed the new length of 3km (9) and they are planning a large international expedition next year.

Since this article was written another paper has appeared on the caves of this area (10). It describes, with surveys, Șura Mare, Șura Mic (called Pegtera lui Cocolbea) and Tecuri.

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BOOK REVIEWS

Shepton Mallet Caving Club Journal Series 4 No. 3, June 1967. 21pp survey price 2/- (postage extra) from the Hon. Editor: R.D. Craig, 31 Cranbrook Road, Redland, Bristol 6, or B.M. Ellis, Knockauns, Combwich, Bridgwater, Somerset.

The SMCC Journal never fails to produce a selection of interesting articles and the present issue is no exception. The first article is entitled "Expedition Planning and Associated Problems" and is by L. Parsons, a mountaineer and a member of the three month Munjan Expedition to Afghanistan. All the information is relevant to caving and should be very useful for those who are planning caving trips abroad.

"A New Survey of Holwell Cave" by B.M. Ellis briefly describes some recent finds and compares some of the older surveys with the latest one.

"Hyatt's Hill Cave; Preliminary Report" by R. Haskett describes a very interesting dig on Eastern Mendip. The work is proceeding in a very promising manner and appears to be at the point of a breakthrough.

The Journal also includes two reviews, the CRG Lancaster Hole and Ease Gill Caverns publication and the Pengelly Studies in Speleology.

A good two bobs worth.

ADO.

International Journal of Speleology Edited by G. Claus, R. Husson and G. Nicholas. Vol. II part 3, pages 229-308. 12 pages plus 60 pp. News and Reviews. Published quarterly by J. Cramer, 3301 Lehra, Germany. Subscription DM80 (£7.4.0) per annum.

This issue contains 7 articles, 5 in French, 1 in English and 1 in German, abbreviated to FR, Eng., and Ger. after the titles in this review.

"An Appreciation of the late René Jeannel" (Fr.) by Constantin Motas, 29 Boulevard Prof. Dr. Marinesco, Bucharest 35, Rumania. Jeannel, though a Frenchman by birth and a doctor of medicine by profession, is thought of by the Rumanians as one of themselves, in view of the vast contribution

he made to biospeleology, especially in conjunction with Emil Racovița and P.A.Chappuis.

He was introduced to the world of speleology in 1904 by an old friend of his father's, and on his first trip in the then unexplored cave of Oxybar he collected two unknown species of Coleoptera, which were subsequently named after him, *Bathyscia Jeanneli* and *Aphaenops Jeanneli*.

After such an auspicious start, Jeannel realised where his life work lay. One person who had a very great influence on the life of Jeannel was Emil Racovița. In 1905 Jeannel accompanied Racovița and his wife to some caves in the French and Spanish Pyrenees, where they discovered further unknown species of cave dwelling animals. This was the first of many epic trips by Jeannel and Racovița.

In 1907 Jeannel and Racovița founded "Biospeleologica" and Jeannel's first great thesis "Revision des Bathysciina" was published in 1911.

His work was only interrupted by the first World War, but in 1920 after demobilisation, he reached a further climax in his career, when he was made Deputy Director of the world's first Speleological Institute founded by Racovița in Cluj, Rumania. Here he published many of his famous works. His association with Racovița continued for over 40 years and even today their names are inseparably linked in the world of biospeleology.

His speleological explorations took him to countries as far apart as the United States of America, Africa and the Antarctic. Everywhere he went Jeannel left behind him an impression of joviality and good humour coupled with a passionate devotion to his research.

This appreciation is concluded by a chronological list of Jeannel's 510 publications, dating from 1905 to his death in 1965.

"The Crustacea from the 'Swiss Fountain' Reservoir at Dijon" (Fr.) by Bernard Dussart (Centre de Recherches hydrobiologique du C.N.R.S., Gif sur Yvette-91), François Graf and Roger Husson (both of the Laboratoire de Biologie Générale, Faculté des Sciences, 2 Boulevard Gabriel, 21-Dijon, France). The authors list the Crustacea collected in May 1962 from the 'Swiss Fountain'. There are five species of Copepods: *Macrocyclops albidus*, *Eucyclops serrulatus*, *Acanthocyclops venustus*, *Acanthocyclops vernalis* and *Acanthocyclops robustus*. The simultaneous existence of the last two forms in such surroundings suggests that there are, in this habitat, two distinct species. There is also an explanatory key on *Acanthocyclops* and a section on Amphipodes.

"A New Species of *Niphargus* (Gammaridae, Amphipoda) from Bulgaria" (Ger.) by Stoitze Andreev (Institute of Zoology and Museum of the Bulgarian Academy of Science, 1 Boulevard Ruski, Sofia, Bulgaria). The author describes a new species of *Niphargus*: *Niphargus toplicensis* n. sp. from the spring of "Toplitzata" near the village of Mussomischta (district of Goze Delcev). This new species is similar to 5 others in the same genus but has certain anatomical differences by which it may be identified.

"Description of a trap for catching *Niphargus*" (Fr.) by François Graf (Laboratory of General and Animal Biology of the Faculty of Sciences, 2 Bd. Gabriel, 21, Dijon, France). A device is described which will capture *Niphargus* in deep waters. No handling or surveillance is necessary because the amphipods are caught automatically.

"Hurleya kalamundae n.g.n.sp. (Amphipoda, Gammaridae) from subterranean waters of Western Australia" by Milan Straskraba (Eng.) (Hydrobiological Laboratory, Czechoslovak Academy of Sciences, Praha (Prague)). A description is given of Hurleya Kalamundae, a new genus and species of freshwater Gammaridae (Amphipoda) from the subterranean waters of Western Australia. The genus apparently represents a deviation from the normal line of the Grangonyx group of Gammaridae.

"The Subterranean Hydracariens (Watermites) of Bulgaria 1. Mideopsis (Nudomideopsis) motasi n.sp." (Fr.) nu Anelva Petrova (Institute of Zoology and Museum of the Bulgarian Academy of Sciences, 1 Boulevard Ruski, Sofia). A description is given of a new species of Watermite which was found in a well in the village of Gorni-Ciflik in the district of Belogradcik, north west Bulgaria. This species is compared with two other groundwater specimens from Europe and a Japanese species.

"Cave Dwelling Diptera collected in Bulgaria" (Fr.) by Anga Burghel-Balacesco (Emil Racovița Institute of Speleology ,Strs, Dr. Capsa 8, Bucharest 14, Rumania). The author presents a list of the Limnobiidae, Mycetophildae, Anthomyidae and Helomyzidae species collected in the caves of Bulgaria, mainly during the third International Speleological Expedition in 1963.

"News and Reviews" (Eng.) Totalling 60 pages and averaging 3 reviews or abstracts to the page, this is the largest that this section has ever been. The reviews encompass publications from all parts of the world and bring to the notice of the general reader those publications of which he might otherwise have been unaware. For example one interesting book which will probably excite some interest is "Opere alese" the life works of Emil Racovița, especially in view of his great association with Jeannel, an appreciation of whom is also included in this edition of the Journal.

A.D.O.

Catalogue of the Chiroptera in the Collection of the British Museum by George Edward Dobson, M.A., M.B., 567 pp, index 30 plates. Reprinted 1966 by Wheldon & Wesley, Codicot, Herts, and Verlag J. Cramer 3301 Lehre, Germany, at £9.

The publishing house of Cramer in Germany have carried out a great service to science by reprinting this very rare catalogue of bats.

First published in 1878, the book enumerates 2,666 specimens. Although this catalogue probably only contains a fraction of the known species, 100 years later it is still the standard work in this field.

The reprint incorporates a photographic process, so that the text is faithfully reproduced, word for word and comma for comma, as in the original. Margin notes clarify obscure points, and correct the terminology to present day standards.

The descriptions are both profuse and learned, making this book an invaluable reference work.

A.D.O.

1965 C.T.H.S. Expedition to Mendip and South Wales, pp and diagrams.

In 1965 a group of five cavers from Chelmsford Technical High School won a scholarship of £175. from the Ford Dagenham Foundation Trust to finance a five-week research project in the caves of Mendip and South Wales. Their researches covered Biology, Meteorology, Geology and Surveying, the results of which have been carefully delineated in this report, together with personal accounts of the caves which they visited, the photographic techniques they employed and the experiments with a long wave transmitter which they carried out.

The preparations for their expedition are also described, with diagrams, showing the methods used for the construction of their ladders.

Every year one hears of numerous expeditions taking place, but rarely are their findings published in such a comprehensive form. It is therefore most pleasing to see a permanent record made of this type of work.

Stationen der ältesten Kunst: Im Land der Steinzeithöhle (Stations of the Oldest Art : In the Land of the Stone Age Caves) by Franz Eppel 131 photographs, 75 illustrations, 128 pages. Published by Anton Scholl & Co., Wien & München at 168 Austrian Schillings.

Have you ever tried in vain to find a cave in a foreign country? Well if it is a painted cave you are seeking in Southern France or Northern Spain you need look no more because this book will tell you exactly where the cave is situated and just how to get there. The book is illustrated with numerous pictures and little maps and surveys which will either tell you where the cave is situated or what the cave looks like. With Teutonic efficiency an introductory paragraph gives clear directions how to get to the cave by either train, by road or on foot.

Where relevant the length of the cave and duration of the trip are given, together with such details as lighting (electric lighting or acetylene lamps), the frequency of visits and the number of engravings or paintings.

Certainly the visitor is not likely to need direction to get to Lascaux or Mas d'Azil, but for the more obscure caves like Bernifal, La Vache, Grotte d'Enfer & Cougnac it will be invaluable.

Palaeolithic Cave Art by Peter J. Ucko and Andree Rosenfeld. 256 pp 86 photos, many in colour and 28 colour drawings 6½" x 5". Published in the World University Library series by Weidenfeld and Nicolson London, 1967, at 14/- soft cover and 25/- hard cover.

There are many books on Palaeolithic art. Most of these (aimed at the non-specialist) are picture books designed to attract the buyer, as a souvenir to help recall the wonders which he has seen for himself in the caves accessible to the casual visitor. However this book has an additional aim, it attempts to show why Stone Age hunters went to considerable lengths to decorate rock shelters and caves. The views of the early workers are represented in some detail. These show how the approaches to Palaeolithic art have changed with the changing attitudes to prehistoric archaeology and to primitive people.

This has culminated in the rejection by modern authors of the comparative approach of the classic workers and their replacement by a more analytical method.

The authors are very critical of modern workers, in fact they conclude this book by saying that perhaps many Palaeolithic representations were made for reasons which still today totally escape the modern observers. After all, who could explain the art of modern society purely by observation?

A.D.O.

"THE BRITISH CAVER" Vol. 43, April 1966, 100 pp, 10" x 8". Printed and published by Gerard Platten, "Rotherfield", Fernhill Lane, New Milton, Hants., at 10/- post free.

Thirty years ago Gerard Platten published the first "British Caver", then known as the "Journal of the Mendip Exploration Society". I doubt that he envisaged himself as continuing to publish it in 1966. It is a considerable achievement to keep a "one man" publication going for so many years. Its aim throughout has been to publish any material of use, or interest, to cavers, gleaned from its many contributors and the speleological literature of the world, which pours through Platten's letterbox.

The present volume contains the usual rich miscellany of articles, from "prusiking" on the 40' at Swildons, to caving in Cuba. There is also a considerable amount of Welsh news, which will doubtless be of interest, particularly as the opening of the Severn Bridge gives better access to the Welsh caving areas from Mendip. Any gourmet wishing to sample snail soup can also find where to obtain it on Mendip, though I don't see it rivalling the popularity of the beverages dispensed at the "Hunters"!

This publication has always made generally available much information that is otherwise scattered throughout the smaller club journals, whilst remaining independent of sectarian influence, and is always stimulating reading. Long may it continue!

"RADIANT DARKNESS, THE WONDERFUL WORLD OF CAVES" by Albert Bogli & Herbert Franke. 10¾ x 8¾", 84 pp. 72 photographic plates, mostly full-page, with 40 of them in colour. Published by Geo. G. Harrap, London, W.C.1. at 63/-.

Originally published as "Leuchtende Finsternis", at Berne in August 1965, this superb book is magnificently illustrated by photographs taken by the joint authors. It has certainly the finest published collection of cave photographs that has yet come my way, illustrative of all aspects of speleology. Many of them would take first prizes in any photo salon.

The incredible beauty of the ice caves is difficult to imagine for those of us accustomed to the more prosaic delights of British caves. Even the fertile imagination of the cave guides of Cheddar would, I think, find it impossible to conjure up adequate superlatives and resemblances for the revealed splendours of frozen water underground.

More mundane aspects of speleology are also illustrated, the muddled disentanglers of electron ladder have all my sympathy, and I share that satisfaction of the well earned snack of plate 33. Among such a superb collection it is difficult to single out any for special mention, but the one

entitled 'Underground River', also reproduced on the dust jacket, is very evocative.

The source of the photos are the caves of Continental Europe, Austria, Czechoslovakia, France, Germany, Greece, Switzerland and Yugoslavia all being represented.

Many cavers are asked the question 'Why?' - this publication should go a long way towards providing an answer, and probably some converts as well! However, it is not merely an album of 'pretty' photos, the text is concise, informative and very readable, dealing with all aspects of cave research, exploration, formation and photography, the latter being particularly interesting in view of the many examples of the proven excellence of their technique.

Necessarily in a book of this size, intended for the layman as well as the enthusiast, it does not go into great detail. However, one detail might well be copied in other works, and that is the excellent information contained in the legends of the photographs, printed separately at the end of the book, amplifying the captions and giving the cave location, together with any information needed to understand the photo fully.

Altogether a most excellent book and, having regard to its quality, not expensive. Even its title is well chosen, its aptness dawning as one peruses the pictures. Together with the previously published 'Cavecraft' it provides an excellent nucleus to a caving library. Dare I hope that, having produced two such fine books, the publishers decide to make it the 'hat-trick'?

"DEPTHS OF THE EARTH" Caves and Caverns of the United States by William R. Halliday, M.D. 8½" x 5¾", 398 pp, 68 photographs, map, glossary. 1966. Published by Harper & Row, New York and London at \$7.50.

American caving books do not enjoy a very good reputation among the "Speleobibliophiles" (O.E.D. please note!) of this country. Their prolixity, and over-dramatization, of caves and their exploration, leave a feeling that the "spelunker" of the U.S.A. is a rather infantile character, not to be taken seriously, which is difficult to dispel.

However, this book is far better than the usual American production; although the "purple patch" is occasionally evident, it is throughout readable and interesting. Dr. Halliday, a Seattle surgeon, has endeavoured to give a picture of the caves of the U.S.A., a task to make the doughtiest quail. Obviously only a proportion of the better-known and celebrated caves can be dealt with in 398 pages. Certainly there is no comparable British book, as yet, and any would-be Author would be well advised to peruse this well-planned book before undertaking one.

One feature, however, leaves a great deal to be desired - the "maps" of the various states, which are 3" x 4" outlines of the state boundary lines, with the cave location as a number, the key to which is printed below. No geographical features of any sort, not even major cities, are indicated and they would have been better left out altogether for the use they are.

The facts it contains are as varied as the American continent itself. George Washington is surprisingly revealed, by an authenticated inscription dated 1748 in a Virginia cave, as the nation's first notable cave explorer, while Thomas Jefferson published the first cave plan, of Madisons Cave, in 1784 in his "Notes on the State of Virginia".

Among many excellent photos is one of the "world's highest underground balloon ascent", at Marvel Cave in Missouri. Surely worthy of a prize as the world's most unlikely record? Inevitably included is a photo of Floyd Collins' boots and lamp - although the account of his death in Sand Cave is well told.

As with a recently published continental book, the sizes, both of caves and stalagmitic formations, confound the imagination, leaving the current British paradise, South Wales, far behind. The ice caves also provide some good photographs. There is an interesting chapter on rappell and prusik techniques currently in use, in which the Americans are much better versed than ourselves, though possibly these developments are more suited to American caves.

All in all a very good book, quite the best general book on American caves that has come my way. At the moment they seem remote and inaccessible, but who knows, perhaps Concorde will do for the U.S.A. caves what the Severn Bridge has done for the South Wales ones!

G.A. Roberts