

CLUB NEWS

OFFICERS AND COMMITTEE FOR 1968-1969

President:	F.W. Frost.
Vice Presidents:	M. Norbert Casteret, Rev. C.H.D. Cullingford, Mr. C.W. Harris, Com. P.B. Lawder, Mr. H. Murrell, Dr. E.K. Tratman, Dr. F.S. Wallis.
Chairman:	J.D. Hanwell.
Hon. Secretary:	D.M.M Thomson.
Asst. Secretary:	R.J. Staynings.
Hon. Treasurer:	T.E. Reynolds.
Gear Curator:	P.R. Cousins.
Committee:	S. Causer, M.W. Dewdney-York, A.E. Dingle, Miss J. Murrell, H.A. Pearson, R.A. Philpott, G. Pointing, L.M. Teasdale, J.A. Thomas.
Auditor:	C.H. Kenney.
Trustees:	F.W. Frost, C.H. Kenney, P. Davies, J.D. Hanwell.

APPOINTMENTS AND DUTIES FOR 1968-1969

Members are strongly urged to direct any specific queries to the appropriate person in the following list of appointments for the current Club year:-

- 1) Hon Secretary: D.M. Thomson.
Pinkacre, Leigh-on-Mendip, Bath, Somerset.
Internal Club Policy
Liaison with other clubs and outside organisations
- 2) Caving Secretary: R.J. Staynings
8 Fanshawe Road, Hengrove, Bristol 4.
Phone: Whitchurch 3689.
Arrangements for official Club Caving Programme.
Access to controlled Mendip caves; keys and C.C.C. Permits.
Applications for membership.
- 3) Hon. Treasurer: T.E. Reynolds
23 Camden Road, Southville, Bristol 3.
Overall finances of the Club
- 4) Subscriptions Treasurer: A.E. Dingle
32 Lillian Road, London, S.W.13.
Payment of Annual Subscriptions

- 5) Hut Warden: M.W. Dewdney-York
Flat 2, 11 Southleigh Road, Clifton, Bristol.
Hut accommodation and bookings
- 6) Journal Editor: J.D. Hanwell
“Chaumbey”, 50 Wells Road, Wookey Hole, Wells, Som.
Articles for publication and matters concerning the Club
Journal and Occasional Publications.
- 7) Journal Distribution: P.R. Cousins
3 Kinver Road, Sydenham, London, S.E.26.
Distribution of Journals.
- 8) Librarian: C.J. Hawkes
10 Christchurch Road, Clifton, Bristol.
Holder of Reference and Lending Libraries
- 9) Technical Projects
Organiser: H.A. Pearson
129 East Dundry Road, Bridge Farm Estate, Whitchurch, Bristol 4.
Research Projects, Club digs, etc.
- 10) Sales Services
Organiser: S. Causer
The Cottage, Rectory Lane, Timsbury, Bath, Som.
Sales of Club stocks of ties, badges, carbide, neoprene,
Nife and Edison cells, etc.
- 11) Gear Curator: P.R. Cousins
3 Kinver Road, Sydenham, London S.E.26.
Maintenance and Construction of Tackle
- 12) Survey Scheme and
Journal Sales: T.E. Reynolds
23 Camden Road, Southville, Bristol 3.
Sales of Cave Surveys and Club Publications
- 13) Upper Pitts
Headquarters: P. Davies
“Morley”, Silver Street, Nailsea, Bristol.
Co-ordinator of building works, and authorisation of
expenditure on behalf of the Committee
S. Causer
Site organiser and consultant

Details of the Upper Pitts Sub-committee will be announced later.

A duplicate copy of the above list has been inserted with this issue of the Journal. When writing to any of the officers do remember that, should you require a prompt reply, an addressed and suitably stamped envelope will help considerably. This is more than ever important now that we have a two-tiered postal system, and can save the Club a great deal of postage over the year of course.

During the week after the Club Annual General Meeting and Dinner official confirmation was received from the Department of Education and Science that we had been awarded a grant of £1,918 towards the construction of Upper Pitts. This figure is half the total cost estimated to complete the building. At the time of writing the builders have inserted most of the window frames and the walls around them. If this progress continues we should be able to start work inside on the jobs we are able to do early after Christmas. A lot of help from members with practical skills and experience will be needed. In some respects it was a pity that this good news could not have been announced at the recent A.G.M., especially since a good number were present. A brief report of the meeting and the Annual Dinner has been published elsewhere in this issue. Detailed formal minutes will be circulated prior to the 1969 A.G.M.

Members and Affiliated Clubs are reminded that subscriptions are now due at the following rates:-

Full Members 30/-

Joint Members 35/-

Affiliated Clubs 7/6 per club member

Attention is drawn to the fact that, according to the existing Club Rule, 1968-69 is the last year in which five-year Period Subscriptions can be taken out. These are:-

Full Members £7.7.0.

Joint Members £8.8.0.

All subscriptions should be forwarded to the Subscriptions Treasurer Mr. A.E. Dingle (address given earlier) before December 31st of this year according to the Club Rules. Affiliated Clubs are requested to send full details of their Club's membership to the Subscriptions Treasurer with the appropriate remittance for 1968-69. Also, should Charterhouse Caving Committee Permits be required please contact the Caving Secretary, Mr. R.J. Staynings (address given earlier), for the necessary application forms. Both members and Affiliated Clubs are reminded of the rule which states that those failing to pay 1968-69 subscriptions by December 31st 1968 will be named in the February issue of the Journal. Clearly, at this vital stage in the development of the new Headquarters, it is more than ever important that our subscription income is to hand before the New Year. Please co-operate.

Following the ruling of the last A.G.M. concerning the donations made to the Mossdale Memorial Fund Appeal in 1967, those who wish to have their contribution returned should write to the Hon. Treasurer before the end of the year. The reason for this is reported with the account of the A.G.M. which follows in this Journal. After the closing date any money remaining on behalf of the Mossdale Memorial Fund will be directed towards a useful purpose connected with cave rescue in keeping with the spirit of the appeal.

The rents of the boxes for storing food etc., at Hillgrove are now due. The rent is 10/- per annum, and this sum should be paid to the Hon. Treasurer as soon as possible, together with details to enable the box in question to be identified. Any boxes for which the rent has not been paid by the 31st December 1968 will be opened, the contents auctioned (proceeds to the Hut Fund) and the boxes will be rented to any other members who are interested. If any member is interested in renting a box, would they get in touch with the Hut Warden.

We welcome the following new members elected 6th October 1968:-

R.G. Lewis. 17 Oak Road, Horfield, Bristol 7.

M.J. Motley. 1 Mortimer Road, Clifton, Bristol 8.

CLUB MEETS

Please give the Leader prior notice of your intention to join a trip

<u>Wednesday 11th December</u>	1830 hrs.	<u>Swildons 1</u> Leader: R.H. Woolley, 64 Devonshire Road, Bristol BS6 7NL.
<u>Saturday 14th December</u>	1530 hrs.	<u>G.B.</u> Leader: R.J. Staynings, 8 Fanshawe Road, Bristol BS14 9RX.
<u>Sunday 5th January</u>	1430 hrs.	<u>Swildons IV</u> * Leader: R. Bignall, 101 Kinsale Road, Bristol BS14 9EY.
<u>Saturday 15th February</u>	1500 hrs.	<u>Little Neath River Cave</u> * Leader: D.E. Grant, 14 Cresta Road, Abergavenny, Monmouthshire

* Denotes wet trips for which suitable lighting and clothing are considered essential.

CAVE RESEARCH GROUP MEETINGS

Members may wish to note the following dates for 1969:-

Saturday 8th March Symposium on Cave Photography, Leicester.

Saturday 19th April Southern Meeting, Wells, Somerset.

Saturday 21st (or 14th) June Northern Meeting, Grassington, Yorkshire.

Full details of these meetings will be published in subsequent issues of the Journal once they become known, particularly those concerning the Wells meeting next April.

UNIVERSITY OF BRISTOL SPELAEOLOGICAL SOCIETY LECTURES

The U.B.S.S. has always extended a cordial invitation to any Wessex members who would like to attend their lectures. These are held in the large Geography Lecture Theatre above the Spelaeo' Rooms in University Road, and start at 8.15pm. The Winter Programme of Lectures is as follows:-

Tuesday 12th November '68	Prehistoric Agriculture. H.C. Bowel, M.A., F.S.A.
Monday 2nd December '68	Ecology of Caves. Mrs. A. Erdington.
Friday 24th January '69	Cave Photography. Dr. J.M. Wooley.
Friday 14th February '69	Assyria. Mr. J.G. Macqueel.
Monday 3rd March '69	Early Mendip Caving. E.K. Tratman, O.B.E., M.D., M.D.S., F.S.A.

The Hon. Librarian has informed us that offprints of the current Proceedings of the Spelaeological Society No. 3. Volume 11 (November 1968) may be purchased. Full details can be obtained from Peter Standing C/o the Spelaeological Society; the complete issue costs £1.0.0. Of particular interest to Mendip cavers is the paper by Dr. David Drew entitled, "A Study of the Limestone Hydrology of the St. Dunstan's Well and Ashwick Drainage Basins, Eastern Mendip, Somerset". Offprints of this article cost a worthwhile 3/-. A full review of this intensive research will be published in the February issue of the Journal.

PROPOSED CLUB DIGS

Last winter a big subsidence occurred in the lower roadside swallet at Thrupe. This site is at the foot of a small but impressive limestone cliff across the road from Thrupe Farm between Masbury and Croscombe. Tony Dingle and John Cornwell had a look at the site during the summer, and obtained permission to dig from the landowner Mr. J.R. Keen of Thrupe Farm, Masbury.

Tony writes

"I have the nucleus of a team, but in the early stages of the work envisaged a fairly large number of helpers will be required. What I would like to do is to dig away the bank between the subsidence and the low cliff. This is where the water overflows. Digging at water level has drained off all the water from the nearby pool, and the subsidence is slowly drying out.....The dig is pleasantly sheltered, even in winter, and only a few yards from the road of course. It has not been dug before, and it is reputed that chaff washed down by the stream has surfaced at St. Andrew's Well, Wells, into the moat around the Bishop's Palace.

I would be pleased to hear from any members prepared to help".

John Cornwell, meanwhile, is continuing to dig at Hillgrove Swallet with some success. Since the days of H.E, Balch Wessex members have made various attempts to open this likely looking site, and it would be a fine "going away" bonus if a cave could be entered here before we move our Headquarters from the Hillgrove area. So, if you haven't the transport to make the dig at Thrupe, there is always John Cornwell to press you into service but a few yards away.

LIBRARY NIGHTS IN BRISTOL

The first Tuesday of each month will be a Club "Library Night" at Christopher Hawke's home:-

10 Christchurch Road,
Clifton, Bristol. BS8 4EE.

Members are welcome to come along during the evenings to help in cataloguing the many books and publications we now have in the Club Library. There will be the opportunity to have a look at new caving publications and review books available, and even to talk about caving informally!

The dates to book following the publication of this Journal are:-

14th January 1969
4th February 1969
4th March 1969
1st April 1969

Further dates will be announced in due course.

THE CLUB ANNUAL GENERAL MEETING AND DINNER
SATURDAY 19TH OCTOBER 1968

The Annual Meeting was held at Priddy Village Hall once again, and started soon after 3.0.p.m. The President took the Chair, and gave a short address on the aims and achievements of the Club. A number of apologies for absence had been received and some 75 members were present. The following report briefly outlines the business discussed.

The minutes of the 1967 A.G.M., and the Hon. Secretary's Report for the past year had been circulated in the October 1968 Journal and were adopted. The principal matters arising from the previous A.G.M. had been covered in the Hon. Secretary's Report. Discussion followed on several topics, mainly centered around the new H.Q. Project at Upper Pitts. It was stated that the foundations had been taken out and that the walls would be built shortly. During the winter and New Year we expected to be able to move in to complete the interior fittings and appointments. A great deal of club support would be required at this stage. At the same time it was re-emphasised that we would be vacating Hillgrove and Eastwater on the lines reported by the Hon. Sec. Advertising in the Journal was considered once again, and it was reaffirmed that loose inserts from firms selling equipment in use by cavers would be acceptable. It was felt that an offer by an insurance firm to act as a broker to the Club was not in keeping with our aims and objects.

The Hon. Treasurer's Statement of Accounts was presented and discussed at length. It is published in full in this Journal. The meeting resolved to accept his recommendation to transfer £275 into the Hut Fund, and expressed general satisfaction with the state of the Club's finances at this critical period. The adoption of the accounts was carried unanimously. The Auditor commented that the work load of the Hon. Treasurer at the close of any Club year would be greatly reduced if more time were available. At present barely a fortnight was available to prepare the accounts and effect an audit. Both he and the Treasurer felt that members would prefer the opportunity to study the accounts prior to the meeting.

The meeting approved his general recommendation that for 1969 we experiment by closing the accounts at the end of August, one month earlier than usual. Some reservations were expressed by the retiring Chairman. Next year it was hoped that the Hon. Treasurer's report would be published in the Journal prior to the A.G.M. like all other officers' reports. Copies should also be made available for those attending the meeting. An appeal was made for more members to take out five-year period subscriptions since it allowed the club to budget for a longer time ahead and reduced the routine paperwork. Attention was drawn to the fact that there was still £14.6.0. (in our accounts) donated to us on behalf of the Mossdale Memorial Fund. The trustees of the fund in the north had requested that we dispose of our contribution in a manner we felt fitting since the memorial was oversubscribed. A long discussion followed on what should be done with the money, and finally it was decided that members who wished to have their donation returned should be reimbursed, otherwise the incoming Committee should dispose of the sum on a suitable project related to cave rescue.

The Committee proposition concerning the list of Honorary Members of the Club was put to the meeting. Several members present queried the distinction between Hon. Members and Vice Presidents, and the list presented. Finally, it was agreed that the President would advise the incoming Committee on the status and names of those having held and holding such offices. The proposition was withdrawn. The list of Officers and Committee for 1968-69, having been previously circulated, was approved and is published at the beginning of this Journal. Howard

Kenney was appointed Auditor by the meeting.

Several points were raised by members at the conclusion of the meeting, Howard Kenney felt that the Club needed a specific goal to aim at now the main business associated with Upper Pitts was near completion. A number of interesting ideas were put forward like foreign expeditions, a South Wales hut, digging, and public relations. These would be taken up and considered by the 1968-69 Committee. In conclusion Bob Lewis sought clarification on the rights of access and especially exploration in G.B. Cavern, so far as non-Charterhouse Caving Committee clubs and non-U.B.S.S. cavers were concerned. The President thanked him for raising the matter and explained how the situation had arisen. The meeting ended at about 5.40.p.m. with refreshments kindly provided by Jenny Murrell and the ladies of the Club.

That evening 139 members and their guests attended the Annual Dinner held this year at The Wookey Hole Cave Restaurant. Mr. A. de Jong of Messrs. Horlicks Ltd., was Guest of Honour, and we were pleased to have representatives of a number of other clubs with us. Having been introduced by the Toastmaster for the evening, Luke Devenish, Mr. de Jong addressed the assembled company on the nature of his work in connection with survival diets and emergency foods. There was probably enough food dispersed around the room as misguided missiles to meet any emergency! After dinner and the speeches, a resplendent O.C.L., presented the current Wookey Hole cine film kindly loaned by Mrs. Olive Hodgkinson for the occasion. The festivities continued for some time after, and subsequently elsewhere on Mendip.

Notes on the accounts for the year ended 30th September 1968

1. The total of period subscriptions received during the year has been credited to the Hut Fund account. In return the Hut Fund has been charged this year, and will be charged for the next four years, with the proportion of the period subscriptions received which relate to the year in question. The sum so charged has been included in the figure of Subscriptions. Up to the 30th September 1968, 20 full members and one joint member had taken out period subscriptions.
2. Included in the accumulated funds is £10-12-3 profit from the sale of occasional publications. It was intended that this sum and also profits from future sales should be used to finance further occasional publications.
3. The short term loan of £500 is interest free, and has been raised privately to provide bridging finance during the construction of the shell of the new Upper Pitts H.Q. There is no charge on any of the assets of the club as a result of this loan.
4. The total figures of cash in hand and at bank appearing on the Balance Sheet is:- £982-6-11d. This is made up as follows:-

Midland Bank Ltd., Solihull - Current account	£764 5 8
The Fidelity Bank, Philadelphia, U.S.A.	50 3 -
Cash in hand - with Hon. Treasurer (since banked)	79 17 9
- in survey scheme	16 9 10
- with H.Q. Development Officer	71 10 8
	£982 6 11
5. The figure of Stock of goods for resale is made up as follows:-

Electrolyte	£ 1 16 6
Blazer badges	6 3 5
Club Ties	8 5 -
Carbide lamp spares	3 12 -
Wife lamp spares	9 - -
Wife and Edison sets	62 12 -
Occasional Publications	9 5 6
	£100 14 6
6. As previously, the stocks of carbide, Journal back numbers, Volume 1 reprints, and Volume 8 supplements held by the Club have not been valued.
7. The value of the Club's huts at Hillgrove and Eastwater, the duplicator, and other Club equipment has not been included in these accounts.

WESSEX CAVE CLUB

Income and Expenditure Account for the year ended 30th September 1968

1967			1967		
£13	Hillgrove Hut expenditure		£255	Subscriptions	£ 360 15 11
10	Repairs and renewals	£ 11 12 7	12	Affiliation fees	24 2 6
24	Rent	10 - -	3	Entrance fees	6 15 -
8	Heating and cooking	43 11 10	10	Donations	23 19 4
6	Insurance	7 12 2	138	Hillgrove fees	198 4 4
	Rates	6 4 3	7	Eastwater fees	30 - 3
			2	Tackle fees	1 14 -
£ 61			12	Use of duplicator	11 -
		£ 79 - 10	13	Surplus on goods supplied to members	41 18 3
	Eastwater Hut expenditure:-		-	Profit on sale of Occasional Publications	10 12 3
5	Repairs and renewals	6 6	2	Publication sales - Volume 1 reprint	2 5 -
3	Rent	5 - -	4	- Volume 8 supplement	3 12 -
1	Heating and cooking	4 10 0	23	- Journals	28 15 9
	Insurance	14 4	9	Profit on annual dinner and parties	21 4 4
			8	Charterhouse Caving Committee permits	3 - -
			-	Sundry receipts	9 6
9		10 10 10			
15	Tackle expenditure	50 4 9			
3	Club dig and georesistivity project expenses	2 1 6			
157	Journal	195 10 5			
6	Library expenses	1 10 -			
25	Insurance - Third party	35 12 -			
1	- Duplicator	13 6			
58	Stationery, postages, and telephone	58 5 3			
10	Meetings expenses	10 1 8			
1	Bank charges and cheque books	2 11 6			
4	Lamb Leer expenses	13 13 7			
3	Cave Research Group	3 - -			
5	Charterhouse Caving Committee	-			
-	Council of Southern Caving Clubs	2 - -			
6	Stretcher for Mendip Rescue Organisation	-			
-	Expenses re exhibition at Lewis'	5 1 -			
364		£469 16 10			
134	Excess of Income over Expenditure carried to Accumulated Funds	288 2 7			
£498		£757 19 5	£498		£757 19 5

WESSEX CAVE CLUB

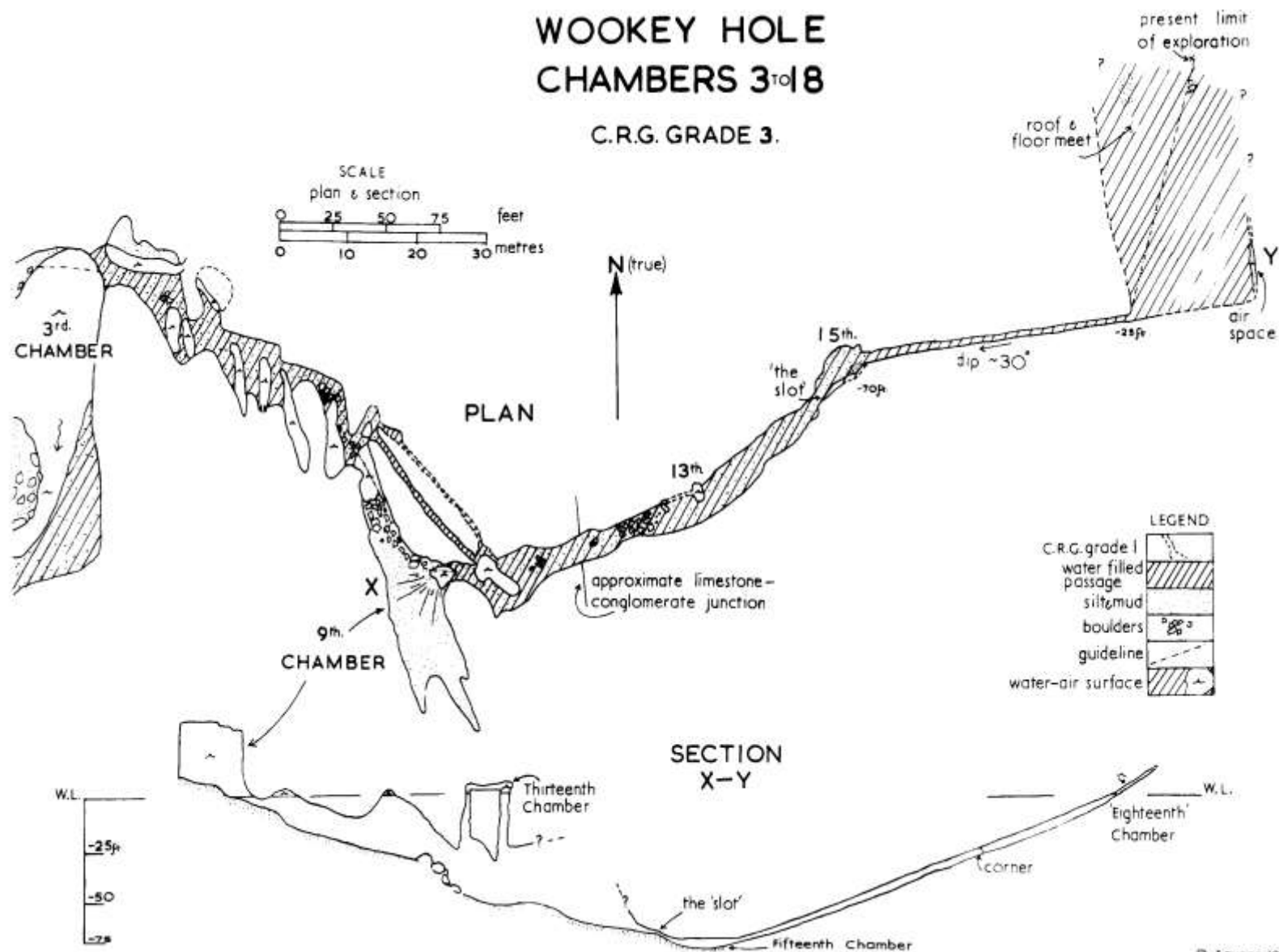
Balance Sheet as at 30th September 1968

<u>1967 Hut Fund</u>			<u>1967 New Headquarters Project</u>		
£ 821	As at 1st October 1967	£ 1509 11 11		<u>Freehold Property - Eastwater</u>	
400	Add: Transfer from Accumulated Fund as per 1967 A.G.M.	130 - -		Cost to 1st October 1967	£ 450 17 1
1221		1639 11 11		Add: Cost of materials used during year	32 1 1
130	Add: Proposed Transfer from Accumulated Funds for 1968	275 - -	£ 451		£ 482 18 2
-	Period subscriptions received in year	147 13 -		<u>Hut Fund Investments</u>	
232	Donations	106 15 10		Somersetshire Building Society 'p' shares	1500 - -
21	Proceeds of jumble sale	-	1000	Balance at bank and cash in hand	234 10 8
3	Proceeds of raffle	-	189		
-	Sale of scrap metals	35 13 -			
33	Interest on investments	42 6 -			
1640		2246 19 9			1734 10 8
-	Less: Period subscriptions relating to Current year	29 10 11			
1640		£ 2217 8 10	1640		2217 8 10
	<u>Survey Fund</u>			<u>Survey Scheme</u>	
	As at 1st October 1967	38 14 7	14	Stock of surveys at cost	7 17 4
39	Add: Profit on sale of surveys in year	2 1 10	25	Balance at bank and cash in hand	32 19 1
		40 16 5			40 16 5
	<u>Accumulated Funds</u>			<u>Current Assets</u>	
	As at 1st October 1967	394 7 6	55	Stocks of goods for resale	100 14 6
	Less: Transfer to Hut Fund as per 1967 A.G.M.	130 - -	27	Debtors and payments in advance	25 7 -
		264 7 6	128	Balance at bank	634 19 5
	Add: Surplus for the year	288 2 7	70	Cash in hand	79 17 9
		552 10 1			840 18 8
	Less: Proposed transfer to Hut Fund to be approved by 1968 A.G.M.	275 - -			
264		277 10 1			
	<u>Current Liabilities</u>				
-	Short term loan (unsecured)	500 - -			
8	Subscriptions in advance	24 4 -			
-	Mossdale Memorial Fund	14 6 -			
8	Sundry creditors	24 18 7			
		563 8 7			
£1999		£3099 3 11	£1959	C.H. Kenney 17th October 1968 Chartered Accountant	£3099 3 11

I have examined the above Balance Sheet and attached Income and Expenditure account and notes on the accounts which I find to be in accordance with the books of account. The financial records are well kept and to the best of my belief the accounts fairly disclose the financial position of the Club for the year ended 30th September 1968.

WOOKEY HOLE CHAMBERS 3rd to 18

C.R.G. GRADE 3.



DIVING AT WOOKEY HOLE

by DAVID SAVAGE

Since 1966 much new work has been done by the Cave Diving Group at Wookey Hole and I have attempted in this article to bring together a variety of developments and observations that have been made since then. I would like to acknowledge the efforts of all members of the Cave Diving Group who have assisted in any way with diving operations but particularly I wish to record the unfailing enthusiasm of people like Oliver Lloyd, Dan Hazel and Mrs. Hodgkinson, the owner of Wookey Hole. Without these people little of what follows would ever have taken place.

Introduction

During the past 30 years there has been more diving activity in Wookey Hole than in any other cave in the country. Indeed, it is probably true to say that no other cave in the world has been the site of so much underwater work.

Most of this diving has taken place in four distinct phases. The first began in a grand and spectacular manner in 1935 when Graham Balcombe et al borrowed Standard Diving Dress from Messrs. Siebe-Gorman and in an intensive series of operations reached the 7th Chamber - a point some 150 ft. from their base in the 3rd Chamber (Balcombe and Powell, 1935). It can be imagined how cumbersome the equipment was with its enormous domed copper headpiece and bulky waterproof suit, not to mention the heavy air hose and guideline that the diver had to pull behind him. A great deal of mud must have been stirred up as the diver crawled along and he could have seen little of underwater scenery.

Immediately following the Second World War Wookey Hole saw the second phase of diving. New types of self contained diving equipment developed during the war were used - modified and unmodified. All of this equipment used the oxygen rebreathing principle, and with this lighter and more compact equipment divers managed to enter the large 9th Chamber in April 1948, some 230 ft. from their base in the 3rd Chamber. From the 9th Chamber progress continued as far as the 11th Chamber in this phase of diving when Gordon Marriott's untimely death in 1949 effectively stopped further attempts to push deeper until 1955 when the 3rd phase of diving began (Davies, 1957).

The stretch of underwater passage leading from the 9th Chamber took the diver for the first time into the Carboniferous Limestone from the Triassic Conglomerate. This results in a change of character in the passage from a boulder filled angular cross section to a smoother more rounded shape. Instead of going up and down, as the passage between the 3rd and 9th Chambers does, the cave now seemed destined to go deep. Eventually, after many pushing dives during which the 12th and 13th Chambers were discovered, the divers in 1958 reached a place they called "the slot" at the end of the 14th Chamber at a depth of 60 ft. Oliver Wells was the first person to pass through the slot into the 15th Chamber which he did on the 14th March 1958, to reach a depth of 65 ft. (Wells, 1958). On the 17th December 1960, John

Buxton was the second person to enter the 15th Chamber and he reached a level sandy floor at a depth of 70 ft. He didn't try to push further on this occasion due to the limitations imposed by the oxygen mixture he was using but he noted that there was no obstruction to progress, and that the way on was probably to the right.

After John Buxton had entered the 15th Chamber in 1960 no one else appears to have visited it again until 1966 in the 4th phase of Wookey Diving (Mansfield, 1964). In this phase, which is the present one, the divers are a completely new generation all using the aqualung and swimming with fins, instead of bottom walking (Boon, 1966). Previously air open circuit equipment and finning had been viewed with suspicion especially since Bob Davies had floated away into the 13th Chamber during a pushing operation when using this equipment in December 1955 (Davies, 1956).

Diving since 1966

Inspired by John Buxton's account of the 15th Chamber and the prospects for further progress I ventured down to the end of Buxton's line in the 14th Chamber on 22nd January 1966, after having acclimatised myself to the cave during several previous dives. The slot didn't appear particularly tight and I judged it to be nearly 6 ft. wide by 2 ft. high and sloping quite steeply downwards. Tying a short length of courlene onto the old line I passed tentatively into the slot and after some 25 ft. found myself through it and on a level sandy floor with an apparent way on to the right, just as described by Buxton.

On 26th February 1966, Mike Wooding and Ken Pearce supported by other members of the Cave Diving Group made the first attempt to push beyond the 15th Chamber, with Ken Pearce sitting at a depth of 60 ft. at the end of the 14th Chamber paying out line to Mike. Unfortunately the water was still muddy after recent heavy rain and with such poor visibility Mike was unable to find a way upstream out of the 15th Chamber, instead he completed a loop and finished up where he had started - at Pearce's feet.

The next attempt to push was on 23rd March 1966, when Oliver Lloyd and myself tried to take a line reel upstream from the 14th Chamber, this jammed almost immediately, however, and another attempt had to be abandoned. Five weeks later on 30th April, we tried again, and this time luck was with us. The water was very clear and we felt confident. I dived first taking a line reel containing 200 ft. of courlene, and having tied it on to the end of Buxton's old line went into the slot and kept to the floor reaching the bottom of the 15th Chamber at a depth of approximately 70 ft. The way on appeared to bear right over a level sandy floor in a wide passage and I followed the right hand wall for a short distance until abruptly an elliptical shaped passage led off upwards at an angle of over 30°. This was a very exciting development for it meant that at last there was a chance of another air space - possibly even a major one. Swimming up the passage following the clean bare rock with its large shallow scallop markings was a pleasant change from the ubiquitous sand and yellow silt of the rest of Wookey. The slope is such that no significant amount of fine sediment has accumulated, and it was an odd sensation to touch the floor without stirring up dense clouds of silt. I

followed the passage up at the same slope for about 150 ft. and then the left wall abruptly vanished with the floor continuing sloping upwards at the same rate. At this point the floor and roof are only 4 ft. apart but since there was no sign of any walls a clear idea of direction was impossible. Instead I followed the floor along the line of maximum slope until the line from the reel ran out. The depth at this point was obviously relatively little and I judged it to be about 20 ft., consequently it was frustrating to return to base in the 9th Chamber over 400 ft. away.

A large diving team assembled for the next push on the evening of Thursday May 26th. The plan was for one diver to take a reel containing 200 ft. of line and after fixing it to the end of the one laid previously continue upwards along the bedding plane passage for as far as possible. After this attempt another diver was to push further with another line reel or explore any air spaces if luck was on our side.

I was soon swimming up to the end of the line laid on the previous occasion. The new line was quickly fixed and I proceeded hopefully upwards following the scalloped rock floor still sloping upwards at 30°. After nearly 100 ft. of new line had been laid the passage became narrower and suddenly I broke surface in a very tight sloping rift which had so little room above the water surface that it was impossible to turn my head. Above me the rift became even narrower though I could see for at least 10 ft., and horizontally the rift also continued tight for as far as I could see. Obviously it was impossible to get out of the water into an air surface of this nature so I jammed the reel into what seemed a good crack and started back for the 9th Chamber. On the way back I experienced a rather painful journey since one of my ears refused to clear on the way down to the bottom of the 15th Chamber; fortunately it did not burst the ear drum and I reached the 9th Chamber with nothing worse than a badly bruised eardrum.

Wooding and Pearce dived together next, but Pearce soon returned having been unable to clear his ears on the way down to the 15th Chamber; however, Wooding continued alone and soon reached the air space by now dubbed the 18th Chamber. After searching for a while he wasn't any more successful at finding a useful airspace and after having a bit of trouble with the line which was now becoming loose, he returned to base.

The next obvious step was to thoroughly explore the bedding plane passage at the highest point of which we had previously found the 18th Chamber. Unfortunately the line laid from the 14th Chamber had become too loose to follow without a danger of getting entangled in it and so first before any more pushing could be done this line had to be removed and relaid. Initial attempts to retrieve it by pulling from the other end in the 14th Chamber were completely unsuccessful, the only effect being to create large loose coils of courlene in the 15th Chamber which were a deadly snare for the unwary diver (Lloyd, 1966). This line blocked the way on for nearly two years, and it wasn't until 3rd February 1968 that it was eventually removed after three attempts, by Chris Gilmore and myself. Although no progress upstream was made during these line removing operations it provided excellent training in working underwater under difficult conditions. The technique that we eventually

found successful was for two divers to go to 14, the first tying himself on to the end of the old line there and the second going ahead into the 15th Chamber with an empty reel, being lifelined by the first diver with a line from a full reel. The second diver then untangled the coils of loose line, winding them on to his empty reel, eventually following the loose line up towards the 18th Chamber, all the time taking out line from the first diver's reel. The first two attempts had to be abandoned after communication difficulties but the third went perfectly and nearly 400 ft. of loose line was removed in a dive lasting 25 minutes.

The way on was now clear for further pushing operations and an attempt was planned for 17th February 1968. This time a reel containing 500 ft. of line was to be used with a powerful beam gun (torch) to give a better appreciation of the large underwater passage near the '18th Chamber'. I had first dive and was soon following the steeply sloping passage up towards the 18th Chamber having belayed the line I was carrying in the 14th Chamber. On reaching the right angle bend, instead of going up the 18th Chamber I followed the lower part of the bedding passage with the intention of going well past the '18th Chamber' airspace and possibly reaching a more convenient air surface. Somewhat unexpectedly the 'floor' continued to rise - I had expected it to be horizontal at this point - and then about 250 ft. beyond the 'slot' a mud bank effectively blocked the way on upwards since it left only a 6" gap between it and the roof. A way to the right was tried, just below the mud bank, but this too was abandoned when the line pulled across into a very narrow part of the passage. I retreated some 50 ft. and then tried a new direction moving around the right hand side of the tight section, very soon the passage widened slightly and then at a point nearly 280 ft. from the 14th Chamber a larger space could be seen upstream. At this point, for no apparent reason, my left ear began to ache and attempts to clear it by conventional methods proved useless. It was obvious that the pain was not going to go quickly, so I started to return to 14, winding up the line until a convenient resting place for the reel was found in the form of a small flat ledge at a depth of 30 ft., nearly 230 ft. from the 14th Chamber. Until the line eventually began to rise again after going down to 70 ft. in the 15th Chamber, I had visions of a burst ear drum and all its consequences. As it was I had a few drops of blood in the bottom of my mask, when I eventually removed it in 9 and a very painful left ear. (This was the second time I had experienced the same trouble, and it was rather difficult to find a satisfactory explanation since Mike Wooding had had exactly the same trouble when he visited the 18th Chamber. Whatever the explanation, it certainly seems to be a problem associated with going deep twice in rapid succession). (Irwin, 1968).

The next visit to these distant parts of Wookey was made more or less accidentally by Phil Collett on a 'look and see dive'. His original intention had been to inspect the 15th Chamber, but never having been there before he only realised where he was when he came to the end of the line fixed to a large reel. He didn't stop to look round but returned immediately to 9. On 9th May 1968, Phil and myself had the latest attempt to push Wookey. The plan was for Phil to return to the reel he had glimpsed briefly on his previous dive and then push forwards trying to find the way on. I was to dive second, continuing the push if necessary. Phil reached the reel and swam slowly along the inclined bedding plane reaching a boulder around which he wound a loop of the line, and then continued for another 40 ft. At this point

the depth was only about 10 ft. but the passage itself had become tight and visibility poor, consequently he returned to 9 after leaving the reel at the farthest point he reached. After waiting for 20 minutes after Phil's return, in order to give the water a chance to clear a little, I dived next and went to the boulder that Phil had noted. Beyond this the line was very loose and the passage rapidly became tighter and not very reluctantly I returned to base.

This is the present state of affairs underwater at Wookey, with the way on apparently too tight. However, the passage near the present limit of exploration is very extensive as can be seen from the accompanying survey and it is not inconceivable that a passable way on exists somewhere. With the more sophisticated equipment and divers that are bound to come forward within the next few years who knows what might happen?

Some Geological Observations

The whole of the Wookey Hole show cave and the underwater passage as far as the 12th Chamber is developed in Triassic Conglomerate. This rock infills a deep gorge cut into the Carboniferous limestone, the precise limits of this gorge being uncertain. Beyond the 12th Chamber it is interesting to note the position of the underwater junction between these two rocks; an interesting thought is whether the underwater cave passage beyond the 12th Chamber predates or antedates the accumulation of Triassic conglomerate. Preliminary examination of the limestone-conglomerate contact at a depth of 35 ft. suggests that in at least one, and possibly two places, the conglomerate was deposited on a steeply sloping regularly scalloped limestone surface, not unlike that one would expect to find in a cave passage. This may indicate that a rising of some sort existed even in pre-Triassic times, though the implications of this warrant a much more intensive investigation.

The cave passage followed upstream into the limestone from the conglomerate follows the strike until the 15th Chamber; here the passage turns abruptly through almost a right angle and goes up the dip towards the East. The dip of the nearest visible Carboniferous Limestone on the surface is 35° E to W and the slope of the underwater passage from the 15th to the 18th Chambers is practically the same. From the 18th Chamber onwards the whole of the passage is developed as a bedding passage along the strike, with the dip varying between 30° and 35°.

It may well be worthwhile examining the roof of the underwater passage immediately after the 13th Chamber down as far as the end of the 14th since no one has yet followed or even seen the roof of the 14th Chamber along most of its length.

Equipment Notes

All the serious diving undertaken at Wookey at the present time is done with air open circuit breathing equipment with wet suits, fins, and other conventional accessories. The first air dives were made by Bob Davies in 1955 and gradually since then air has tended to replace oxygen and mixture apparatus. Bob Davies used a conventional twin hose aqualung but now

the preference is for two stage single hose regulators since these are much better suited to cave diving in all respects.

In 1966 we were using single air cylinders, usually with a capacity of 26 cu. ft., fitted with a 'scubair' single hose demand valve and pressure gauge with 3/16" thick neoprene suits (usually with an extra layer over the trunk) and fins. For the first pushing dives beyond the 15th Chamber a twin set fitted with a single scubair valve was used, the air cylinders being either 40 cu.ft. bottles or 26 cu.ft. 'tadpoles'. Sometimes a spare 26 cu.ft. cylinder fitted with an independent valve was also used. For the most recent dives the equipment has consisted of a twin set made up of two 40 cu.ft. cylinders and fitted with a two stage single hose valve and pressure gauge. The types of valves used with this arrangement have included the Orca, Malibu, Snark and See Bee air regulators. Invariably, a spare 40 cu.ft. cylinder fitted with a separate valve is also used fitted to the diver's side. This obviously gives a greater safety margin and also equally important gives the diver a tremendous psychological advantage in a long dive. The unfortunate disadvantage of this equipment is its uncomfortable weight out of water - even with lead weights reduced to 4 or 5 lb. This becomes especially noticeable when the diver has to climb almost vertically for 15 ft. into the 9th Chamber wearing fins - a very trying operation.

Lighting is almost always a single 'nife' cell and this appears quite satisfactory. Recently we have tried using a powerful beam gun in addition though the extra light that this gives hasn't been a tremendous advantage.

The Survey

The accompanying survey is based on work done by the Cave Diving Group over a number of years. It is not of high grade accuracy since most of the relevant compass bearings were taken underwater and most of the distances were measured by noting the amount of courlene guideline used - a material which stretches considerably under tension. On the basis of this an overall grading of C.R.G. grade 3 is claimed.

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A DIVINED MASTER CAVE ON MENDIP

At the end of the last Club Annual General Meeting on October 19th. Mr. C.W. Harris produced fascinating information concerning the possibility of a major cave system between Eastwater and Wookey Hole. This information had kindly been passed on to him by Lt. Col. Kenneth Merrylees who is acknowledged as the world's greatest authority on the mysterious arts of the dowser. In this case Colonel Merrylees divined the course of a "colossal cave" over copies of the Ordnance Survey 6 inch to 1 mile maps of the Priddy-Wookey Hole district provided by Mr. Harris.

Colonel Merrylees writes as follows:-

23rd August 1967.

"Dear Harris,

I thought I would just follow Wookey for a few hundred feet until it petered out - but it did not!

"If this is known to be wrong forget the whole thing.

"The pencilled lines give the apparent edges of the opening, but whether the quite colossal cave below Lower Pit (sic) Farm (350 ft. wide and about 100 ft. high) is possible I do not know?

"The movement of the water through the system seems small and quite apart from the lower fissure flows (shown in blue), (I have only marked one or two) there are many more.

"If my finding's bear any relation to known facts, and you would like a more careful examination to a much larger scale, do let me know and I will try to do better when I get back about Sept. 9th.

Yours,

Kenneth Merrylees."

The large chamber beneath Priddy Stores and Lower Pitts Farm is very close to the place where the roadside suddenly collapsed following a thaw in January 1962. Diggers at North Hill and the existing caves off Eastwater Lane should find this information of particular interest. Who is going to be bold or rash enough to dig the cess-pit overflow from Lower Pitts Farm?

See map on bottom of page 203

Letter to the Editor

Bairro Nunes
Grandola
Portugal

October 14th 1968.

Esteemed Sir,

With the benefit of hindsight, it is easy to see that the choke below the Forty Foot Pot in Swildon's, reopened by the floods of last July, was of fairly recent formation.

When the Water Rift was first reached in 1901, H.E. Balch and his friends were "confronted by deep water and deeper mud beneath", which latter gave off quantities of marsh gas. Chimneying along above this, the explorers reached the 'Under or Over', beyond which the stream ran shallow over pebbles to the head of the Forty. In the MNRC report for 1921 Balch describes filling the mud hole with tons of rocks, which "vibrated in the jelly-like mass", after which they were able to open up the Under and enable large parties such as yourself to reach the Forty.

According to your section (Journal No. 119, P- 151), Balch's mud hole was the downstream half of the great pit that has developed in the floor of the Water Rift. Were the choke below the Forty to reform, this pit would first fill with water, then with mud, which would gradually become covered, from the upstream and downwards, by several feet of pebbles and stones carried by the stream. At the halfway stage the conditions would be such as existed in 1901. If the climate was like that of today, with pebbles entering Swildon's at a steady rate, the choke would probably have formed something like a hundred years earlier.

The pebbly floor of the passage beyond the "Under or Over" suggests that previous chokes had completely filled the mud hole with stones before they burst, but the great development of stal from top to bottom of the Water Rift appears to indicate that the lower route was the more usual one.

With his usual flair, Balch seems to have sensed this state of affairs even before he went down the Forty. In the MNRC report for 1914, describing Dr. Baker's descent in that year, he refers to "the water-rift, a peculiar occurrence where a great passage or rift has been choked, as I believe, at a right-angle bend, and the only level passage in the cave thereby formed." And in the report for 1919, explaining how an attempt on the Forty had been defeated by the volume of water, he says:

"I am inclined to think that our efforts should be devoted to trying to divert the water, if possible through the floor, at a point further back in the cave." It may be that this remarkable man, who was not at all averse to using explosives when a good opportunity arose, was thinking of laying a giant charge deep in the mud hole!

I am, Sir, your obedient servant,
W.I. Stanton.

The Editor,
Wessex Journal.

The GEOLOGY, DRAINAGE, and SPELEOLOGICAL PROSPECTS
of LANGLIFFE, WHARFEDALE.

by R.G. Lewis.

Langliffe is the name given to the limestone upland on the east side of Wharfedale, W. Yorkshire, south of Kettlewell. It flanks the southern spur of Great Whernside and continues in the form of a stepped plateau, which peters out to the south before the Craven Faultbed and passes into the Bowland Shales and reef-limestones of the Elbolton region. From Dowber Gill in the north to Grass Wood in the south is a distance of four and a half miles, and limestone is exposed in succession from east to west; from the east bank of the Wharfe, for just over one mile up the hill until the overlying Grassington Grit which caps Great Whernside is met. This succession consists of Great Scar limestone in the lower 500 feet, or thereabouts - the rock in which most of the major Yorkshire cave systems and potholes is situated. However, the horizontal exposure of the Great Scar on Langliffe is minimal, since the lower slopes of Wharfedale are more-or-less precipitous, and the less-steep benches above are part of the Yoredale succession.

All the notable karstic features of Langliffe are in fact within the Yoredales, and an appreciation of the lithology is essential in interpreting the hydrological and thus the speleological possibilities.

It is usually stated that the Yoredale succession, as seen today (which in places is over 1,000 feet thick), is deltaic in origin. The series consists of a rhythmic succession, generally comprising of sandstone, shale and limestone, in cyclic pattern. Each repetition of this pattern is known as a cyclothem and thus, one may say, there are as many cyclothem in the Yoredales as there are different limestones. The peculiar pattern is attributed to deposition at the margin of an ancient sea whose level - in relation to the land which then existed - fluctuated sufficiently to result in sediments of variable composition being laid down. These fluctuations have produced the rhythmic variations of rock-type, and later denudation has brought-about the down-stepping effect so prominent on the upper and middle slopes of Wesleydale and Wharfedale, and of a large proportion of valley sides in the south Yorkshire fells.

Since, for the most part, sandstones and shales are neither cave-forming nor permeable, it follows that interbedding of these with limestones will result in constrictions, obstruction to the vertical flow of water in cave passages, and perhaps even perched water-tables. The Yoredales have remained singularly unaffected by later orogenic movements with few major faults and fewer folds. They dip gently to the east or south-east, so that streams tend to run into the hill (on Langliffe) with the slope of the bedding, following convenient joints. Where a limestone is unimpeded vertically, spacious pots extend as far as the next horizontal obstruction, which the water either cuts through or flows upon, until a further descent is possible.

The limestones of the Yoredale succession are eight in number, though in the Grassington-Kettlewell region the upper four are often incompletely exposed or even absent altogether. The dividing line between them and the Great Scar limestone is now acknowledged as a thin bed of algal limestone, the Girvanella band. Above this the limestones are, in ascending order, as

follows; Gayle Limestone, Hardraw or Hardraw Scar l'stone, Simonstone l'stone, Five Yard l'stone, Three Yard l'stone, Undersett l'stone and Main Limestone. South of Kettlewell, it is the Middle Limestone which often represents the highest point of the Yoredale succession. (Fig.1).

The Middle Limestone, which may be sub-divided further (Fig.2), is the most important of the Langliffe Limestones and probably the thickest of the Yoredales here. The topography is such that its upper surface is exposed to a greater extent than any of the associated rocks (with the exception of the Grassington Grit); and, lying, as it does, above the remainder of the Yoredales, it is hardly surprising that nearly all the pots and caves on and around Langliffe are within this limestone. Mossdale Beck, at a point rather more than one and a half miles to the south-east of Langliffe Pot, also sinks in the Middle Limestone.

The Middle Limestone is divided by thin shale bands into three limestones, known in ascending order as the Single Post, Cockleshell and Scar limestones (Hudson 1924). At Grassington the Single Post can be identified as a bed about 30 feet thick, but there is no clear division between Cockleshell and Scar. Usually the Cockleshell Limestone is characterized by shell-beds of the large brachiopod *Gigantoproductus*. The *Gigantoproductus* horizons are of great value in providing a means of establishing the locations of pots in the Langliffe area in the succession. These striking and beautiful fossils are noticeable in many of the pots. They form a dark decorative garland around the walls which might easily be mistaken for chert from a distance as, like a chert band, they often protrude from the surrounding rock.

There are six known pots and one cave on Langliffe. The Craven Pothole Club have in the past been extremely active here, discovering Rigg Pot in 1935, Langliffe Pot (1936), Wall Pot (1946) and Out Gate Pot (1955). Severn Valley C.C. first explored Fog Cave (1965) and opened Drizzle Pot the same year. A further pot (between Langliffe Pot and Drizzle Pot) also exists, but I am not aware of the circumstances of its discovery, and it is not listed in Pennine Underground. In addition to these there are numerous sinks and shakeholes which should repay investigation, and C.P.C. are known to have opened several pots which they later refilled. Rain Pot Hole, marked on O.S. maps, is a huge shakehole, and a stream sinks nearby in a smaller depression. Of the pots, only Langliffe has any appreciable length of cave passage having been extended to 1,500 feet by the C.P.C. in 1954.

The resurgence for Mossdale main stream is Black Keld, near Scargill House in Wharfedale, and Wall and Rigg pots have also been tested to this rising (CPC Journal 1954, p. 290). Black Keld is 950 feet below the entrance of Rigg Pot and about 750 feet below Mossdale Scar. There are some small resurgences on Langliffe itself, but although it has been suggested that Langliffe Pot for one resurges here at the base of the Middle Limestone I am rather inclined to disagree. Even so, none of the Langliffe pots are known to be passable much below the Middle Limestone. Here the streamways become horizontal and one would postulate the existence of a "focal point" somewhere, perhaps a fault with sufficient downthrow to displace the impermeable beds of sandstone and shale, so giving a line of penetration for the water.

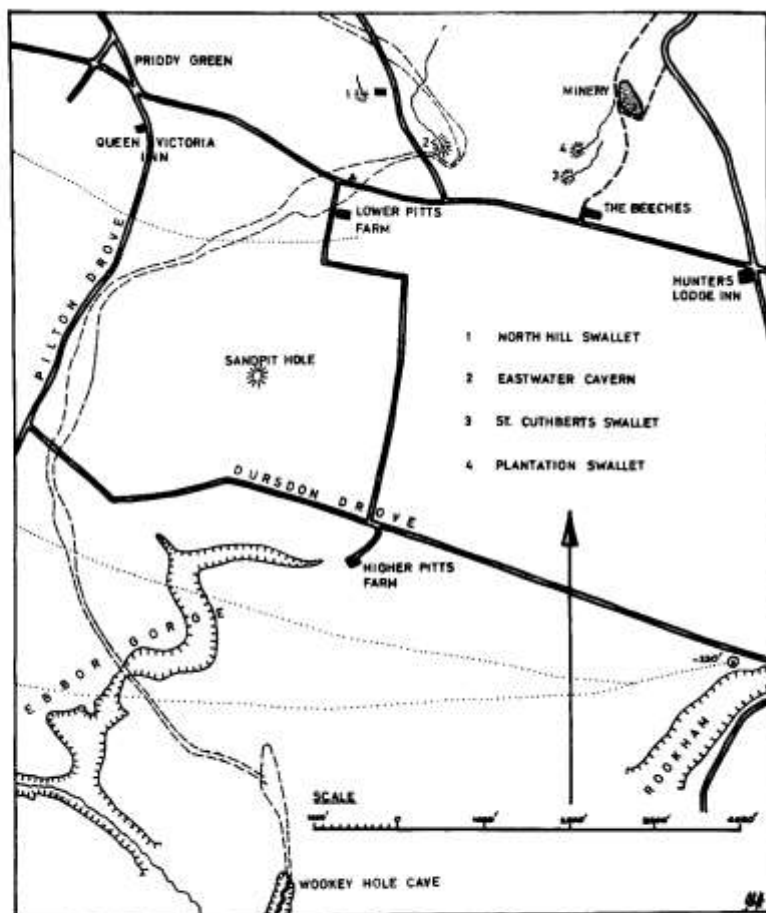
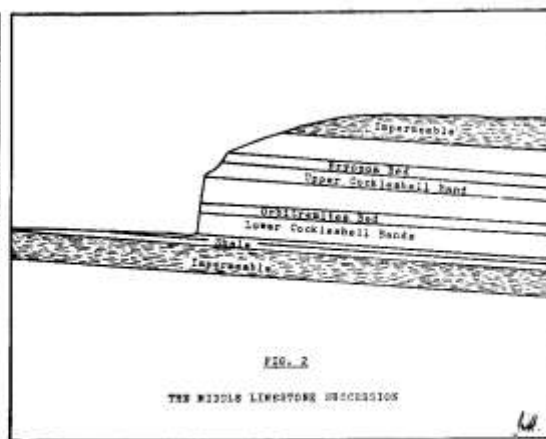
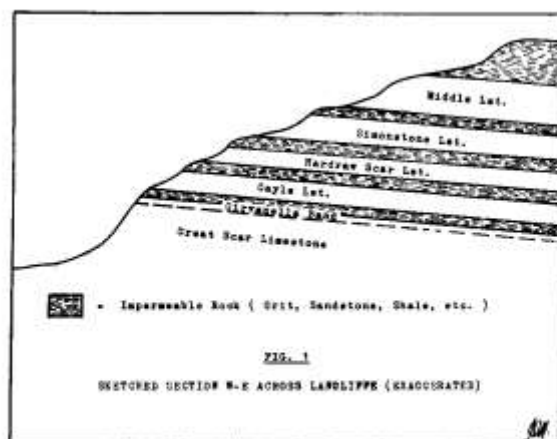
As the Yoredales progress south, the limestones of the series tend to become thicker and more massive at the expense of the other beds. The Dirt Pot Grit, for instance, which in Wensleydale is 50 feet thick, is about half as thick where it is exposed in Providence Mine above Kettlewell;

the Middle Limestone, 120 feet thick in Providence Mine, increases to 180 feet in thickness in the Grassington area. It is likely, therefore, that the "focal point" alluded to will lie beneath the southern portion of Langliffe, probably in the region of Fox Scar (NGR SD.9948/7070). This leads one to conclude that a roughly north-south drainage line should lie in the Middle Limestone as a miniature master-cave carrying drainage from the various pots on Langliffe south or south-eastwards, and eventually gaining the Simonstone Limestone. Whether the focal point will constitute a weakness sufficient to permit the water to plunge more-or-less directly into the Great Scar, or whether the passage(s) will continue horizontally for any distance before breaking through (or otherwise circumventing the impermeables below), is a matter for conjecture. What we have to remember is that, even in the case of a stream as voluminous as that sinking at Mossdale Caverns, there is no point where drainage is known to penetrate the main sandstone beds. If it is agreed that in general underground streams will have difficulty in doing so, and will meander along joints above each impermeable bed (as in Fog Cave) for considerable distances, again a major focal point such as a fault is indicated. Waters flowing thus on a near-horizontal surface will have a better chance to coalesce before reaching any fault, albeit in a flooded passage.

Comprehensive water-tracing experiments would be of great interest on Langliffe, and it is intended to carry these out during the coming year, providing that some support is available. If as much effort had been put into digging and extending the Langliffe pots as has been expended in excavating some far less rewarding Mendip sites, Wharfedale would be the richer by at least one more master cave.

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Journal of Severn Valley Caving Club. Vol. 1, No. 2.
Ordnance Survey 6 inches to one mile Map, Sheet No.
SD 97 SE (Kettlewell District). |



Abstracted from an original 10 inch to one mile map divided by Lt. Col. Kenneth Merryless, showing the outline of a possible "master cave" (pecked lines), and "deep fissure flows" (dotted lines) with a depth below the surface indicated at Bookham. The roof of the chamber at A is 90 feet beneath the surface and the floor 160 feet beneath the surface.

MENDIP NOTES

by Schizomycetes

Swildon's Hole

As your Scribe mentioned in the last Mendip Notes, the U-Tube at the bottom of Shatter Pot leading to Shatter Passage was choked during the 'Great Flood'. However, determined work by Bob Craig and other members of the S.M.C.C. has cleared the U-Tube out, and it is now possible to get into Shatter Passage. When the Shepton first started work directly after the flood, the infill in the U-Tube was fairly dry. A little later the Swindon Caving Group also started work on the dig and, at around this time, the fill became very sticky mud which rendered digging rather difficult. Bob's original intention had been to do the Swildons VI/Shatter Passage Round Trip, but over the last month he seems to have set himself a larger task than he anticipated since, in addition to blocking off Shatter Passage, the flood has also made Sump V a sump again, so making a trip into V1 a risky affair until the water level has been lowered again.

Recently, Tim Atkinson and Tim Reynolds had a wander round in Swildons to have a look for any flood evidence. Their first port of call was Sidcot Dig, which had been totally untouched by the floods and looks very promising. The roof is definitely rising, and the passage shows no sign of narrowing down. From the Sidcot Dig they continued on round "The Troubles" round trip finding very few changes, except that the mud in Paradise was slightly more slippery so making the Greasy Chimney rather entertaining. The real surprise came on the landing below Vicarage Passage where stream debris was found at a height of 20 ft. above the stream. Your Scribe has heard other reports of stream debris being found in Vicarage Passage itself which is 50 ft. above the stream. This gives a rather sobering indication of the amount of water going down Swildons during the Flood if it could back up to this height in II.

North Hill et al

With autumn coming once again to the Forest of Arden, digging continues in North Hill Swallet. In the last few weeks a small "chamber" was entered with a loose mud and boulder floor. Recently it has been possible to make progress simply by clearing out the fill as against the banging which has been the main method of manufacturing boulders to date. The end point of the passage is now only 30 ft. away from the central point of the large depression at the back of Eastwater Farm, so it is hoped that larger passage will be reached soon. Meanwhile, not content with one dig, the North Hill Digging and Exploration Consortium have started work at another site. Originally, so your Scribe understands, this alternative was started to provide temping mud for North Hill Swallet. However, soon after work was started, the slippery consistency of the high class temping material being mined made standing around the sides of the new dig rather perilous. In order to continue in safety it was necessary to use hardcore from North Hill to provide a non-slippery working surface! This would appear to be the first case known of 'trading' between digs. Unfortunately, with the reduction in the use of bang at North Hill (the new site's only market for temping mud), the future of the dig was in the balance. Happily, the expansionist thoughts of Chairman Hanwell and the Board of Directors have prevailed and so the site was given a new lease of life. Your Scribe understands that the dig has been christened

'Twin Titty Swallet' by Mike Thompson. This somewhat indelicate name is at least highly descriptive of the two depressions on Frederick A. Smith's land behind the New Inn, Priddy. The original intention was to dig the more northerly one and fill the other with the spoil, but one notes the "anatomy" of the site is being carefully protected. Hardly the work of spoil sports! To date the shaft is 18 ft. deep and there is a slight draught at the bottom. Two sides of the shaft are against solid rock showing clearly that it is on the crest of an anticline. Despite these "signs", however, the prophets have been very cautious about committing themselves on the future prospects.

Caving in Bahrain

From Noel Cleeve, now based in England:-

How terribly out of touch I am ... I spent the last year in Bahrain ... and explored two caves in the centre of Bahrain Island. The first was an 'easy cave' which was predominately horizontal with a length of approximately 5 Cleaves. The floor was sand and stones; the ceiling uneven and encrusted with hair and blood (Cleave's). The kit required for the trip was four matches and a sense of the ludicrous. The second cave I rate as 'severe', because, until one has tried a fissure cave in the desert, one just does not realise that mud is a marvellous lubricant; pure dry desert rock is no joke, particularly when clad in a swimming costume. The kit needed for this cave was; one crate of canned beer, fortitude, surplus skin on abdomen, and an overwhelming desire to escape the sun. Actually this second cave was about 8 Cleaves long, horizontal, constricted (I had to return feet first) and required a candle for lighting. Neither merits a full scale Wessex expedition, nor indeed a second thought. From the above one will have gathered that statistically the incidence of caves in Bahrain is insignificant!

The Ultimate in Water Tracing

At Wells Magistrates Court in January of this year, W.B. Cleansing Service Company Ltd., of Bristol were fined £75 with £130 costs for discharging toxic effluent into Nedge Hill Swallet near Chewton Mendip. The driver admitted to disposing of about 10,000 gallons per week of an oily sludge containing toxic metals, and cyanide! The prosecution successfully demonstrated the gravity of this action by reference to the possibility of the waste contaminating a rising used for public water supplies, and constant tests have been made on the more likely risings to find out where the waste appears. Perhaps Tim Atkinson and Malcolm Newson should change over to cyanide for their water tracing, and just sit in Bristol with a watchful eye on the obituary columns!

Skeleton found at Cheddar

No, this is not the result of the water tracing techniques suggested in the last item, though it could perhaps be the result of a pioneering caving trip. At present extensive alterations are being made to the Caveman Restaurant at Cheddar, involving digging away the debris accumulated at the base of the cliff behind the bar. During the course of these excavations the lower half of a human skeleton was found in the stratified sub soil. At first everyone was very worried because it appeared that the top half of the skeleton might have been carted off with the remainder of the

spoil and dumped on some tip, but an extensive search of the tip in question revealed no sign of the missing bones. Meanwhile, Prof. Tratman had been asked to superintend the excavation of the rest of the skeleton. He came to the conclusion that the body had been buried in a partly dismembered condition, or had been disturbed soon after burial, and so the top half had probably not been carted away. It is believed that this skeleton is somewhat younger than the well known 'Cheddar Man' which is exhibited in the Caveman Museum since some pottery has been found with the bones. Further finds may make it possible to date the skeleton more closely and add to our knowledge of human habitation at Cheddar.

Tackle Thefts on Mendip

Recently your Scribe was talking to a party from Swindon Caving Group who had gone down Swildons fairly early on a Sunday morning as far as Sump 1. Since they were the first party down, they had rigged the remains of the Forty with a 100 ft. No. 3 Ulstron rope. A short time later a second party went down, leaving a 100 ft. No. 2 nylon rope coiled up at the head of the climb. Both parties were down for about three hours, and came out almost together. On reaching the forty, they found the second party's nylon rope rigged, and there was no sign of the first party's Ulstron rope there, or anywhere in Upper Swildons. From a casual glance it would appear that someone went down to the Forty, selected what they thought was the best rope (the No. 3 Ulstron) and took it! It is small comfort that they put the other rope down so that the parties below could get back up again - what you would almost describe as gentlemanly thieving. Unfortunately this is not an isolated incident. The previous weekend a party which had been down Swildons left some tackle including a 100 ft. rope by their car whilst they changed in Main's Barn. When they came down from the Barn they found that someone had stolen the rope. Also, in the last few months S.W.E.T.C. have had two 120 ft. No. 3 nylon ropes stolen from Swildons. If this continues, it will not be long before a rescue results from a party being stranded down a cave as a result of their tackle having been stolen; but there does not seem an obvious remedy short of catching the culprits red-handed. It is a great pity that honesty among cavers has reached such low levels. What a sad state of affairs it is when cavers are not only irresponsible to those who own the caves and allow them access, but steal from their colleagues. Let's hope that the incidents mentioned above are the work of a small minority, and that it will stop!

Imaginative or Unimaginative

The following 30 minute, or so, essay topic appeared in the Oxford Local Examinations G.C.E. 'O' Level English Language (Paper 1) questions for Autumn 1967:- "Imagine you are exploring by yourself a branch of a deep and winding cavern. Your torch goes out. You are in total darkness. Tell how you got safely out using only the senses of touch and hearing".

No comment!

WORK IN SWILDON'S HOLE, 1934 to 1953

by

W. I. Stanton and C.H. Kenney

Exploratory work, which had virtually ceased in 1921, with the discovery of the Upper Grottoes, was resumed in 1934. Early in January a group of young M.N.R.C. members, including Graham Balcombe, Jack Sheppard, and "Digger" Harris, launched an assault on the terminal sump (Sump 1.). They probed the sump pool with jointed rods, and discovered where the open passage lay, noticing also its restricted dimensions.

Sheppard and Balcombe then attempted to drill into the rock barrier just above water level, in order to insert explosive charges. However, the method proved to be extremely laborious and after firing one ineffective shot they abandoned it. (It should be remembered that at this period the available caving tackle was very bulky, and the means of lighting confined to hand torches and candles, so that a visit to Sump 1 was still, physically and mentally, a "big trip".).

A month later the same party, assisted by Harris, attempted to dive through the sump, using a face-mask constructed by Balcombe and tested in the domestic bath. A garden hosepipe supplied air to the diver, who sucked it in via a one-way valve at the junction of the pipe with the mask. (The smell of rubber was apparently rather overpowering). Armed with this device, Balcombe made three successive dives; on the third of which he located the negotiable tunnel and felt the roof rising on the far side of the sump. Deep in the sump, though, the pressure was such that he found it impossible to breathe in, so he wisely returned. Sheppard then made an attempt, during which the hosepipe became separated from the face-mask, and the diver narrowly escaped drowning. Both divers were seriously affected by the cold of their prolonged immersion.

It was judged from this experience that to attempt to dive the sump with such rudimentary equipment was to court disaster, so the explorers returned to the method of high explosives. Sheppard, Balcombe, Harris and Jack Duck, with a party of 4, visited the sump on 10th March 1934, and laid an underwater charge of 11 pounds of gelignite against the roof of the sump, 4 feet from the near side. It was fired by alarm clock after the party had left the cave. The explosion, at one in the morning, woke several people in Priddy. Next morning, Balcombe, Sheppard and Harris went down to the sump, to find that there was no apparent damage. An insignificant crack had opened in the roof, and when Sheppard inserted a crowbar an enormous slab peeled off extinguishing the lights of the party, and causing them great concern. All were safe, however, and the area of the sump pool had been considerably increased, though not in the desired direction.

Footnote: This article was first written, largely by W.I. Stanton, in 1953. However, it has never been published fully, although was used by O.C. Wells as material for a privately circulated history of caving in Swildon's Hole. With the exception of a few dates added from the personal diaries of L.W.E. Devenish the original text has not been modified.

A second underwater charge, containing 20 pounds of gelignite, was fired a week later. This time, although the explosion was heard at the Church and at Manor Farm, no worthwhile results were obtained.

A party near the Double Pots, shortly after the second bang, heard a great crashing noise further down the cave. In May 1935 (for no more sump work was done in 1934) it was discovered that a boulder bridge several hundred feet upstream of Sump 1 had collapsed onto a spot where the party had often dined in the previous year.

The principal defect of the 1934 diving mask was that it was not pressure-fed, and in 1935 Sheppard adapted it for use with a small air-pump worked by hand. It was successfully tested, and a further essay at diving the sump was planned for November 17th. Balcombe took infinite pains to organise a party of 19 cavers for this assault, only to find that torrential rain on the previous day had put the entrance of Swildons under water.

During the summer of 1936, several revolutionary methods of passing the sump were suggested, but none was carried out. One involved the building of numerous dams at strategic points through the cave, after which the sump could be emptied with buckets!

Sheppard, meanwhile, had been constructing a completely new diving suit, for use with the pump. It was tested successfully, and on October 4th 1936, Balcombe, Sheppard, and a party of 12 conveyed it to the bottom of the cave. There it was donned by Sheppard, who then dived the sump and reached the far side. By removing the suit he was able to explore as far as Duck 1, which, in those days had less than an inch of air space. Thinking it was another sump, he returned to Sump 1 and dived back to the home side, to the relief of his party. He then became ill, probably as a result of cold and shock, and had to be assisted out of the cave.

On October 18th Balcombe and Sheppard, alone, explored as far as Sump 2. Sheppard dived Sump 1 and laid a rope through, when Balcombe swam to the far side. This intrepid pair, armed only with 4 candles and a torch, passed Duck 1 the Creeps, and Duck 2 (in which there was only 2 inches of air-space), finally halting at Sump 2. They returned justifiably triumphant. A fortnight later they revisited Sump 2, accompanied by Harris. Balcombe, to whom sumping was rapidly becoming child's play, swam as far as he could into the sump holding onto a broomstick, the other end of which was held by Harris. When Harris lost his grip, Balcombe hastily returned.

An air analysis, made at Duck 2 at about this time, showed nearly 3 per cent, of Black Damp.

The final assault on Sump 2 was made on November 22nd 1936. Balcombe and Sheppard, accompanied by Jimmy Braithwaite, conveyed there a self-contained diving outfit which utilised compressed oxygen. Using this, and attached to a lifeline, Balcombe swam into the sump. At a distance of 25 feet he arrived at a tiny chamber with 4 feet of air space, which he named the Little Bell. He dived 15 feet further, bearing to the right and entered the Great Bell, a chamber 15 feet high and 20 feet long, with water knee-deep on the floor. He was prevented from diving yet again by the lifeline running out. On the way back he passed well to the left of the Little Bell. The effects of cold and nervous strain combined to make him very unwell on the journey out of the cave. This was the first and last serious attempt to pass Sump 2.

The group made only one more visit to Swildons 2. This was in September 1937, when they took two ladies as far as Sump 2. On the way they noticed the entrance to the Approach Passage, but did not climb into it. In 1939 Balcombe began experimenting with a new self-contained diving suit, with a view to making a second assault on Sump 2. But the outbreak of war frustrated his plans, and brought an end to the third era of exploration; an era in which the discovery of 900 feet of new passage was a poor reward indeed for the exceptional courage and initiative of the explorers.

During the war years 1939 – 1945, original work in Swildons was limited to an effort made by Eric Hensler, of M.N.R.C. to open a dry passage leading off the Water Chamber towards the Forty Foot Pot. He dug for 30 feet, but the tunnel remained constricted and completely earth filled.

The fourth era of exploration began shortly after the war, and continued until 1953. Once again, the explorers were a group of young M.N.R.C. members, including Luke Devenish, Howard and Richard Kenney, Willie Stanton, and Colin Vowles.

In 1940 Devenish, with a friend, made the first recorded complete exploration of the Wet Way Oxbows, certain portions of which had been known for many years. Shortly afterwards he and Richard Kenney surveyed them, and their results are incorporated in the 1953 survey of Swildons Hole. In 1947 Howard and Richard Kenney dug open the passage connecting the Pretty Way with the Wet Way, near Jacob's Ladder. Devenish and Vowles also replaced the old spout on the Forty Foot Pot with a new one.

A number of Royal Marine Commando Frogmen planned an assault on Sump 2 in 1948, and Devenish, Stanton, and Vowles formed the supporting party. In retrospect it is clear that, through ignorance, the party was very badly organised. An hour was spent in brewing hot soup on the far side of Sump 1, after which Devenish and Stanton began a low-grade survey while the equipment was being transported to Sump 2. (The survey was later abandoned owing to the loss of a page of notes). Sergeant Muirhead entered Sump 2 in a frogman suit and self-contained breathing set, but only swam 20 feet before running out of oxygen (which had been used to heat the soup). Disgruntled, the party returned to the surface.

Stanton, in 1949, started to excavate the little stream passage just above Sump 1, the P.G. Passage, the water in which was then thought to come from the swallet on Priddy Green. (The stalagmite bank below it has long since ceased to be beautiful, owing to the passage of many feet) He succeeded in lowering the water level by 3 feet, and in clearing the tunnel for 28 feet to a point where it sumped.

Early in August 1949, Devenish, H. Kenney and Vowles visited Swildons Two to locate and explore side passages. On this occasion they discovered Muddy Sump and the side passage just upstream of Creep 1. Later, on the last P.G. trip, September 25th, they found the Approach Passage, but did not attempt to climb into it without a rope. Kenney, however, entered a small hole further back and passed a tight squeeze to reach the Approach Passage, which he followed until halted by the 11 Foot Drop.

On October 2nd 1949 Devenish, H. Kenney, Stanton, and Vowles revisited the Approach Passage and used one of Devenish's lightweight metal ladders to pass the 11 Foot Drop. (Modern tackle and lighting equipment had by now removed a visit to Sump 1 from the category of a "big trip".) They climbed down the chimney to the foot of the 10 Foot Overhang, and reached the far side of Kenney's Dig, where they could hear the noise of the main stream beyond the mud choke. Vowles and Kenney dug for some time, but failed to get through.

Two more visits were paid in December 1949. On the first, Devenish, H. Kenney, Stanton, and Vowles returned to the 10 Foot Overhang, which Stanton climbed and found the roomy passage that led to the Black Hole. Here it was at first thought that the party had returned to Swildons One, since the stream 40 feet below sounded deceptively large. A passage was noticed in the wall of the Black Hole, and Stanton traversed into it, dislodging much loose rock on the way. He followed the new tunnel to Well Chamber, and then, hoping to accompany the stream he found there to the bottom of the Black Hole, he descended the Well, only to arrive at a peculiar sump. He lost no time in returning, to the relief of his party.

On the second occasion, the same party carried 50 feet of wire ladder, with pitons and accessories, to the Black Hole, via the Approach Passage. This was an exhausting trip. Vowles was the first to descend the Black Hole, and the party explored the passages at the bottom, realising that the stream they encountered was the P.G. Stream.

It was clear by now that the struggle up to the Approach Passage and down the chimney, carrying tackle for the Black Hole, was a serious drain on the energy of the explorers. Accordingly, it was determined to open the tunnel at which Vowles and Kenney had dug, which connected with Swildons Two just downstream of Duck 1. Devenish, Kenney, and Vowles visited the spot in the spring of 1950, and dug in shifts until a muddy wriggle was excavated, that connected with the new passages.

In the summer of 1950 an intensive exploratory programme was planned. On 5th August Devenish, H. Kenney, Stanton, and Vowles carried 75 feet of ladder, with accessories, to the Black Hole, and a loop of ladder was arranged crossing the Hole and tethered at both ends. It was thus possible to reach the passage beyond without employing rock-climbing techniques. Two days later, the same party reached Well Chamber and resumed virgin exploration. They followed the P.G. stream up past Sore Knees Creep to an apparent choke of loose rocks, but a way was soon dug through this (the First Boulder Choke), and Fools Paradise, a cavern of unusual size for Swildons, entered. The way stretched clear and unimpeded before them, and they strode joyfully up the roomy passage to a stalagmite barrier some 10 feet high. Unfortunately, supper-time was approaching, and it was unwisely argued that this was a convenient moment to return.

Two days later, when the same party climbed the barrier, the passage was found to be choked only 50 feet further on. The remainder of the day was spent in an exhaustive examination of side-passages.

The final trip was made 3 days later by the same party. Devenish and Vowles took a large number of photographs, while Stanton and Kenney carried out a low-grade (C.R.G. 3-4) survey. The position of the upper end of Fools Paradise made it obvious that the "P.G." stream was not the one seen on Priddy Green.

In 1951 an accurate survey of the whole cave was begun by Stanton, ably assisted by H. Kenney and Vowles, and also by Bob Sellers of M.N.R.C and Jock Broadley and Oliver Lloyd, of the Wessex Cave Club. The technique of surveying at C.R.G. grade 5 beyond the sump was improved until the party became extremely efficient.

On one surveying trip, in September 1951, H. Kenney and Stanton lowered the levels of Ducks 1 and 2 considerably, rendering them no more fearsome than waist-deep pools. The question of lowering the water level in the sump was also discussed at about this time. It is doubtful whether an air space could be produced without having recourse to high explosives, but several days digging would certainly reduce the length of the underwater section to about a foot. It was argued that this would not make the sump any less of a barrier, and that since the P.G. Sump, 30 feet long, already offered a potential bypass, there was no need to destroy an obstacle of such a sporting nature.

The P.G. Sump was in fact a mud choke with the stream flowing over the top, and, without the water, it could readily be opened. In the summer of 1952 Vowles and Stanton attempted to divert the P.G. stream into a dry passage at the foot of the Black Hole, using a 12 foot length of suction tubing. They succeeded, and the P.G. Sump began to drain, but the dry passage proved to be an oxbow and the water soon re-entered the Sump.

Shortly before this trip, Vowles and Stanton had taken 15 feet of rigid steel ladder into Swildons Two, in order to examine roof and passages. They found several, but none of any promise or extent.

In 1952, metal hooks were placed above the 40 foot and the 20 foot drops by members of the Bristol Exploration Club; they greatly facilitated the hanging of ladders.

By January 1953, the accurate survey was about half completed, and the surveyors felt the need of some recreation. They decided to blast open the stalagmite boss which blocked the dry passage beyond the Upper Grottoes, taking especial care not to damage the nearby stalactites.

This was done on January 25th, by Devenish, H. Kenney and Stanton. The opening was only just large enough to crawl through, but on the far side they entered a grotto (St. Paul's Grotto) of great beauty, with an exquisite crystal floor. Taking off their boots, they explored for a hundred feet before having to return, it being supper time. On the following night, Kenney and Stanton returned, accompanied by Oliver Lloyd and Don Thomson of the Wessex Cave Club, who were to act as photographers. They were held up at the Pearly Gates, a beautiful crystal pool which, after it had been photographed, was passed by Stanton in underclothes and bare feet, anticipating a cul-de-sac. Unfortunately for him, it proved to be the gateway to Damascus, the complete exploration of which in such scanty apparel was a prolonged agony more suited to Purgatory!

The survey of Damascus was undertaken immediately, and was finished by Kenney and Stanton in March 1953. A guide wire and warning notices were placed in the entrance grottoes - it is with sadness that we observe that they go unheeded.

On May 24th 1953 the accurate survey was finished, with the important exception of the passages upstream of the Black Hole. The surveyors were reluctant to undertake a big trip, via Sump 1, and it was decided to attack the P.G. Sump, and, if possible, reach the Black Hole dry-shod. Between May and July 1953 R. Kenney and Stanton paid 6 visits to the P.G. Sump with gelignite and rock drills, and lowered the rock lip which holds back the water by 1 foot 10 inches for a distance of 12 feet. As a result, a working face of that height appeared at the end of the tunnel. On July 19th R. Kenney, Stanton, Lloyd, and Thomson, with Oliver Wells of Wessex, cleared out a great deal of mud, only to find that the roof dipped more steeply than expected, and the passage sumped again after 10 feet. The P.G. Sump was still 23 feet long.

On August 17th, 1953, Wells and Phil Davies, of Wessex, opened a passage 30 feet long from the Upper Grottoes northwards to the streamway.

In view of Stanton's imminent departure overseas, it was decided to finish the survey in one marathon trip, via Sump 1. Arrangements miscarried at the last moment, and on August 30th H. Kenney, Stanton, Thomson, and a friend found themselves at the Black Hole with a lifeline, but without ladders. After some discussion, it was decided to attempt to climb across. Everyone succeeded, and the bogey of Black Hole was thus laid. Kenney and Stanton had brought down dry clothes in a waterproof pack, and were thus able to withstand an exceptionally long trip. The survey was completed after 11¾ hours underground - the longest sump trip to date.

On September 27th, 1953, H. Kenney and Stanton attempted to open the tunnel below the 11 Foot Drop, in the Mud Series. After 8 hours working in unpleasant conditions they became discouraged and returned to the surface, without, however, meeting with an insuperable obstacle.

This is the present position in the fourth era of exploration. With several promising sites still untouched, the era has seen the addition of 4,000 feet of new passages to Swildons Hole, which now boasts a length of one and two-thirds miles. Undoubtedly there is more to follow, but the how, when, and where of such discoveries are tales to be told by the explorers of the future.

FURTHER NOTES ON SWILDONS HOLE - SOMERSET 1934

F.G. Balcombe

After the disappointment of the earlier attack with jumpers and gelignite, hope was never really given up. A sneaking idea that something could be done still lurked in our minds, eventually to form itself into a concrete idea.

There must be a way on big enough to crawl through - or almost 'must' - so if by any means we could crawl through it perhaps an obstruction would be found easier of removal than the barrier massif. Hence after toying a long time with the idea, the risks of diving seemed to grow less and less until quite justifiable, and a Heath Robinson respiration outfit with 40 ft. of garden hose was finally constructed and tested out in the domestic bath. For the benefit of those who may consider rubber hose a means of air supply for human consumption, it may well be mentioned that half an hour breathing through this foul smelling medium is enough to turn the strongest rather green.

The respirator itself was of very simple construction. The seat tube of a Lady's cycle forming the principle member; this was cut down to suitable dimensions, 'raspberry' valves fitted to either end and the curved member hacked off to take the mouth tube. Connection to the hose pipe, a face-strap to hold the mouthpiece in situ, a nose-clip, swim-goggles, a headlight, and a rope round one ankle completed the equipment - save in one detail, just about as much 'guts' as the average man can summon to his assistance.

The ghastly noises emanating from the devilish gear have to be heard down in the bowels of the earth, in misty dim-lit surroundings, to be appreciated to the full extent. But to the history of the job: three attempts were made to locate the exit and when found, the respirator failed to respond at the depth necessary, and it was impossible to pass through without inviting serious consequences. An attempt was made by Jack Sheppard, but, alas, the hose had been badly refixed and came adrift at the furthest point reached - about 20 ft. under the rock shelf - it is thanks to his exceptional underwater experience that I am not writing these notes in the "In Memoriam" column.

Now two things had been learned from this escapade; first, that the respirator must be pressure fed and, second, that waterproof clothing is needed as the low temperature of the water, coupled with the blood circulation impaired by the inevitable nervous apprehension, is more than the ordinary mortal can stand.

So, with a record dash for the surface of the earth to try and restore our dangerously chilled bodies to normal warmth, the second phase in the attack closed. But no, there was an aftermath- The excited tongues of visitor members wagged too rapidly and too loudly, the wily Pressmen pricked up their ears and foul calumnies appeared in the Western Press, over which we had better draw a veil.

Footnote: This article has been reprinted from the Log Book of the Northern Cavern and Fell Club, 1934.

Third phase opened assault and battery. A charge of 10 lb. gelignite was laid against the roof of the newly opened arch and fired on time delay at 1.a.m. A dull rumble as of distant thunder disturbed the countryside and the slumbering village shook and trembled. A party went down next day with ill-concealed excitement to view the wreckage, but there was none, or only a flake looked a bit loose and the mud of the tidal wave was plainly evident. Jack Sheppard the most intrepid of the advance trio attacked with a crowbar and suddenly - woof ! splosh ! the lights went out and time stood still - or nearly so - as something like the whole roof fell down before us, almost scraping our knees and then drenching us with the splash. A deathly silence followed, no-one dared speak, until, the spell broken at last, we assured each other that we were untouched, and then lit up. About twenty tons of rock had peeled off the roof and now lay half buried in the mud of the pool. Thus was our objective brought a little nearer.

Another trip was arranged, and loaded with 30 lb. of "jelly" we wormed our way down to the pool and planted a shot in the mud at the far end in the hopes that it might dislodge the supposed obstruction. Only a tidal wave resulted. Another and larger shot was then fixed under the archway and shot off. It was evident from previous experience that it was quite safe to stay below during the fireworks, and really it seemed that more disturbance was caused at the surface than below. We even managed to keep one of the many candles alight when a shot went off, though the air surged violently up and down the passage in which we were ensconced. It appeared later that this shot went off during evensong in the village church above our heads. Rumour hath it that the hassocks jumped six inches off the floor. The congregation thought perhaps that the Judgement Day had indeed come and afterwards - according to our information - the Vicar was heard to exceed his allotted vocabulary of "Dear me, tut ! tut !"

But we are straying. When the fumes had subsided a little, the damage was inspected. The object of our attack was untouched - solid and immovable - but the adjacent rib of rock had shed an enormous pile of blocks and had utterly changed the configuration of the final chamber.

Alas ! thus doomed to this another disappointment we retreated once more to think it over. The project was announced at the time as 'officially abandoned', but "Hope will spring eternal" as the poets have said and we hope to have another look at it some time later in the year.

Better that we leave it a while and let the spirit of peace once more settle on Mendip. Let the Press reports of earthquakes in the West be forgotten, and let the inhabitants replace their broken crockery before we venture forth again to the next attack.

"My former hopes are fled
My terror now begins,
I feel, alas! that I am dead
In trespasses and sins.

Ah! Whither shall I fly,
I hear the thunder roar
The law proclaims destruction nigh,
And vengeance at the door.

I see or think I see
A glimmer far away
I'll gaze upon it as I run
And watch the rising day.

(After Cowper).



SWILDON'S FIRST DIVING PARTY, 1934

From an original photograph by Frank Frost
Jack Sheppard, "Jumbo" Baker, Graham Balcombe, "Digger" Harris, B. Offer
P.R. Brown, Bill Tucknott.

BOOK REVIEW

PREHISTORIJSKE KULTURE by Gert V. Natzmer. 155 pp. numerous illustrations, published by ZORA, Zagreb (Yugoslavia) 1966. at 30 New Dinars (about £1).

Many scientific works published behind the iron curtain are of international interest but, to the detriment of the rest of Europe, these books are not generally available to us. When they are, they are rarely available in anything but the original tongue, which presents difficulties in communication.

My meagre knowledge of the Yugoslavian language has not proved a serious disadvantage, however, when reviewing a book of this calibre.

Originally published in 1955 in East Germany by the Safair Verlag, under the title of "Die Kulturen der Vorzeit" this book did not receive a very wide reception.

As its title suggests the book covers quite a wide field from Eskimo art to native drawings of Africa, Egypt etc. and of course, the cave paintings of France and Northern Spain.

Works from the new world are not omitted, with details of many carvings from the continent of America. The author has also tried to draw similarities between the cartography of such far apart places as Northern Mexico and Babylon, but this is something outside the scope of your reviewer.

Probably the best recommendation this book will have is its discourse on the cave art of Lascaux and district, but then this is only of interest to those students of Yugoslavian tongue!

A.D.O.

A FORTNIGHT IN FRANCE

by Dave Everett

Last summer, a short but eventful holiday was had in the Pyrenees by Keith Barber, Richard Witcombe, and myself, and Bill Ball (B.E.C.). En route, we visited the show caves of Padirac and Labouiche, the latter of which was remarkable value involving a 1½ hours underground boat trip.

Centered at St. Girons, a small industrial town in the hill region of Ariège, we visited many of the better-known caves in the district. Useful contacts were made with members of the local caving club. Most of the caves we visited will be found on the Carte de France 1:20,000 Map, Sheet XX.47 St. Girons No. 1 (see footnote).

Of particular merit was the Grotte de la Peillot. After a 40 ft. entrance pitch and a slippery climb over stal., there follows a huge calcite bridge spanning a 155 ft. pitch. Below, the downstream passage sumps, but upstream a fine series of gours can be followed in a rift some half a mile long ending in an inlet sump. Traversing across the bridge above the big pitch, and avoiding a complicated phreatic maze on the left, a succession of vast chambers is encountered decorated with impressive formations. A lofty passage eventually drops down to a crystal-clear terminal sump. At the foot of the entrance pitch is another series of passages, but time did not permit us to explore them.

Another cave of considerable interest is the Grotte du Pontillon which after a steep entrance slope and 15 ft. pitch, contains chambers decorated with fine Selenite crystals. A long stream passage can be followed involving three 25 ft. pitches, and sumps at the end of a deep canal.

On our last night we were invited to join a party from the Speleo Group de Couserans in the exploration of a new cave that had been discovered near the Gorge de la Plagne, on the Montagne De Sourroque. So far, the group had descended four 20 ft. pitches, a 120 ft. pitch and a big 240 ft. On reaching the 120 ft., we heard that a rock fall had occurred below the big pitch, and that a young "speleologue" had sustained a crushed foot. A doctor was called in, and displayed great courage by descending the pitches since he had not been underground before. He performed an amputation on the crushed foot, and a great deal of work followed in preparing the top of the pitch with a suspended scaffold from which the patient could be hoisted freely. He was eventually brought to the surface and whisked away to hospital in an awaiting helicopter. We have heard since that he is progressing satisfactorily from this unfortunate and somewhat unique experience.

This unforeseen incident succeeded in thwarting our chances of exploration in this promising system. Nevertheless, it became clear to us that the Pyrenean foothills still offered great potential for even further discoveries as much of the countryside is obscured by dense forest, thus hindering the location of likely entrances to date. We hope to make further visits which should lead to substantial finds.

Footnote: The 1:20,000 topographical maps of France are a provisional series being superceded by a revised 1:25,000 new coloured series (corresponding to our own O.S. "2½ Inch" maps). The sole agents for purchasing foreign maps in this country are Edward Stanford Ltd., 12-14 Long Acre, London, W.C.2. This firm will provide suitable index sheets and price lists for any territory overseas.

THE EFFECTS OF THE EARLY USE OF EXPLOSIVES AT SUMP I IN SWILDON'S HOLE

by J.D. Hanwell

Few of us who free-dive Sump I today without a thought are aware of the considerable modifications made to its original dimensions (see Fig.1) by the use of explosives. Since references are made to this in the previous two articles of this Journal, it seems fitting to place on record the "before and after" effects of these early bangs. The following account is based on the original correspondence and drawings held by F.G. Balcombe, and kindly lent to the writer.

The first attempt to blow the sump open in January 1934 was a mammoth operation by any standards. C.W. Harris recalls how a strong party ferried gear to the 40 Foot Pot on a Sunday afternoon and literally pitched it over. Balcombe entered the cave alone early the next day, making seventeen portering trips with the packs to Sump I. He stayed down till Tuesday drilling a shot hole with a jumping bit into the roof on the approach to the sump pool. He held this in the crooks of his elbows and across the small of the back, swinging it by twisting his body. By the time he was joined by J.A. Sheppard with the Abelite explosive, a hole of 8" - 9" had been drilled. They left the cave and arrived at Wells about 3.a.m. on the Wednesday. The reward for all this effort was so disappointing that such methods were abandoned.

High explosive Gelignite was used in later attempts. These were ingeniously lodged into place; the larger early charges being fired by alarm clocks until they realised it was unnecessary to leave the cave.

On Saturday 10th March 1934 a strong party entered the cave at 6.p.m. with a 10-11 lbs Gelignite charge compressed into a half gallon oil tin. It was propped up against the underside of the submerged roof with a bamboo cane frame (see Fig. 2 and point A on Fig. 4). The clockwork exploder was given a two hour delay, so that it did not fire until 1.a.m., an hour after the party had left the cave. An inspection party returned at 11.a.m. on Sunday 11th. The events of this trip are graphically recorded in Balcombe's article in this issue. Despite his lucky escape Sheppard, in a short note written sometime during the following week, calmly observes:-

"Things look very promising though, & similar tactics should be successful in the near future".

The 20 ton fall (see the large flake removed beneath the "ROCK ROOF" label on Fig. 4) had at least given more headroom, and made access to the enlarged sump pool much easier. Before leaving a further charge, composed of 34 lbs of Abelite and 4 ozs of Gelignite, was floated under the arch on a cane raft (see Fig. 3 and point B on Fig. 4). It was fired by a 15 minute delay exploder, and the party only retired about 300 feet upstream. They left the cave at about 6.p.m.

A week later, on Sunday 18th March, a party of four went down the cave at mid-day armed with 20 lbs of Gelignite and a set of jointed broomsticks to probe the sump. The latter resulted in Balcombe's drawing (Fig. 4) of 7th September 1935 which embodied all the relevant information from numerous earlier rough sketches. In the notes accompanying these drawings

he takes up the story thus:-

"Descent at about 12 mid-day. Pool rodded with jointed broomsticks with the results as shown on sketches. A 9 lb. Gelignite charge was then exploded at C as it was the furthest point to which the charge could be pushed. No apparent results. It was observed after this that an almost imperceptible crack had opened along a joint on the cairn side of the rift over the edge of the pool.

"The pool commenced to rise steadily, doubtless due to a mud bank thrown upon the other side which will be cut away immediately the water surmounts it. If this proves to be so, it would be evidence that an air space exists within easy distance of the point of explosion.

"An 11 lb. shot was next fired on a raft at B which did no damage in the immediate vicinity, but dropped off a mass M from the joint just mentioned. It was not possible to inspect closely owing to the fumes, but the mass is thought to be similar to that brought off on Mar, 11/12, namely 10/20 tons, and further the contour at the far end (visible end) of the pool is probably much altered. This can be decided by the next party to descend. Both shots were felt and/or heard at the surface, the latter causing some considerable disturbance. Exit 10.p.m. approx."

In fact this proved to be the last attempt to blow the sump open.

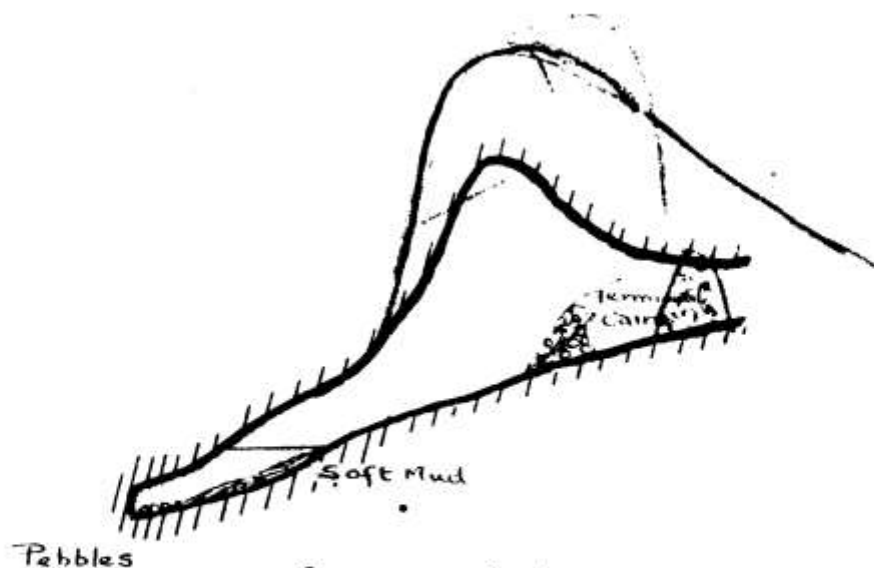
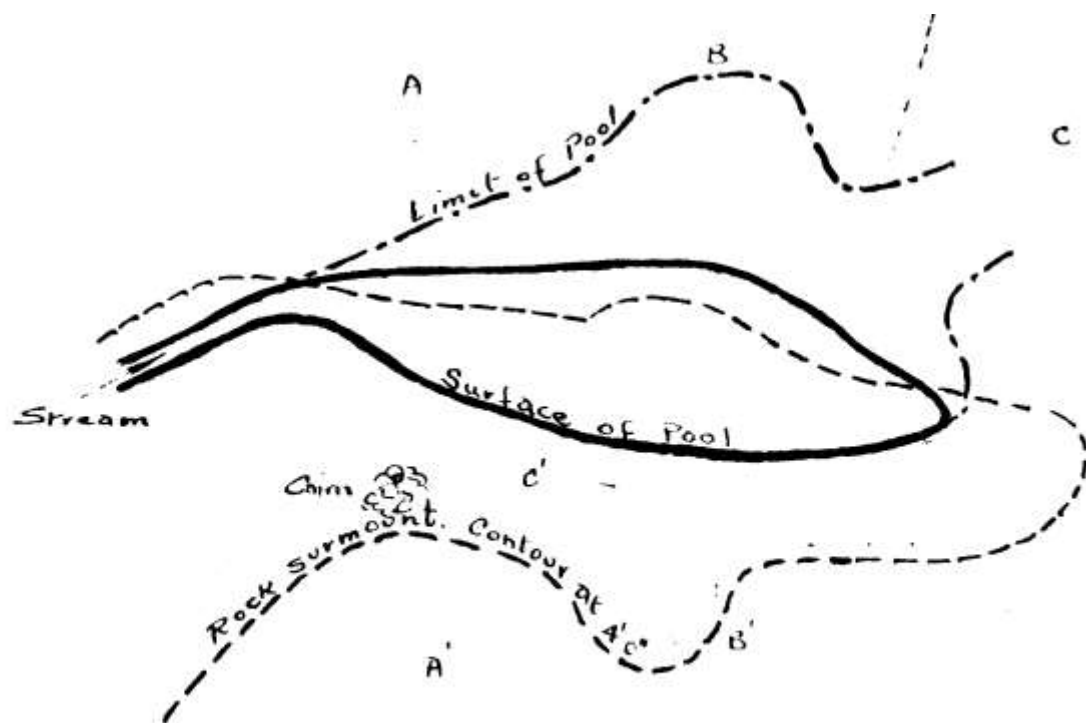
Further efforts to pass the sump were devoted to developing suitable diving equipment. Final success was not achieved until 4th October 1936, over two years after the last banging trip. It is clear from the records that the abandonment of explosives was largely to avoid upsetting the villagers any more, and partly out of the fear that persistent banging would cause a roof fall which might cheat them out of further exploration in any case. There is much evidence to show either reason sufficient for such prudence.

In his notes written on 7th September 1935 Balcombe states:-

"Contact explosions using large quantities have been found of little use, and moreover the continued use of same would cause serious inconvenience, if not danger to the inhabitants of the neighbourhood".

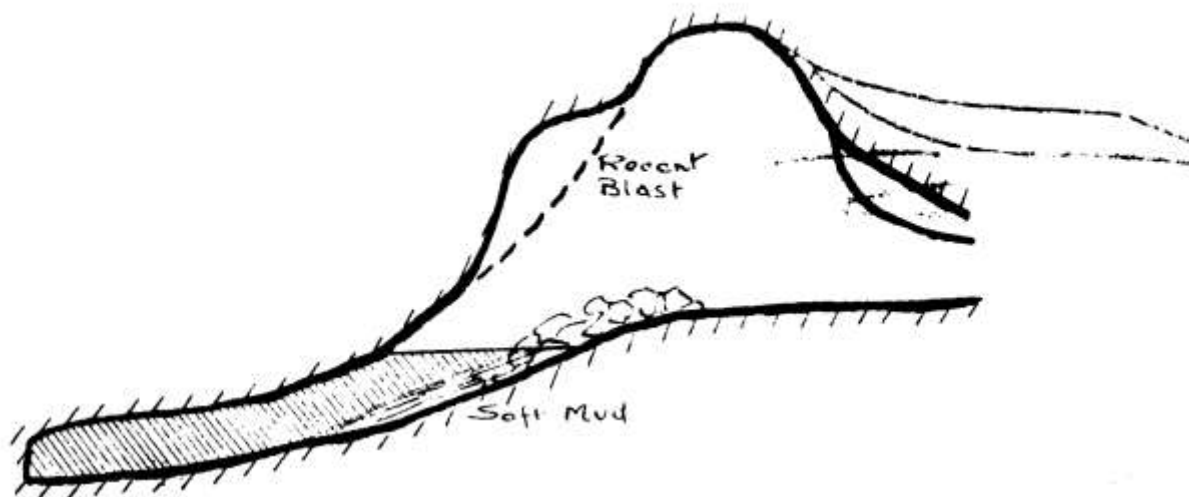
We should not dismiss the latter phrase too lightly even if, with the benefit of hindsight, we now know that damage to surface property would hardly have been likely. Certainly there had been much talk in the village and press about the noises created by the explosions. It is easy to imagine how such gossip got exaggerated to include physical damage for good measure. Such is the stuff that legends are made of, and cavers are as willing as anyone to add a few touches of their own. Whether damage occurred or not is hardly relevant here; what actually matters is that Balcombe and his friends truly believed they had been responsible for certain of the reported damage. In a brief resume of events written at the end of 1936 Balcombe wrote

".....20 lbs of Gelignite used: no progress:
attempt abandoned: damage at Church and Farm (Priddy)."

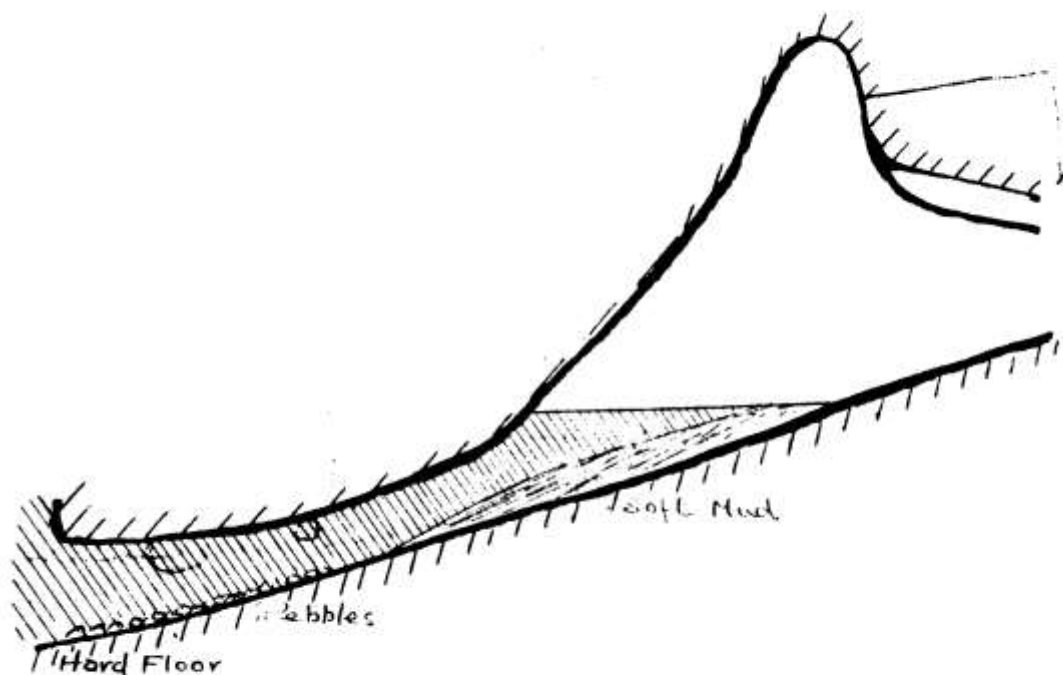


SECTION A-A.

Fig.1. Facsimile of original inked drawing by J.A. Sheppard (shortly after 11th March 1934), showing a plan view (above) and sections (below and overpage) of Sump I Pool. The lighter lines represent later pencilled amendments by F.G. Balcombe.

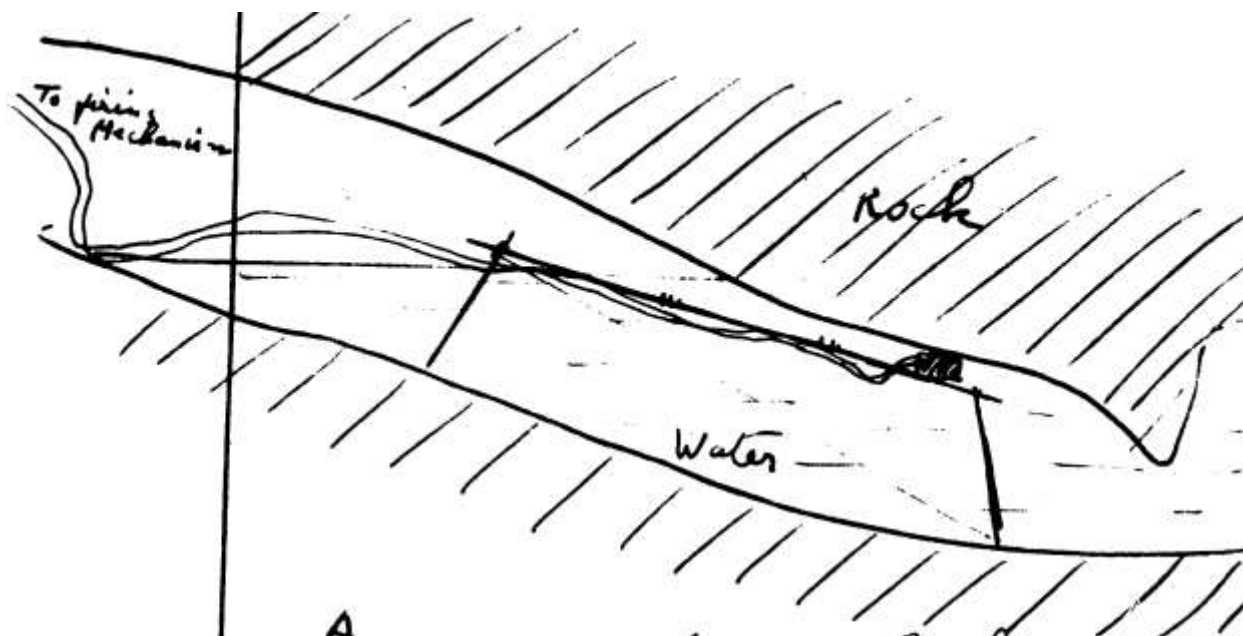


SECTION B-B.



SECTION C-C.

Fig.1. (Note) The Section B-B' shows the effect of the 10½ lbs Gelignite charge fired on 10th March 1934, and C-C' the position of the charges fired (cf. Fig.4).

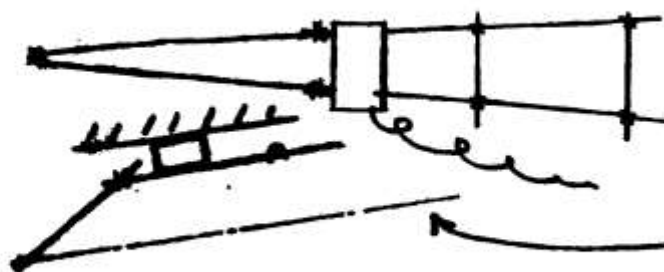


Arrangement of Bomb

10 $\frac{1}{2}$ lbs Gelignite compressed into
 $\frac{1}{2}$ gal tin, & supported on structure
 of bamboo canes.

Alarm clock set to go off
 in 2 hours time

Descended 6 p.m. approx., laid charge of 101 lbs.
 Gelignite on cane frame thus-



Gelignite packed
 in $\frac{1}{2}$ gal. oil tin.

Draw string.

Fig.2. Facsimile of original manuscript by J.A. Sheppard prepared shortly after 11th March 1934 (above), and original pencil drawing (below) by F.G. Balcombe on 7th Sept. 1935.

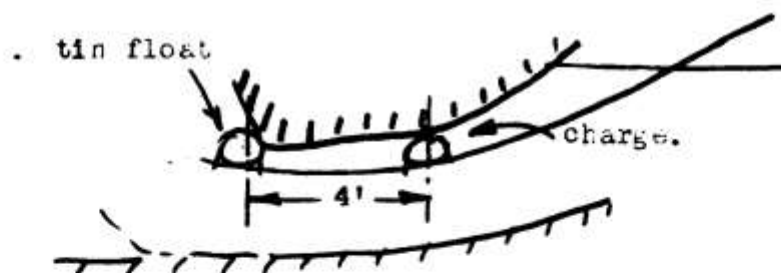


Fig. 3. Facsimile of original pencil drawing by F.G. Balcombe, drawn 7th Sept. 1935, showing how the 3 lbs 12 ozs charge of 11th March 1934 was floated into position (cf. point B on Fig. 4 below).

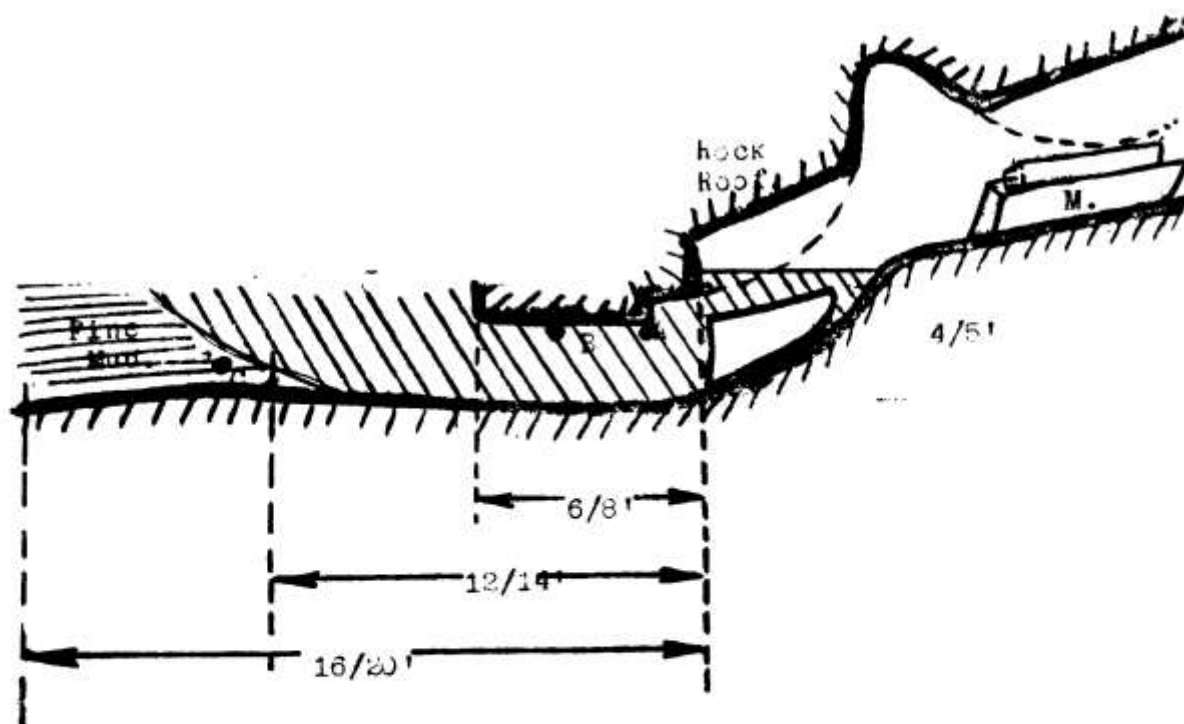


Fig. 4. Facsimile of original pencil drawing by F.G. Balcombe, drawn 7th Sept. 1935, showing locations (A,B, and C) of the charges fired in March 1934 on a section through Sump I.

Many cavers today have a lesson to learn from this considerate act.

On the other hand, the bangs must have weakened the roof of the sump and its surrounds more than realised initially, as later reports testify; for example, the account of the great crashing sound heard by Baker's party at the Double Pots, and the Tricouni Club's discovery of the "Dining room" fall on 5th May 1935. It seems most likely that further collapses of loosened rock could have occurred in the sump itself, and that subsequent floods washed the debris through before Sheppard's first dive.

While the early bangs did not achieve their desired effect at the time, it is quite clear that we now dive a more spacious sump than otherwise would have been the case.