

Wessex Cave Club

This circular is in a new style, and we hope you will like it. Please let us know if you approve, and on the other hand, let us have your suggestions. We want to make it a Club circular in the fullest sense, so please send along your ideas, they will be most useful and very welcome.

It will be quite clear that the continuation of the circular in this new form depends absolutely on the good will of members in providing articles or details of their caving and allied activities. Your help is essential, but if you have not the time to write an article, send just the details and we will put together an article and submit for your approval before publication.

In this issue we are off to an excellent start by having the report of the M.N.R.C. on the new system in Swildons. We are very grateful to the M.N.R.C. for giving us this opportunity of publishing this very interesting detailed report.

It appears that during the coming year Mendip will be the scene of fairly intensive cave and swallet digging activity. In addition to continuing their work on the Hunters Lodge system of swallets, the Harvey/Millwards group of diggers also intend to open Cuckoo Cleeves. David Willis has undertaken to open up Cow Hole again, and would be very pleased to hear from any members who would care to assist him in the work. We also understand that a group of members from Wells have several sites in mind.

Subscriptions. Overleaf will be found a list of the names of 43 members who have not paid their subscriptions for the current year, Aug. 1st, 50/July 31st, 51. The cost of a sub. to the W.C.C. is only 7/6; we have always tried to keep this as low as possible, and we do hope that those named will send along the money to the Hon. Treasurer as soon as possible.

To reiterate. Please send along your articles and ideas for this circular to the Hon. Secretary. They will be much appreciated.

Hon. Secretary. F. Frost, 22 Wolseley Road, Bishopston, Bristol.

'Phone. Bristol 44221.

Hon. Treasurer. G. Williams, 1 Redhill Drive, Fishponds, Bristol.

Asst. Hon. Sec. Mrs. Millward, Court-de-Wyck, Claverham, Nr. B'tol.

'Phone. Yatton 3211.

Hon. Sec. London Group. H. Murrell, Mizbrooks, Capel, Surrey.

'Phone- Capel 3272.

SUBSCRIPTIONS.

The following members have not paid their subscriptions which were due on the 31st July, 1950. These should be sent to the Hon. Treasurer as soon as possible.

A. K. Bradshaw	C. W. Harris.	D. W. Parsons
A.J. Bradshaw	Miss Hazelton	M. A. Peters
J. E. Burleigh	A. H. Hill	S. J. Pick
S. Chambers	F. J. Hobday	P. A. Rahtz
E. R. Champeney	L. T. Hughes	C. S. Rogerson
R. Dell	R. E. Hunt	K. Stafford
Mrs. Dell	J. G. Jago	W. I. Stanton
F. J. Denny	J. Lines	T. E. Thomson.
C. Downs	W. H. McLeod	Miss Tomlinson
Fairfield Spelio. Society.	A. Mason	Miss Tudor
N. Gardner	W. R. Midwinter	R. J. Whiting
W. Greenwood	P. H. Murrell	J. S. Wilkins
J. Hampton	N. Paddock	E. H. Williams.
	A.J. Parsons.	

New members who have not paid their sub. and entrance fee.

L. Brewer	M. Brewer	D.J. Read
Full Members		7/6
Family joint Membership (member and wife)		10/-
Affiliated Membership		1/6

Extract from Rule 8.

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

CAVE RESEARCH GROUP.

The annual subscription has been reduced, as from 1st January, 1951, to 25/- per annum. Members of the W. C. C. interested in the Group may like to get in touch with the Hon. Sec. Brig. E. A. Glennie, Seaton House, Shrublands, Berkhamstead, Herts.

EASTWATER HUT.

The overnight fee for members using the above Hut is now 1/-.

FUTURE EVENTS.

NOTE: In future when Club trips are arranged, the trip leader will be responsible for the organization, and members proposing to take part in any trip should contact the leader direct.

February 11th. BATH FREESTONE MINES.

Meet at the "Cross Keys", Coombe Down (Ordnance Survey Popular Edition 748619) at 3 p.m. Sunday, 11th February. These mines are easy of access, being very close to the surface, and are one of the sources of the famous Bath Stone used so extensively in the building of the City of Bath. The mining methods are clearly visible and some of the old saws are still in position. The mines have further interest in that cave pearls are quite numerous, and a so-far unconfirmed rumour that a certain flight of steps gives access to the cellar of a local pub. The main attractions of this trip are: no crawling, no climbing and except for boots no caving clothes are required - but Sunday best is not recommended. A suitable trip for the lazy, old and infirm. Names please to:- C. H. Kenney, 5 Vicars Close, Wells. Tel. No. Wells 3211.

February 20th. DISCUSSION EVENING.

"Possible Digging Sites on Mendip". The "digging season" will soon be with us, and if you are interested in taking part in a dig, then come along this evening to check up with other members likely spots with the aid of Geological Maps.

7.30 p.m. at 5 Oakfield Road, Clifton, Bristol.

February 28th (Wednesday). CLUB SUPPER AT THE BELL HOTEL, WRINGTON.

The last Supper was such an undoubted success that it has been decided to repeat the event, so again come along and bring your friends to this social "get-together". We have been promised a good hot meal for 5/- per head. The Supper will begin at 8 p.m. sharp, so those requiring an appetiser please arrive early. It would be appreciated if car owners would advise the Hon. Sec. how many seats they have available. Those requiring a lift should also contact him. Names, please, to the Hon. Sec. by 21st February.

March 6th. Lecture. P. A. Rahtz. "Digging into the Past".

7.30 p.m. prompt at 5 Oakfield Road, Clifton, Bristol.

March 20th. Talk. P. I. W. Harvey. "Cave Photography".

As Peter is one of the Club's leading photographers, he should have some useful information to pass on, and examples of his photographs and slides should be very interesting.

7.30 p.m. prompt at 5 Oakfield Road, Clifton, Bristol.

Date not to hand. Joint lecture With the U. B. S. S.

Easter, 1951. March 23/27th.

Plans are on foot for a joint meet in Yorkshire with the Stoke-on-Trent Pothole Club. This should be an interesting event, and those members of the W.C.C. who were lucky enough to be included in the party which visited Derbyshire in September of last year will remember the series of most interesting events prepared by the S.O.T. Club. Accommodation may be strictly limited, so to avoid disappointment send your names to –the Hon. Sec. at once.

April 8th Stoke Lane.

C. H. Kenney will be taking this trip and full particulars will be published in the next circular.

In addition to the above mentioned events, it is hoped to arrange the following:-

Geological Lecture and field day.

Archaeological field day.

Trip to South Wales

Cheddar Gorge ramble, followed by high tea.

Burrington Coombe Caves, followed by high tea.

Midweek evening trips, when possible.

PAST EVENTS.

The LAMB LEER trip on November 15th was almost obliterated by dense fog. However, nine stalwarts turned up and were all glad to get underground where it was much warmer. The trip was enjoyed very much, particularly by those who had not previously visited Lamb Leer. Several people have expressed regret at having missed this trip, but if sufficient names are forthcoming another trip will be arranged.

P. E. M.

The FULL SWILDONS trip which was to have taken place on December 10th unfortunately had to be cancelled owing to weather conditions. However, it is hoped that Howard Kenney and Donald Thomson will lay on another trip to show the entrance to the recently discovered system.

CLUB SUPPER AT THE BELL HOTEL, WRINGTON. Most people don't mind being led, but have a strong aversion to being pushed. "Get togethers" show the same characteristic; if all concerned – perhaps subconsciously – do their little bit of coercion, the party goes along merrily, but woe on him who tries to dragoon a party into joyfulness! No dragooning was needed at the Wrington Supper, which, right from the start, had that subtle something that makes a venture of this sort a success.

Some 23 people turned out, which wasn't too bad, considering the season, transport difficulties, and so forth, and a lot more must have wished they'd been there, especially after hearing "morning after" accounts from their pals. To Don Parsons must go much of the credit. His marathon struggles with the; piano being largely responsible for the general letting-down of back hair. All-in-all it was a very happy evening. There is a lot to be said for an informal affair that leaves you free to talk shop, sing, yarn, or just quietly drink yourself to death and I'm sure most people left the "Bell" saying "why don't we do this more often?".

P.B.D.

G. B. That old friend of Mendip Cavers, G. B., was again the venue for a small party of Wessex Members led by Donald Thomson. Unfortunately, no specific meeting place was mentioned, and as a result Donald and his companion waited at Lower Farm while the other three cavers sojourned at Long House barn for over an hour – this might be remembered to advantage in future announcements. (Noted: Hon. Sec.) The short way was taken to the main chamber which was seen more clearly than is usual by the aid of a large acetylene lamp. The attempt to return by way of the Ooze was abandoned due to the excessive amount of water therein. Thanks to Donald for a very pleasant three hour trip which finished on a high note with cups of hot tea.

H. J.

LECTURE. 9th January. Jack Duck was most unfortunately prevented by illness in the family from giving the lecture on Cave Surveying. Frank Frost came to the rescue, however, and provided a most entertaining evening with part of his extensive collection of lantern slides, which was of great interest to new and old cavers alike. Slides of the Club French Trip brought forth many "Do you remember so and so?", also much spontaneous wit, which added to the enjoyment of a very informal and sociable gathering of 14 members. Events of this type should receive better support, members really should take advantage of these lectures. As a regular Sup porter, I can say it is well worth while coming along.

L. W. M.

Most Thursday evenings a small party of members and their friends meet in the lounge at Crockers at 9 p.m. for drink and a yarn. Why not come along one Thursday – we all buy our own beer, so you spend as much or as little as you wish.

THE LIBRARY.

The following new books have been acquired:-

Lascaux Cave Paintings	by	Fernand Windeles.
Ancient Castleton Caves	by	J. Royce.

We are greatly indebted to David Willis for presenting the following books to the Library:-

Wookey Hole	by	H. E. Balch.
My Caves	by	N. Casteret.
Cave Hunting	by	Boyd Dawkins.

W. J. Edwards has also kindly presented:-

A Journey to the Interior of the Earth	by	Jules Verne.
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All the above books may be borrowed from Librarian P. I. W. Harvey, 33 Brighton Road, Redland, Bristol. 6.

COMMITTEE GLEANINGS

Instructions given to destroy 20 foot length of rope ladder which had been reported to be in poor condition.

The following By-law has been passed. "All ladders, ropes and other portable caving tackle shall be examined and/or tested at six-monthly intervals in the presence of the Gear Curator, by a Sub-Committee of three members, the said Sub-Committee, being appointed by the full Committee". A Sub-Committee of Peter Harvey, Bill Donnan and Howard Kenney was formed.

Decided to purchase a 400 gallon water tank for H. Q.

Repairs to chimney at H. Q. to be carried out in the near future.

Painting of H. Q. to be deferred until the spring.

Materials to be purchased to make 100 feet of light weight ladders and a similar quantity of rope ladders.

It was resolved that the following in conjunction with the Hon. Sec. should be responsible for producing the new circular – P. E. Millward, C. H. Kenney, L. W. Millward.

Half a dozen small picks have been purchased and are available at H. Q, for the use of members.

The Librarian proposed to have published a full list of books in the next circular.

Peter Harvey was asked to produce a Club Prospectus.

SPECIAL REPORT ON SWILDON'S HOLE, PRIDDY.

An Account of the Discovery of a New Series of Passages.

The following article is included in this circular by kind permission of the Mendip Nature Research Committee, and we would like to express our appreciation to the M.N.R.C. for giving us the opportunity of publishing this excellent report.

During the long dry summer of 1949, a thorough search was made for a new series of passages opening beyond the 'Sump' in Swildon's Hole. Mr. Balch, our President, had frequently stated his belief that such a series existed, and four members of the Mendip Nature Research Committee, Luke Devenish, William Stanton, Howard Kenney and myself, made several expeditions in search of it.

We explored the upper levels between Sump I and Sump II, and we tried numerous side passages all of which seemed to end disappointingly in mud chokes. High up in the rift, however, there were one or two interesting passages, which although they did not go very far, were more encouraging.

The New Series were finally broken into one Sunday. It was after a Wessex do at Cheddar Gorge. William Stanton had been digging in what was known as the 'Priddy Green Stream', the little stream which enters the main waterway a little above Sump I, and on this occasion he wanted to carry on with the dig. As there was only room for one in the hole, William was left to scratch away in the stream bed, while the rest of us went on through the Sump. We were accompanied by a Wessex Cave Club member, Andrew (?) who had ridden from London on his motor cycle. We climbed up the mud bank to the right, just beyond Crawl 1, to a height of some 20 feet, where the mud gave way to a large, flat, sloping rock slab, jammed at an angle between the walls of the rift above the stream. At this point someone noticed that on the right the wall was broken by two circular passages. One of these passages is larger than the other, but to reach it one must take a bold step across the rift. The other one is easier of access but rather tight. After a little preliminary investigation we put Howard Kenney into the smaller hole and told him to get going. He reported, almost at once, that the two passages joined a little way along. Then the three of us waited and shivered, for we could neither see nor hear him. He returned finally and told us that the way went steeply upwards over slippery mud covered rock until a 13 foot drop was reached, down which he could not venture without a rope.

On subsequent trips we passed the drop on one of Devenish's lightweight ladders and reached a chamber bearing evidence of considerable shattering of its walls and roof. This chamber was subsequently named 'Junction Chamber', and the passage which leads to it the 'Upper Mud Series'. From Junction Chamber, a pleasant 50 foot chimney descends to the Lower Mud Series which leads downwards over mud covered rocks and loosely heaped boulders to a partial choke of mud and sand, through which a tiny stream trickles.

This choke interested us considerably, for, rising from the far end of it, we could hear the noise of a large stream. Howard dug there for some time, lying on his face in the cold, wet mud with the water entering his trouser leg and passing out through the neck of his boiler suit. After a while, he had had enough, and as no-one was enthusiastic to continue the dig, we forsook it. There is something especially chilling and depressing about liquid mud, a quality which clean, honest water, however cold, does not possess, something which upsets the most even-tempered, and makes the most ardent caver long to regain the streamway where he can wash his clothes and filthy body. So on this occasion, we came away, but on the way out we noticed a small stream flowing in near Duck I. The water was thick with mud.

The next trip into the cave was not made until just after Christmas of that year. We followed the miserable and detested route through the Upper Mud Series and gained the bottom of the 50 foot Chimney. Here we struck off in a new direction and scrambled up a ten foot overhang. This was not easy, as the handholds were loose and mud-encrusted. But William Stanton led the climb with his long legs, and then hauled the rest of the party up. The handholds have now been cleaned, and the Ten Foot Overhang is easier than it was when first attempted. From here the way on led up a muddy passage, past a squeeze, and up another mud slope, giving way to a fairly high and still ascending passage. Everywhere we were surrounded by shattered and loose rock. This instability is a general feature of the New Series, and although a good deal of work has been done towards making the way safer, there are still large masses of limestone ready to fall on anyone foolish enough to touch them. The passage took a sharp turn to the right and we found ourselves standing at the lip of the 'Black Hole'. From the place where we stood, now known as 'Calcutta', we could see no way on except down, and looking down, there was a sheer drop. The light from our acetylene lamps was insufficient to reach the bottom. By this time we had used all our tackle except a thin nylon line, so William Stanton tied himself on, and chimneyed down to a narrow ledge. From there he announced that he could straddle across the top of the Black Hole to reach a passage leading away on the opposite side. From Calcutta we could see neither William nor his goal, so that it was with some trepidation that we paid out several feet of slack and waited helplessly until he announced that he was safe.

The other side was a mass of loose boulders, he said, and he was going to send a few over the edge to make the place safer. Whereupon there followed crash after crash, and with each one we wondered if Stanton was still alive. But he must have known what he was doing, for presently he announced that he was going off to explore. For a long time we heard nothing except the usual dripping noises and unaccountable splashes which one hears in caves, then a cheerful voice accompanied by the noise of boot nails on limestone told us that he had returned and was ready to be lifelined back over the top of the Black Hole. When he was safe on the home side again, he told us that the passage went on past some beautiful formations, including a nest of cave pearls, until it reached a stream which fell away into a deep and wonderfully decorated rift. Upstream there was a large, inviting passage which he would not follow alone.

After hearing this account, we made what speed we could to the surface and gratefully availed ourselves of Mrs. Devenish's never-failing hospitality which, as ever, consisted of all those things which make a cold, wet, dirty caver warm, dry and clean again.

On the 8th of January, 1950, the usual party of Luke Devenish, Howard Kenney, William Stanton and myself, struggled through the Upper Mud Series and then to the Black Hole with 40 additional feet of ladder. Throughout the expedition we used Luke's special lightweight tackle, and, had we had to use normal rope ladders, our task would have been far more difficult. On reaching the top of the Black Hole we had to search for some time before we could find a crack suitable for the insertion of a piton, as the rock is very rotten at that point. A rather doubtful looking crack was finally found and the piton was hammered into it, forming a tethering point for our ladder. On descending, we found that the Black Hole was not quite so bottomless as we had at first supposed, the ladder pitch being in fact only about 35 feet. The chamber itself is fairly large, with an overall height of some 50 foot. From behind the ladder a stream issues from a little sump, flows across the floor of the chamber, and under a tall pile of loose boulders which leans over perilously and is jammed against one of the walls of the passage, forming a sort of flying buttress. After this, the way is smooth and easy. A short passage goes off on the right and ends in a mud choke, while the streamway finally ends in a low sump. The climb back through the Upper Mud Series with tackle proved very exhausting, and we were very glad to reach the cleansing waters of Swildon's Main Stream and Sump I.

No further explorations were made until the following Easter, and in the meantime a certain amount of thinking was done. We knew that the long struggle through the Upper Mud Series with tackle for the Black Hole was liable to sap our exploratory enthusiasm. Stanton was the only one of us, at that time, who possessed sufficient confidence to step across the top of the Black Hole to the unexplored regions beyond, so tackle had to be carried, and it had to be carried by a shorter and less arduous route than the Upper Mud Series. Accordingly, after passing through Duck I, we climbed up a muddy, boulder strewn slope to the right whence we had previously noticed a trickle of water emerging. On investigation, there proved to be a tiny passage leading upwards, almost completely choked with mud and sand. The trickle flowed over the choke in an encouraging fashion.

We dug for about an hour by turns, until at last there was a passage just deep enough to pass through. Squirring up through this muddy hole was one of the most unpleasant things I have ever done. With one's back jammed against the rock above, one's chest ploughed through three or four inches of liquid mud which tended to pile up around the mouth and nose as progress was made upstream. Burners of acetylene lamps became clogged and electric lamps became so obscured with mud that they were rendered useless. Having passed through this mess, therefore, our gratification was intense when we found, as we had hoped to find, that the way led into the Lower Mud Series. This was confirmed when a full tin of carbide was noticed. This must have been dropped by Kenney when he dug in the upper end of the choke many months before. The choke has now been dredged out into a comparatively commodious passage by many passing bodies and has lost much of its unpleasant character.

The exploration of the regions beyond the Black Hole was continued in August, 1950, when we crossed the Hole itself on a loop of two ladders joined together and tethered on both sides. The piton and tether holding the far limb of the loop were made fast by Stanton.

The party spent alternate days for a week in Swildon's Hole New Series, and tackle was left fixed throughout the cave for the whole time, thus leaving our hands free for the transport of surveying and photographic gear. On the final trip we spent eleven and a quarter hours underground, most of the time surveying and taking photographs.

On the other side of the Black Hole, there is a miserable chamber formed of shattered rock and loose boulders. This is not a pleasant place, and indiscriminate scrambling is dangerous. Further on, however, the character of the cave changes, and there are one or two delightful grottoes.

The cave pearls became hopelessly, though unavoidably, muddied, however, and had to be removed. It is impossible to reach this part of the cave without getting oneself covered in mud, and it is necessary to move very carefully to avoid plastering the exquisite formations with permanent brown stains.

The stream which Stanton spoke of earlier is reached in the Well Chamber, which has a low roof, glistening with fine stalactites. To the left, the stream falls away into the Well, a rift with walls formed of stalagmite bosses and curtains. To the right, upstream, the passage leads up through several fine grottoes and past some odd and rather beautiful mud formations. There is a lofty rift and a long, low creep over sharp stones, reminiscent of the early knee-breaking agonies of Stoke Lane. Higher up, we cleared a choke of loose stones sufficiently to pass between them and the roof and gained entry into a larger passage, high, loose and forbidding. It can be followed for some way upstream until it ends, after a slithering scramble over a stalagmite barrier in the final boulder choke. This place is extremely dangerous, as the roof looks ready to fall in at any time. We tried to clear the choke, but desisted when we realised that we were undermining the flimsy supports of several large masses overhead.

The Second Boulder Choke is the limit of exploration so far. A good deal of surveying and photographic work still remains to be done, and several interesting theories are held as to the origin and course of the stream flowing into the Well. The four of us hope to revisit the New Series shortly and attend to these matters. In the meantime, no difficulties should be experienced by those who wish to visit the place.

Colin Vowles.

GEOLOGICAL FEATURES OF THE NEW SYSTEM OF SWILDON'S HOLE

The discovery of a new cavern, large or small, is generally the signal for rejoicing among cavers. It entails, however, a certain amount of drudgery on the part of the original explorers in the preparation of such sporting and scientific documents as will satisfy their spelaeological consciences. Not until their finds are set down in print may they relax in the atmosphere of "a job well done".

The following account is only provisional and awaits modification by men more learned than the original explorers, none of whom makes any pretence of being an expert on cave formation. At the time of writing the survey from which many of our deductions have been drawn is not complete, though we expect to manage this before Christmas. The 2,000 feet of passage beyond Sump I which have been mapped to date were surveyed with about the same accuracy as the published plan of the old cave, i.e. C.R.G. grade 3½. Unless access can be made more easy this survey is unlikely to be bettered. Instruments used were a yardstick, a steel tape, a prismatic compass, and an altimeter read on the descent and checked on the return journey.

The first result of the survey was that Sump I was shown to be in the region of 385 feet below the entrance, and not 460 feet as was previously believed. Incidentally, this allows a further fall of nearly 300 feet to the level of the resurgence at Cheddar.

The following data may be interesting:-

Passage length of Swildons, to Sump I.	approx.	3,900 feet
ditto Sump I to Sump II.	approx.	820 feet
i.e. total length of old cave.	approx.	4,720 feet
Length of Upper Mud Series	approx.	580 feet
ditto Lower Mud Series	approx.	810 feet
ditto passages below Black Hole	approx.	310 feet
ditto passages beyond Black Hole	approx.	1,240 feet
ditto others between Sumps I and II.	approx.	110 feet
i.e. Length of New Series	approx.	3,080 feet
i.e. Total length of Swildons Hole	approx.	7,800 feet or nearly 1½ miles.
Depth of 2nd Boulder Choke below entrance	approx.	145 feet

Further Exploration:

Beyond the Black Hole every open passage has been thoroughly explored, except where beautiful formations would be damaged in gaining entry. There are two such places, one a lovely grotto in a chimney leading off Well Chamber, and the other at the sharp bend at the lower end of Sore Knees Creep. We earnestly hope that only true cavers will reach these places, and that the exquisite cascades will be safe from such vandals as defiled the lovely stalactites beyond the Upper Grottoes in Swildons I.

At the upper end of Sore Knees Creep is a small passage which will be considered later. The Second Boulder Choke may yet be excavated, though the journey to it is very tiring. We hope to attempt it soon.

In the two Mud Series there are several small passages which have not yet been entered. Whether these will lead to large extensions remains to be seen. It does not appear likely that any open bypass to Sump II will be found by way of the new series as the descending passages all become completely filled with mud as the level of the stream in Swildons II is reached.

There are also several small passages leading off in the roof of Swildons II which would repay careful investigation.

Geology:

Like the rest of Swildons, the New System is cut in the lower Zaphrentis zone of the Carboniferous Limestone, i.e., thin-bedded fossiliferous limestones with numerous shale bands. The dip of the strata is roughly constant, as was shown by numerous readings, and is generally about 15° W. S. W. This is the regional dip. Major faults are infrequent; the only one of note is that passing through Calcutta and the Black Hole, where deep slickensides show nearly horizontal movement in a vertical plane running roughly N, W. There are several minor faults roughly parallel to this one. It is interesting that the drag-folding which is so prominent in parts of Swildons I has not so far been noticed in the New Series. Below the 40' Pot this drag-folding is evidence of over-thrusting in a Northerly direction and may be due to Welch's West Priddy Fault, of which few other signs are found in the cave.

Hydrology:

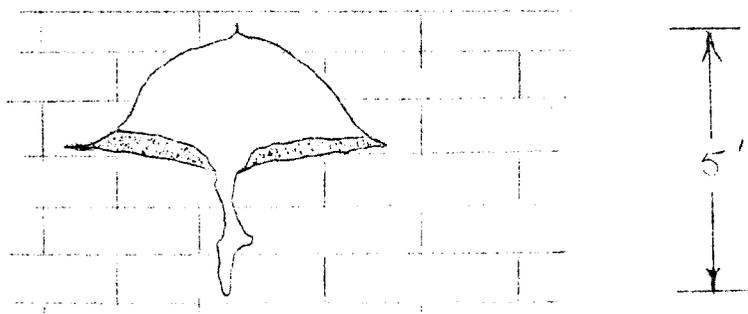
Minor trickles of water run down several of the passages in the Mud Series, but the principal stream of the New System is that which enters Swildons I just before Sump I, and which has usually been called the "Priddy Green" stream. Whether this actually was the stream that sinks on the Green was always a matter for doubt, as to reach Sump I it would have to cut across the dip in a most unusual fashion. It is first encountered in the New Series at the foot of the Black Hole, where it wells up from a sump too tight to dive and flows down a long passage beyond the Flying Buttress to a mud choke over which it seeps away. The Survey shows this minor sump to be only about 20 feet from the end of the excavation in the "Priddy Green Passage" of Swildons I, and it is conceivable that it may be washed out now that the boulder obstruction has been removed.

Proceeding up from the Black Hole this stream is again found cascading down the 30 foot climbable pit known as The Well. From the bottom it runs down 80' of stalagmite lined tunnel to a curious and impassable sump, at about the level of the sump at the bottom of the Black Hole. Upstream from the Well we wade and occasionally wriggle in the same stream to the upper end of Sore Knees Creep, where it vanishes among the tunnels and rocks of the 1st Boulder Choke. In Fools Paradise it reappears among loose rocks, and is finally lost under the 2nd Boulder Choke. At this point it is several hundred yards N.N.W. of the entrance to Swildons, making a beeline for Priddy Pool in Axbridge Street, and is some 250 feet below the ground surface at that point, but only 150 feet below the entrance. It is thus unlikely to be the Priddy Green stream, and if it has a surface source this is likely to be in the bed of the stream flowing down to Swildons, close to Priddy Pool. If this is the case it has an important bearing on the origin of the cave. That it is the same stream throughout has been proved by its turbidity after each of our visits.

Passage Types:

In character the Upper Mud Series differs from the rest of the New System, and is apparently almost entirely phreatic. The long Approach Passage in particular appears to have been untouched by more than a trickle of vadose water since its formation. It is principally bedding plane determined, but the apex of the roof generally follows a thin calcite filled joint. The great age of this passage is well demonstrated by the minute trickle of water which has cut through the four inches of pure red mud on the floor and then sunk a trench less than four inches wide but more than two feet deep in the solid rock below.

CROSS SECTION OF APPROACH PASSAGE



Scalloping in this approach Passage shows that it was formed by water which welled up the 15 foot Drop, so that at that time the whole of the cave below the level of Well Chamber at least must have been totally submerged.

Between the 15 Foot Drop and Junction Chamber is a large up-and-down-stepping passage roughly in the bedding but formed along the principal joint directions. At the base of each down-step a small-bore tunnel leads off, presumably draining into Swildons II. On the floor is a deposit of red clay as in the Approach passage. The whole of this part of the cave is strongly solutional, with grotesque loopholes, oubliettes, and blind passages, the walls smooth and rounded. The large passage continues a short distance beyond the foot of the 15 Foot Drop before it is choked with sandy clay containing pebbles of Old Red Sandstone. It appears probable that this was the original continuation of the up-and-down-stepping passage, the water being diverted into the approach passage, a smaller affair altogether, by the choke. In this case this choked passage would appear to hold out some promise of continuing beyond Sump II, though the choke is likely to be very extensive. A trickle of water flows out of the choke.

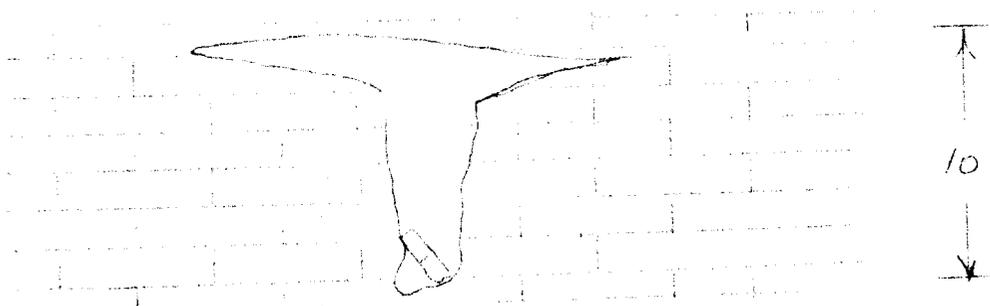
There appears to be small scale faulting in the high portion of Junction Chamber. It is evident that the water which formed the regions beyond flowed up the 50 Foot Chimney, thus producing a further downstep in the passage. A parallel chimney, the "Blind Pot", is choked at the bottom. The tunnel descending from here to Swildons II via Kenney's Dig also shows the rounding characteristic of solution, but it is more rocky than those already mentioned and may have suffered slight vadose modification. The mud choke at Kenney's Dig is probably principally the result of flooding from Swildons II.

The passage, above the Ten Foot Overhang is smooth and typically phreatic. Scalloping shows water flow down over the drop. Thirty feet along is a fork, the left-hand branch ascending to a blank end and the other descending 8 feet along a joint to where it breaks into the roof of a large passage which is choked just below.

Here it appears almost certain that the choke impeded the water flowing down the large passage (probably to the bottom of the Blind Pot) and caused it to enlarge a joint and enter Junction Chamber by a route at a slightly higher level. This would appear to be a repetition of events at the 15 Foot Drop.

From, here to just before Calcutta the wide, low passage follows the bedding and rises fairly rapidly. Loose mud-coated rocks are numerous, and everything points to a phreatic origin. At about 50 feet before Calcutta the bedding plane rises above our heads and we scramble up a trench cut in its floor, possibly due to vadose action, although, as we have seen, this part of the cave was submerged for a long period.

CROSS SECTION OF PASSAGE



A similar cross-section persists throughout much of the main streamway of Swildons I and II.

The Black Hole is cut in shaly rock partly shattered by parallel faults; its considerable size is no doubt due to this. Beyond the Flying Buttress the stream leaves the fault zone and appears to show strong vadose modification of an originally solutional passage, with the cross section given above specially prominent in a dry side passage.

The passage entering the Black Hole at Thunderbolt Depot is at a slightly lower level than Calcutta, thus forming yet another downstep. Scalloping shows water flow from Well Chamber to the Black Hole. The long straight passage to Well Chamber appears to be due to enlargement of a vertical joint or fault, which is continued in the rift beyond the Well. The stream from here to the Black Hole probably flows along a parallel passage, or even at a lower level in the same rift, completely submerged.

From Well Chamber to the Eastern end of Sore Knees Creep the passage generally follows the strike. Except for a high rift section with abandoned potholes in the walls (possibly due to the entry of a passage in the roof above some fine cascades) it is fairly low and bedding-plane determined, rising only gently, and apparently mostly due to solution. At the end of the Creep the main tunnel swings left to enter Fools Paradise via the 1st Boulder Choke, but straight on is a small tunnel along the bedding, partly choked, and apparently the true continuation of the Creep. The survey shows this passage to be within 100 feet of the bend in Swildons I North of Barnes' Loop, in the same straight line as the passage to the 20 Foot Drop, and on the same level. A connection appears possible, but we have not yet investigated the matter.

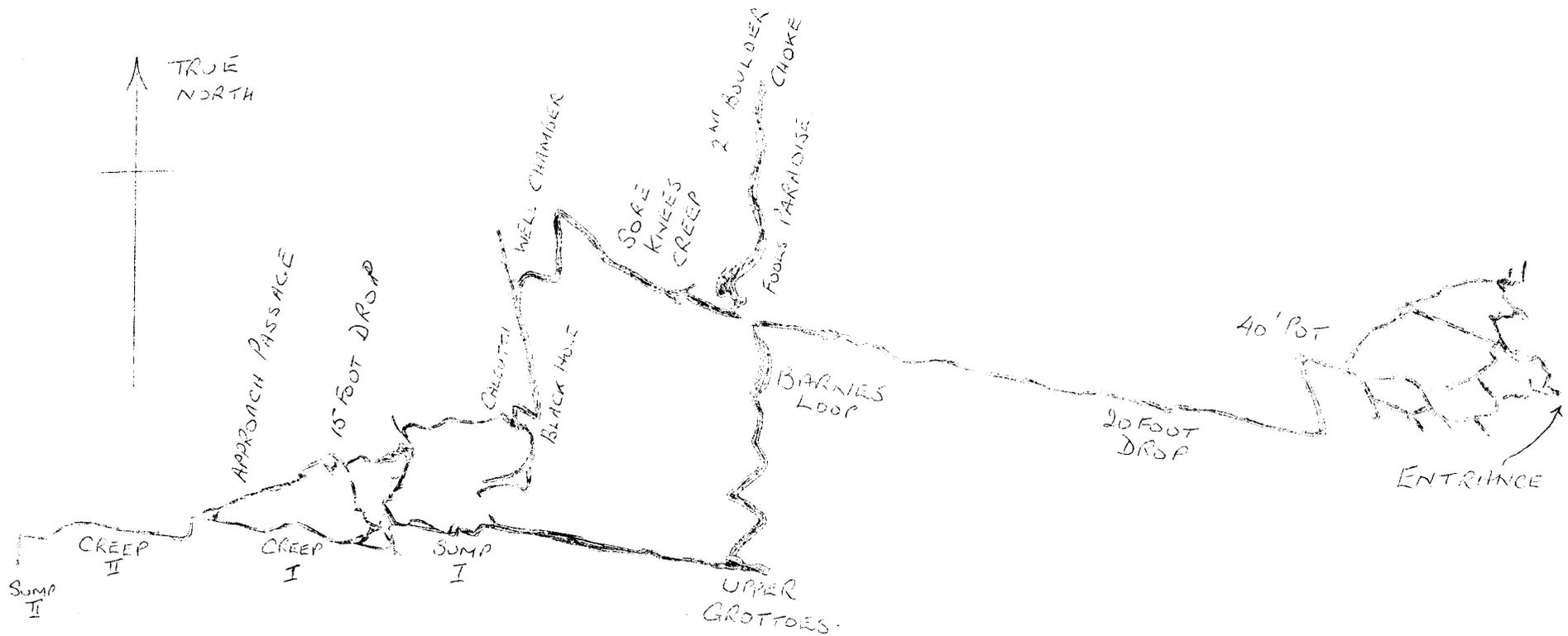
Fools Paradise is everywhere high and narrow, expanding at the bottom into a good sized chamber before shrinking into the tortuous Sore Knees Creep. It ascends steeply, and while in the roof are solutionally widened bedding planes and pockets the major portion of the passage appears to be a vadose trench. The large chamber at the lower end is in rock shattered by minor faults. At the 2nd Boulder Choke the passage has been nearly filled by dripstone, which is now being eroded by the stream.

Origin of the Cave:

Until the exploration and survey have been completed this section does not warrant more than a tentative discussion. Obviously much depends on whether or not there is a connection between Sore Knees Creep and Swildons I near Barnes' Loop. In general the cave may be seen to be on two principal levels, possibly corresponding to old water tables, with steeper connecting passages. Whether the upper level in the New Series was formed entirely by water from Fools Paradise or whether it is an upper level of Swildons again depends on the above connection. The steep connecting passages between the two levels raise the question of which level is the older, or whether they were contemporaneous. From the section it would appear that the upper level is likely to continue beyond Sump II, and several methods of reaching it beyond the presumed choke are apparent. Dominant passage directions are hinted at in the accompanying plan. We expect to continue with all this work in the near future and to publish a more conclusive report when it is finished.

W.I. STANTON.
13th October, 1950.

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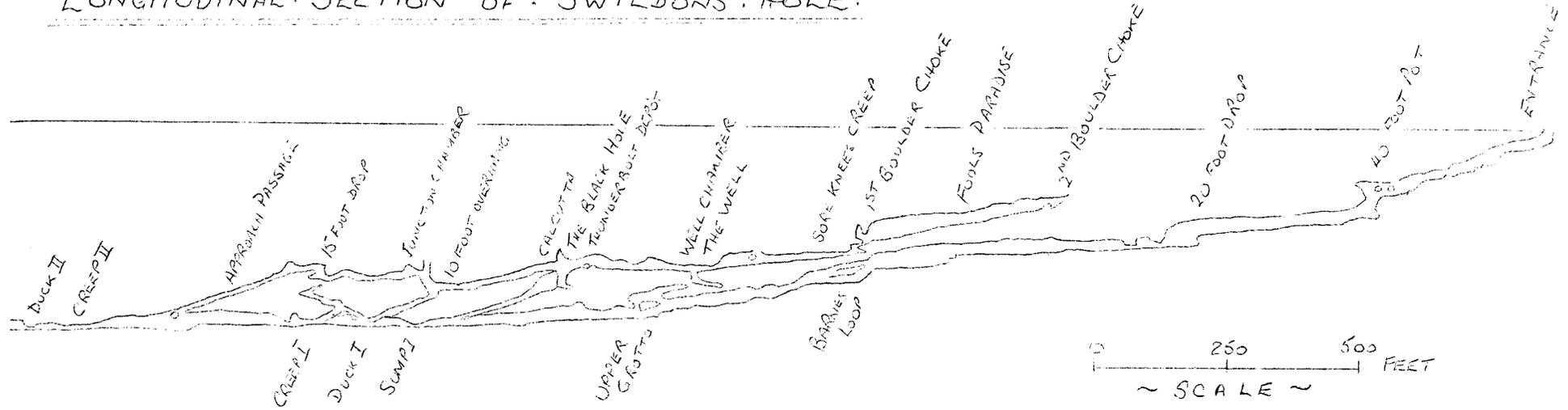


PLAN OF SWILDON'S HOLE

0 200 400 FEET.
 ~ SCALE ~

Note.- Much of Swildons I, Swildons II streamway and the Upper Mud Series are sketched in.

LONGITUDINAL SECTION OF SWILDONS HOLE.



LINE DIAGRAM TO EMPHASISE ESSENTIAL FEATURES.

