

# SOUTH WALES CAVING CLUB NEWSLETTER

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Contents

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1	The New Way on, or Digging the Modern Way	Charles George
2	Techniques for Making a Caving Wet Suit	Bryn Thomas
3	Ras Gwyl Ddewi	E.C. Kripling
4	Incident in Tunnel Cave (Rescue Report)	Bryn Thomas
5	The Forest Again, or What's Mine's Mine	John Osborne
6	Instant Speleology	Bryn Thomas
7	Duff or MacDuff	W.H. Little
8	Success - Dan-yr-Ogof April/May '66	Alan Coase
9	Club News	

## THE NEW WAY ON or "DIGGING THE MODERN WAY"

Our Hon. Secretaries, certainly the last two, have apparently been suffering from the same disease. This dreadful malady manifests itself in long harangues at "those lazy younger members who refuse to dig, mere Tourists". In a foaming frenzy they urge successive A.G.M.'s to desert their armchairs, to stop dreaming of past glories and to lead the young blood back to the muddy pits.

Is this self-glorification, '1,000 yds. added during my past year of glorious office'? Or mere muddled thinking brought on by advancing years? Surely it is gradual ageing, more to be pitied than anything else. What young caver of today wishes to indulge in such a slow and painful way of making, or hoping to make, new caves, measureless, (except in the Hon. Sec's report) to man? The answer is none. For it's neither fast nor easy, in fact, it's not 'Mod' to dig. What else is left? With Tourism despised, there's only Diving (and comic writing Editor). But clearly it's too much to expect a chap to train or even to mix with cranks like divers. So the young men dream and since they cannot see a better way they sit and sit, still hoping!

But wait, here it is, the new way on! A glorious modern way, it's neither 'trad', nor dirty and it has not been done before, so it must be good!! Rise up and SYPHON - and not at the 'Gwyn'.

### The Facts

#### 1. O.F.D. Dip Sump

There is an extensive dry system beyond Dip Sump. See S.W.C.C. N.L. No. 34, Dec. 60. For dry cavers, the key to reaching and exploring this mostly unexplored cave, is Dip Sump.

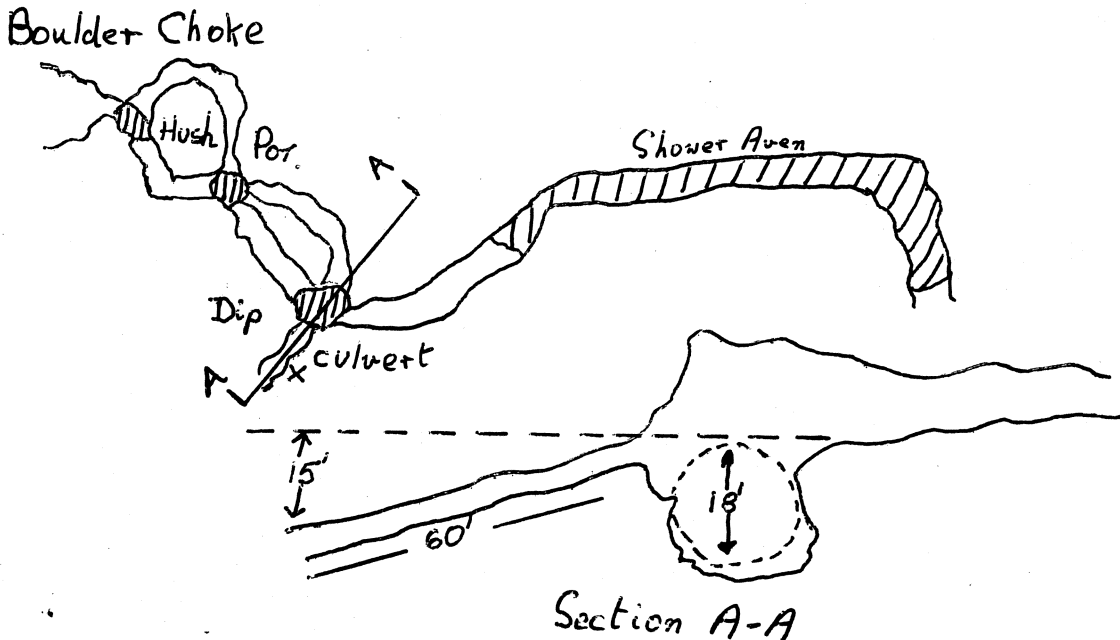
If the water surface in Dip Sump could be lowered by 6 to 10 feet, the water seal between Dip Sump and Shower Aven would be broken. It would then be possible to swim through with an air space.

During normal weather conditions the whole of the flow in O.F.D. passes out of Dip Sump and into the Culvert. There is a total depth of 18 feet in Dip Sump and a fall of 15 feet over a length of 60 feet in the Culvert. Blasting is possible, but requires a lot of drilling, while the rubble could block the Culvert.

A rigid Syphon tube could be constructed, which must be large enough to syphon off the normal flow, also having extra capacity to lower the sump level. A pipe some 14 inches in diameter should suffice in dry weather. To start the syphon the pipe could originally be filled by sand bags placed on the sill around the pipe at the top of the Culvert. The level rises, when the Culvert is blocked, at about 6 inches an hour.

#### O.F.D. Sketch Plan

(Not to scale)



2. Dan-yr-Ogof New Lakes 5, 6, 7 and 8.

Diving has shown that lake 6 leads to lake 7 and on to various air spaces? lake 8. None of the sumps passed are deep. The average depth is only some 2 to 3 feet below the air surface. If the level of the lakes could be lowered by only 3 to 5 feet, a dramatic advance beyond lake 8 could easily be achieved.

Blasting would require a drill, and might inconvenience the Show Cave.

A syphon would be easy since it is comparatively simple to get material to the site. A fall of 8 feet could be achieved with a pipe about 30 feet long.

Technical

Suction hose, as used by the N.C.B. and others, is extremely expensive and hard to obtain, even when worn out. The largest size is 6 inches diameter, so one will require several lengths.

Both jobs require a pipe of about 14 inches diameter, capable of withstanding a suction pressure of up to 5 lbs. per square inch.

'Lay flat' polythene tubing of heavy weight might work if a double layer was supported by 5 gallon drums with their ends removed. Lay flat tubing of heavy weight and 24 inch width costs 2s.1d. per yard from Transatlantic Plastics Ltd., (A.G.A.) Ventnor, Isle of Wight.

In conclusion, this is only one idea. Surely the problem is not beyond 'MOD'ern ingenuity. If only I had the time to do it, but it takes too long digging the old fashioned way!

C.O.G.

TECHNIQUES FOR MAKING A CAVING WETSUIT  
and some information about the materials currently available.

Noel Christopher's article about neoprene, in the last Newsletter, has prompted me to attempt to summarize some points that I have learned while making my wetsuit. I found that, as with many operations, the most critical phases are the first - the self-measurement, and cutting the neoprene to fit. These must be done with reasonable accuracy, and self-measurement is almost impossible to do without help. Since it involves undressing, a warm room is desirable - as well as help of an appropriate kind.

A method of Self-Measurement

(1) Lines are marked on the skin (with biro):-

- (a) up the insides of the legs;
- (b) around the legs at ankle; calf; below, at and above the knee; thigh; and crutch;
- (c) up the midline of the body, front and back, as far as the neck;
- (d) up the sides of the body from hip to armpit;
- (e) around the body at hips; waist; bottom of ribs; and below the armpit;
- (f) around the base of the neck;
- (g) along the top of the shoulder;
- (h) around the base of the arm from armpit to shoulder;
- (i) along the arm from armpit to wrist;
- (j) around the arm at points corresponding to those in (b).

(2) The distances between all meeting points of lines are measured. On "up and down" lines the tape is held against the skin all the way. On "around" lines it is pulled in to depress the skin slightly. This must not be overdone, as a tight suit is uncomfortable, and may restrict blood circulation. The chest is measured when half expanded.

(3) The measurements are marked on paper, or directly onto the smooth surface of the neoprene. This may be done with chalk, or by drawing a sharp point gently over the surface. (This does not damage the neoprene.)

(4) Leg, arm, and back "around" measurements are halved, and drawn either side of a central straight line. Front "around" measurements are halved, and  $\frac{1}{2}$  inch subtracted from each half, to allow for the zip.

Procedure Suggested for Making the Wetsuit.

(5) To make the trousers, first cut and glue up the legs, leaving plenty of neoprene at the top. Then put them on, and hold the flaps of neoprene close against the skin. Mark them where they cross the midline of the body, and cut and glue along these lines.

(6) Cut out the front and back of the tunic, and join the parts at the sides. Cut down the middle of the front and glue in the zip. Put the tunic on, and mark the top against the lines on the skin of shoulder and neck. Cut and glue these seams.

(7) Make up the arm tubes and put them on. Mark the joint with the tunic when the arm is held out just below the horizontal.

Cutting the Neoprene

The reliability of a wetsuit largely depends on the quality of the seams, so it is worth taking trouble over making them.

(8) Use sharp, good quality scissors, and use them correctly. (Thumb and SECOND finger, not forefinger, in the rings). If you are left handed, use left handed scissors.

(9) Make the cuts perpendicular to the surface of the sheet, and absolutely smooth. Two edges to be joined should preferably be the same length.

(10) Do not touch the surfaces to be joined, and handle the neoprene with clean hands. If an edge becomes dirty cut off a thin strip to prepare a new one before gluing it to anything.

#### Gluing the Seams

I have used Evostik for gluing. One can also use Bostik No. 3, or one of several neoprene cements. These may be superior, but also may be more difficult to use, since they are not contact adhesives. They are slightly more expensive than Evostik, and some may be obtained from Sub-Aqua Products, Eastleigh.

(11) Evostik for use on seams should be thinned down until it will just flow freely into the cut bubbles on the edge to be glued. Thinners can be bought, or made up (see Christopher's article). Petrol also works, but the effect of the additives is not known.

(12) Use ONE good application on each surface, NOT TWO. Allow to dry, then carefully place the edges exactly together, and then squeeze them firmly.

(13) Do not strain the seams until the adhesive has hardened. This takes about 12 hours.

I have been wearing my wetsuit for three years, and have never split any seam that had been properly made as recommended here, even when they were not taped. Moreover, the seams have remained soft.

#### Adjustments and Repairs

A caving wetsuit should fit perfectly, and adjustments will certainly be needed to make it fit. Some can be made during manufacture of the suit, while others will become necessary after use.

(14) To shorten edges, cut out triangular darts. The cuts should start at right angles to the edge, and then bend around. The darts should be symmetrical.

(15) Folds can be pinched up, scratched with a sharp point, and then cut out. Similar shaped pieces can be inserted where the suit is tight.

(16) The open ends of seams and darts are weak points at which tears may start. These usually run off into the neoprene. They can be prevented by cutting a strip off the edge across the end of the seam, and, if necessary, gluing a strip of foam neoprene or of tape along this new edge.

(17) Before gluing up tears or snags, cut new edges.

(18) At the multiple crutch and armpit joints, it may be useful to insert diamond shaped pieces of neoprene. If a multiple joint is under strain, it may be broken and allowed to relax. With the neoprene relaxed, a circular disc may then be cut out around the joint, and a new disc of the same size glued in.

(19) Discs may also be used for repairing holes, or alternatively patches may be stuck on (see section on knee pads).

#### Reinforcement of Seams

It is usual to reinforce the seams with 1/32 by 3/4 inch neoprene tape, but 1/2 inch wide tape is adequate if used carefully. Tape can also be bought 1/64 inch thick. Two-way-stretch nylon stockinette is useful for reinforcing larger areas, and may be used inside or outside the suit.

(20) Neoprene tape should be stretched to 2 to 3½ times its length shortly before it is glued on.

(21) Evostik for use on tape should be thinned only slightly.

(22) Tape should only be necessary on seams and repairs which are under tension, and around ends of legs and arms. It should not be put onto seams in places, such as the back of the knee, which may become tightly folded.

(23) Nylon stockinette may be stuck on over difficult areas, such as crutch and armpits, and over the outsides of knee and elbow pads, which suffer from abrasion on cave floors. Evostik is not very good for this; neoprene cement would probably work better (see below).

#### Knee and Elbow Pads

(24) An extra thickness of neoprene may be stuck onto the knees and elbows to protect the wearer from sharp rocks. This neoprene should be stuck on while the knee or elbow is slightly bent, and should be made to follow the bend. Evostik for this purpose should be thinned only slightly. The knee pads may be extended downwards to protect the shins.

(25) There tend to be weak points above the knee pads. These may be cured by reinforcing with nylon stockinette or with tape.

There are difficulties in sticking pads, tape or nylon stockinette to the smooth surface of the foam neoprene. (See Christopher's article). These will be discussed below.

#### The Zip

All-nylon zips are totally inadequate for caving use. Silver nickel heavy duty ones are effective, and generally used. They should extend

about 2 inches below the bottom of the tunic. I have not personally used Velcro fasteners.

### Socks or Bootees

These may be made either in the classical manner, from two halves joined at the midline, or by the method I have used, from a sole, and two side pieces folded in and joined, with a tube stuck on around the ankle. This type seems to last longer.

There is a tendency for the feet to slip about inside the socks. I have found that this can be cured by wearing thin nylon socks inside the neoprene ones.

### The Problem of the Non-Adhesion of Evostik to the Smooth Skin of Foam Neoprene

When tape, or a neoprene patch, is stuck with Evostik to the skin side of foam neoprene, it usually pulls off after a while, bringing the adhesive with it. Noel Christopher, in his article in the last Newsletter, suggests three possible reasons for this. He apparently favours his second reason, that release agents in the surface are responsible, which I also believe to be the main cause of the trouble. However, his first suggestion, smoothness of the surface, may contribute to it. Noel's third reason cannot be right, since, if it were, Evostik would never stick to neoprene, not even to the cut surfaces. Part of the effect of a release agent is to prevent wetting of a surface by the liquid plastic.

Noel has tried ways of beating this problem. The fact that solvents for neoprene can be used to break down the surface layer suggests that neoprene cement might be more use than Evostik. However, he rubbed his solvent in: this would not be practicable with cement, so that for cement to stick to an unprepared surface the solvent in it would have to work without much rubbing. I think this would happen, and I intend to try it, since neoprene cement is obtainable.

The alternative is to remove the surface layer with an abrasive. This is theoretically a slightly better method, since solvent will re-distribute the release agent in the neoprene, but I doubt if this makes any practical difference. I am not surprised that Noel gave up when using emery paper on his neoprene! The remedy is to use COARSE sandpaper, which is reasonably quick (though hard on the fingers) and effective. Many people do this, and I have taped many seams with sandpaper and Evostik (sic), without any failures. The tape does not seem to separate from the adhesive, so that sanding of the tape appears to be unnecessary.

When sanded, neoprene goes through three successive stages:-

- (i) a light grey haze, probably a surface roughening;
- (ii) a darker, rougher surface; and
- (iii) small holes appearing in this surface. These are the bubbles showing through.

I have always sanded to stage (ii).

It may be that good results will be most easily obtained by using neoprene cement on surfaces sanded to stage (i), and this I intend to try.

This might be particularly useful for sticking nylon stockinette, for which Evostik is unsatisfactory even when it sticks properly. It makes the stockinette rather stiff, and gives it a scratchy surface, and it is difficult to avoid loose patches.

#### Choice of Type of Neoprene

Foam neoprene is commonly available in four types and four thicknesses.

- (i) Single skin.
  - (ii) Double skin.
  - (iii) Nylon lined one side, neoprene skin the other (normal).
  - (iv) Nylon lined one side, open bubbles the other (reversed).
- |     |           |   |            |                      |
|-----|-----------|---|------------|----------------------|
| (a) | 1/8 inch  | = | 0.125 inch | British or American. |
| (b) | 3/16 inch | = | 0.188 inch | " " "                |
| (c) | 1/4 inch  | = | 0.250 inch | " " "                |
| (d) | 4 mm.     | = | 0.158 inch | French.              |

(ii)(a) and (iv)(a), (c), (d), are not available (1965).

(iv) is for special purposes, such as the soles of nylon lined boots.

For caving, the advantages of (iii), its strength, and freedom from chalking, seem to be outweighed by its disadvantages. It gets muddy, it dries slowly, and it costs about twice as much as (i).

(i) is commonly used in caving. It dries fairly quickly, but does tend to tear rather easily.

(ii) may have some advantages, particularly faster drying. It may also be stronger than (i). It is not available in 1/8 inch thickness, and in 3/16 inch it is much more expensive than (i).

Whatever type of neoprene is used, it should have the individual bubbles as small as possible. Coloured neoprene should not be used, since it may be less stable than black. Coloured tape should be used only if high visibility is required for reasons of safety, or for sexiness.

A caving wetsuit should provide enough warmth to protect against moderately long immersions in cold water, but should not be too hot when moving out of water. Since it is not intended to protect against prolonged immersion, it can be thinner than a skin diver's wetsuit. In Britain, most wetsuit cavers use 3/16 inch suits, and at least this thickness seems to be necessary on the trunk. Those with 1/8 inch suits tend to feel cold, but only when the trunk is wet. 1/4 inch is probably too hot out of water, and 3/16 inch unnecessary on legs and arms.



A suitable compromise, therefore, seems to be 3/16 inch for the trunk, and 1/8 inch for arms, legs, socks and hood. My suit is of this type, and keeps me reasonably comfortable for most of the time. If all the suit must be the same thickness, this should be 3/16 inch.

#### Acknowledgements

This article is based on my own experience of making and using a wetsuit, but also attempts to summarize many points derived from other members of the Club, particularly Eric Inson, Rob Williams, Bill Little and Noel Christopher. My thanks to them.

It is assumed that readers will have read Noel's article in the last Newsletter, and that anyone making a wetsuit will study the articles in C.R.G. Publication No. 11.

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| DILLY, D.F.                      | 1963 | Some Useful Tips for those about to<br>make a Wetsuit.<br>S.W.C.C. N/L. No. 45.   | Nov. 1963.  |
| CHRISTOPHER, N.                  | 1965 | Some Notes on Neoprene.<br>S.W.C.C. N/L. No. 51.  | Oct. 1965.  |

Most of the materials mentioned in this article may be obtained from:-

Sub-Aqua Products (Eastleigh) Ltd.,  
63 Twyford Road,  
EASTLEIGH, Hants.

Catalogue available. There are also other suppliers.

BRYN THOMAS

RAS GWYL DDEWIPart I - The Deception

1. The scene was set, we all were met, we gathered at his home.  
We wined and dined, but he declined, he stood there all alone.  
The race, he said, was not a race, a pleasant country walk.  
He had us sent, that country gent, with all his country talk.  
He stood upright with eyes abright and said "Now shall we go?".  
So we set out with this clever lout for 20 miles or more.
2. We walked and talked for half a mile, friends and friends we were.  
For half a mile on half a mile the walk continued fair.  
Then on a hill there came the pill this devilish medic carried.  
With clever talk and cunning walk some of the crew he harried.  
With smiling face he increased the pace, his idea of fun.  
Then he rang the bell to go like hell and the front began to run.
3. The sun was bright, our feet were light and he was number four.  
This crafty 'med' by the name of Ted, he'd been this way before.  
Then away ahead he saw a head, attached to a sturdy frame.  
He immediately knew that one of the crew would beat him at his game.  
Lloyd was the head that was well ahead.  
So it looked like defeat for poor old Ted.
4. Birds of a feather flock together and one to Ted's aid came.  
He'd been in a car to get this far and Freeman was his name.  
He rushed to the lead in his sturdy steed, determined to save  
the day.  
When Lloyd came along, singing a song, he directed him down the  
wrong way.
5. Now said is the tale as we kept on the trail, a story of trouble  
and woe.  
Of blisters and sores and blood on our toes and the pace was  
beginning to show.  
Then Ted in his stride brushed us to one side and took the bit  
in his teeth.  
With vest in his hand it was Edward's last stand as he hurried  
over the heath.
6. Thus ends part one with Ted on the run, but tragedy here befell,  
One of the crew, that gallant few, had a pain that hurt like hell.  
With a groan and a scream he jumped into a stream and let out some  
dreadful cries.  
We removed his boots, examined his roots, he had blisters right  
up to his thighs.  
The medic had gone and we must press on, ten miles to complete.  
So we lifted him out, turned him about and left him at the side  
of the street.

Part II - The Final Blow

7. Along the verge his body lay,  
His feet in swabs and his head away.  
"I need your help", he cried in vain,  
His friends passed by in the other lane,  
And down the metalled road they sped,  
In pained pursuit of the demon Ted.
8. Now Ted ahead was going strong,  
When for a drink he began to long.  
His belly hurt, his throat ran dry,  
When he saw a vision, in the sky.  
Of limpid pools all brown and black  
With froth on top his thirst to slack.
9. A maiden leaning gainst a tree  
Said, "Ted, come up and drink with me".  
But he was made of sterner stuff  
And returned her charms with rude rebuff.  
He wiped his brow and onward strode  
And drank the miles off that metalled road.
10. When at last the vale he gained  
His feet were sore, his face looked drained.  
A friendly Inn came into sight  
And Ted strode on with all his might.  
And at that panelled door he beat  
To quench a thirst which reached his feet.
11. And now we come to the sorry bit,  
For this is a case of the biter bit.  
He reached for cash, began to reel  
As he recalled the words of his newsletter spiel,  
"Go out without funds so you've got to walk back",  
He stumbled and foamed and his brain gave a crack.
12. The sweat from his brow made bevels in the dust,  
As he lay on the ground a beating his bust,  
Then he heard in the distance the trundle of feet  
And he knew if he stayed he'd be facing defeat.  
He rose from the earth like a thing from the past.  
He started to run - he wouldn't be last.
13. His goal was in front and two were behind.  
One was a woman he felt in his mind.  
To be passed on the road by a slip of a girl  
The shame of it, Blokes, and his feet gave a whirl.  
He ran the last mile in a manner possessed  
And got to Penwyllt, ahead of the rest.

14. The big and the small came next up the hill  
 But Edward was waiting to give the last pill.  
 He'd washed and he'd changed and put on a cravat  
 And sat on the wall and said - "nothing in that,  
 You lot should have won, you did very well,  
 The trouble was you were going like hell.  
 You should play it cool and not struggle to win.  
 The fun's in the game - not being first in!"

E.C. KRIPLING

REPORT ON A RESCUE AT TUNNEL CAVE 31st Oct. - 1st Nov. 1965.

This report was written very shortly after the rescue call-out to Tunnel Cave last November. It covers those aspects of the incident in which I was directly concerned, or which I ascertained at the time. It should, therefore, be read in conjunction with the report published by the University College Swansea Caving Club, in their journal 'Speleotawe'. The two reports were written entirely independently, and may therefore contain interesting discrepancies and different points of view.

It would be interesting to have a report on the outside organization of the rescue by someone who was called out. I saw nothing of this side of the incident, until the end.

It has been suggested that this report should be published as it demonstrates the stages of development of a perfectly normal caving trip into a rescue. It also serves as a warning about the dangers of flooding in Tunnel Cave, which may not always be appreciated.

One final point - the night on which this incident took place was Hallow'een, which may be enough to explain why it happened. According to the rescuers at the top of the shaft, the weather was very appropriate - pitch dark, howling wind and driving rain - perfectly foul, in fact!

Bryn Thomas.

Wargrave, Jan. 1966.

Reference - Speleotawe. 65 No. 1.

The Report.

During Sunday 31st October two parties from University College Swansea Caving Club went into Tunnel Cave intending to do an exchange trip. These parties entered about 12.30.p.m. and their expected time back at Penwyllt was 9.00.p.m. At about 8.00.p.m. the party going up was out and had de-laddered the pitch. On reaching the bottom they and the other members of U.C.S.C.C. realised that the lower entrance had sumped, and was overflowing the outer dam.

I was at Penwyllt intending to stay the night and at about 9.00.p.m. after all the other members had left, some of the U.C.S.C.C. came up and reported:-

- (1) that one of their parties was not out
- (2) that the dam had sumped
- (3) that they had, with the farmer's permission, broken the pipe in this dam to let the water out.
- (4) that two of their most experienced members, Terry Moon and Colin Fairbairn, had gone in to find the other party.
- (5) and that another party had set off to re-ladder the top pitch.

The large pipe through the outer dam is in working order, and should drain the dam (it was repaired earlier this year). Questioning revealed that what they had broken was the plug which the farmer puts in to block the pipe. Removing this lowered the water level to almost nothing in the outer reservoir. The inner was overflowing as usual.

It was assumed that the party inside would go back to the top when they found the dam full. (They had done so and had left a note in Davy Price's Hall. This note was taken up by Moon and Fairbairn).

The U.C.S.C.C. then left Penwyllt promising to phone up when all were out. At about 11.30.p.m. one of them, Mike Bancroft, telephoned to say that:-

- (1) The party going to re-ladder the pitch had failed to do so (I subsequently discovered that they could not find it as all those who knew the way were in the cave).
- (2) No sign had been seen of any of those in the cave.
- (3) The original party would by then be running out of light.
- (4) All those out of the cave were tired and were in any case less experienced cavers.

He requested help.

I ascertained from him (1) that the dam was still low; (2) that one or two of the U.C.S.C.C. were prepared to go in again with me. I arranged for Bancroft to collect me when I had changed, and I telephoned the Grithig to ask the Barrows to stay awake until they heard from me again. I took down with me (1) 3 Nife cells; (2) the Hot Drinks pack.

At Dan-yr-ogof I arranged that Bancroft should stay out, as he had the only transport and that two of the others should come in with me. Bancroft was to telephone the Grithig and ask for more help if he received a message, or at 2.a.m. if he did not see anyone. I found that the pipe in the dam was working, but that there was a foot of water inside, so I arranged that if the water came within 6 inches of the top of the dam (approximate sumping level) a team should be sent for to ladder the shaft and we would go up there. We entered the cave at about 12.30.a.m. We had with us 2 spare electric lamps, carbide, a sleeping bag and the Hot Drinks bag.

In Davy Price's Hall we met the original party of 7 led by Paddy O'Reilly. They had been down and up the cave and had been waiting at the top for a ladder when Moon and Fairbairn arrived there. Then they had left to come out at the bottom but Moon and Fairbairn had waited for the ladder party. They intended to leave the Cascades at 12.00.

I repeated the rescue instructions and O'Reilly's party went out. As we had to be back by 2.a.m. I left the packs and we went up Cascade Avenue passage to meet Moon and Fairbairn which I calculated to do so about half way up. We, in fact, met them by Cross Passage and all started down again reaching Davy Price's Hall at about 1.35.a.m.

When I reached the inner dam I found that the water was nearly level on either side of it (there was probably about  $\frac{1}{2}$  inch difference). I went a few yards further and found the passage sumped just below the large boulder in the middle. When I got back to the dam (in  $\frac{1}{2}$  minute) the water was over and level on each side. As I did not know the height of the water corresponding to the outer dam I persuaded the others to move back to Davy Price's Hall as fast as possible.

When all 5 were there I explained what had happened and that a rescue would have been started possibly as early as 1.a.m. I estimated that the pitch could not be laddered before 5.a.m. and said that we would go slowly up the cave. We moved to a sandbank and brewed coffee from the Hot Drinks bag. Moon, Fairbairn and I had wet suits but the other two had not and were, of course, soaked. However, no-one felt unduly cold. Fairbairn's light was exchanged (as was Moon's later on). Before leaving a note was left near the entrance in case anyone came in that way (written on the back of a tin plate, in carbide; now a trophy in the Rescue Room - Ed)

We started up the cave at about 2.40.a.m. moving quite slowly. All had packs or ropes which we might use at the top. The journey was uneventful. We stopped at intervals, and morale was good throughout though all except myself were tired. We reached the Cascades at about 5.a.m. I climbed the lower one with a handline for the others who then followed. We had all just reached the F.W.H.L. when we heard sounds from above. Another handline was put down the upper Cascade and we all came up and out.

The weather. From about 2.p.m. there had been intermittent rain, and during the evening it became continuous, and often heavy. The amount of water flowing out of Davy Price's Hall had visibly increased between 12.30.a.m. and 1.40.a.m. It is apparent that the large pipe in the outer dam is not large enough to take all the water sometimes present, although it is functioning and will keep the level down during moderate rain, provided it is not blocked by the farmer. In heavy rain the reservoir fills and overflows the dam causing a sump at least 30 ft. long. The level inside which corresponds to the top of the outer dam is at or above the inner dam. (I did not wait to find out just how high it is.) This inner dam on its own cannot sump. I estimate that a 2-foot lowering of the top of the outer dam would just clear the sump. During the night an attempt was made to lower it and two courses of bricks were removed. (now replaced D.B.T.)

Bryn Thomas.

THE FOREST AGAIN, or WHAT'S MINE'S MINE.

Staunton Mine was worked for Iron Ore from 1865 to 1873 and is reported to have produced 13,000 tons in the period. The mine was not successful and covered only 'two to three acres'. The report on the mine describes one shaft only, but there is evidence of a second on the surface. The top of the main shaft is in a rather poor condition and the bottom did not appear to be the full 120 ft. expected.

This was the position when the Forest Branch (pun!) of the Club visited it in Feb. The shaft was laddered to complete the record and without much optimism we sent the lightest 'bod' down. The bottom was struck at 80 ft. and was solid with pools of water. An odd bone stuck out of the mud and the walls were covered with Stal, with the last ten feet brick lined.

No way on was evident when we prepared to sound the retreat. As we shouted abuse at each other a small round hole was noticed in the wall which on closer inspection apparently opened up after a few feet. The patent echo test annoyed the hole into blowing out puffs of air so we stood back to see how we could persuade the wall to do an Aladdin for us.

A new attack was organised after consulting the man from Noble and he sent us a report from below, loud enough to scare the crows across the field. The shaft now fumed quietly and even with an hour's wait the position had not changed. Science then lent a hand and a petrol bomb was dropped in one corner and the resulting thermal currents cleared the shaft almost entirely. Unfortunately, we could not resist the chance to demonstrate the effect of adding petrol not in a bomb, with the result that the shaft was as murky as ever. Time being short, the lightest was again banished to the depths together with a miner's lamp to test the air. After 10 ft.

neither top nor bottom was visible; the effect must be the same if you fall through a cloud. The bottom was found by striking it before seeing it.

Through the gloom the small hole was seen to have grown to a Bank sized hole in the wall through which 007 crept. Keeping the lifeline on proved difficult after a while but by then it was seen that the mine had been entered and the workings were once more open after their long rest.

Permission to carry out an exploration was refused until the other two arrived at an impressive speed at the bottom. The exploration proceeded from the bottom levels up and it was found that the shaft bottom could be passed at least on one side with inclines rising from this tram level. The workings were open almost entirely to the west but south the level was blocked by a fall. The higher levels tended to interconnect over several levels and occasionally we came across our route markers. In the highest level the workings also broke into some older, smaller passages, as is common in these mines. One such passage contained bones, tins and bottles. With great gusto, we demolished a small choke, hoping to find a way out to some surface 'scowles'. Instead a shaft was discovered which was climbed for 25 ft. At which point it became circular and brick-lined for the next 11 ft. to the top which appeared to be of two cross members of wood, overlaid with coarse planks. There was some evidence of corrugated iron above that. We all thought the cover must be slight as there was a fair amount of rubbish, with barbed wire down the bottom with several leaves in the boulders.

This shaft does not seem to tie up with the second shaft mentioned previously as this one would appear to be north of the main pit whilst the second shaft is south west. It was considered important that this new shaft be found to prevent the danger of someone falling in later. It is of secondary importance that it would also afford a much easier and safer access to the mine!

The position at present is that, even after a close search, the shaft has not been positively identified. The problem now is whether to use brains or brawn for the next attempt.

Statistics. Staunton Mine. Grid ref. situated  $\frac{1}{4}$  mile east of Staunton Church in the Forest of Dean. The open shaft is just in the wood next to the mine building still recognisable. Although the shaft is still open for 80 of the estimated original 100 ft., the top collar has fallen in and the surrounding ground is too soft to expect it to stay open much longer. (four to five years estimated).

The formations are restricted to some pretty rimstone pools a large amount of 'Cave Ice' and some ill-shaped pearls in large quantities.

J. Osborn. Hereford.



INSTANT SPELEOLOGY

or

AND HERE, LADIES AND GENTLEMEN, WE HAVE

THE WHITE KNIGHT !

THE WHAT ?

THE WHITE KNIGHT !

Oh. Why is it called the White Knight?

Because — Now the White Knight, ladies and gentlemen, is a stalagmite, and this stalagmite, ladies and gentlemen, is called the White Knight because - well, because of its resemblance to the White Knight; "Alice through the looking glass", you know.

I can't see a White Knight!

Here, Madam! Here's the horse, you see, and here's the Knight's nose!

Oh, that thing! I thought that was an icicle.

No, Madam, it's made of lime, like the rock round here.

Where's the coal, then? !

There isn't any coal! This is not a coal mine!

.....

Unfortunately, as you will see, ladies and gentlemen, the end of the Knight's left big toe has been broken off. Now this was done by a VANDAL! (OH!) ..... who broke it off to take home. Of course this is a very BAD thing to do.

Yes yes yes!

But when he took it out it would only melt away, wouldn't it?

No, Madam, it's not frozen, it isn't cold enough for that.

Ooh! It feels cold enough!

.....

Now here, ladies and gentlemen, are Tweedledum and Tweedledee! You will recall, ladies and gentlemen, that Tweedledum (or -dee) quarrelled with Tweedledee (or -dum) about a rattle, and that Tweedledee (or -dum) wore a coal scuttle as a helmet in the battle. Well, here is the coal scuttle!

I knew there was coal here! I've been fifty-five years in the pits, my lad!

Really, Sir? I bet you've never seen one like this before!

... When I was a boy we had to crawl everywhere. Three feet by two, it was, none of this new-fangled big stuff! These youngsters now, they're not like what we ....

You will notice, ladies and gentlemen, that above every stalagmite there is a stalactite. You can remember which is which if you think of the tights coming down, and the mites growing up!

Aah!

The stalagmites grow where the drips from the stalactites hit the ground.

Do you plant them under the drips so that they'll get watered?

No, Madam, they grow there naturally!

How old are they?

We don't exactly know that, Sir. You see, they grow so slowly that we can't really measure ...

Well, how long did it take to dig the cave, then?

... but it's certainly thousands of years!

.....

Now if you will come over here you will see a fossil in the wall of the cave. This fossil lived in the sea when the rock here was being made, about two hundred and forty million years ago.

A bit older than us, then!

Yes, Madam.

That's no fossil! That's a Relic of the Deluge, that is!

Eh?

Are there any fossils living in the cave now?

.....

Up in the roof here, ladies and gentlemen, you will see a large group of stalactites. You will notice that many of these stalactites are

dripping, and if you stand directly under one for long enough you will of course ...

OOHCH!!

... become a stalagmite - Madam!

Help!

You will also see that several of these stalactites are twisted into peculiar shapes. The reason for this is not known, but sometimes stalactites can grow out sideways from the wall of the cave!

They grow one inch in a thousand years, don't they?

No. At least, some might, but really no-one knows.

Don't know much, do you!

.....

Guide, you know, I was wondering about those twisted stalactites.

Yes, Madam?

When they start to grow, do you train them to those shapes?

• •  
• •

A. Knight-Mayer.

DUFF OR MACDUFF

How competent are you to deal with any situation you're landed in? Alright, so your knowledge of caving is extensive, you're a master at rigging tackle and lifelining, you can judge the stability of a roof fall and even forecast the weather! Not bad for a start.

You are capable of taking over from your leader any time necessary, you can inspire a ragged party to become a team. You can make life or death decisions instantly. You know what you want to do but you always put the safety of your party first. Right, so you'll be a leader anyway, but should you be?

Are you going to lead the right way when (not if) things go wrong? Every weekend in Britain alone things do go wrong for at least one party underground. Some of us are apt to say, "Couldn't catch me on that one, wasn't born yesterday." Well ... what if one of your party trips over his bootlace and sprawls 'out cold' or hurts himself. Can you tell stupor

from exhaustion? Treat a fracture or a strain? Call out a rescue party!! You'll be lucky, chum, because that's YOU. Those other chaps that know what to do aren't here today. Pity you didn't get your finger out before he died. Of course you could enroll for a first aid course in your town. The course, a book, an easy examination and a certificate for first aid can be bought for the price of a few beers.

If you haven't you ought to enroll as in South Wales you are part of Cave Rescue. You're letting the side down if you are not at least first aid trained.

To hell with duff leading. Come blood and high water lead on Macduff (he's certified).

W.H. Little February 1966.

To find out, look up the nearest Red Cross Society or St. John's Ambulance Assc. Centre in the phone book and ask them if you can enroll for a course.

W.H.L.

SUCCESS! - DAN-YR-OGOF APRIL/MAY '66

As surely every member will know by now Dan-yr-Ogof really has "gone" and how! Possibly at this stage details of who did what and how, are irrelevant, but suffice it to say that Eileen Davies and Bruce Foster were first in, following some intensive pushing last Autumn and at the first opportunity, this Spring. Colin Graham, Neil Anderson and myself followed directly while Bill Little and Rod Stewart entered later the same day after hearing the news from Charles Jay and friend Susan, who unluckily couldn't pass the constriction. We have also paid our respects to Gerard Platten who before the war was chiefly responsible for the work done in Dan-yr-Ogof and especially the "Long Crawl". The passage we first entered has been named Gerard Platten Hall.

What have we found? Here it is difficult to know what to leave out for a "stop-press" article is necessarily fairly brief. At an extremely conservative estimate we have at least  $1\frac{1}{2}$  miles of large passages and quite possibly the actual figure will double this. They differ greatly in size and section but many are very large, though variety is one of the greatest features of the new system, except in terms of formations, for straws predominate. But what straws! They make Straw Chamber, fine though it is, look like a small grotto for many of them approach or even exceed 10'. Among the finest is one which forms a column almost perfectly bisecting one side passage. Although predominant straws are by no means the only features for fine, and possibly unique, beds of heligmites and helictities decorate the banks along one side of the Grand Canyon. Crystal pools, mud flowers, stalagmites, curtains and pearls are also present in considerable variety.

The initial finds were on a roughly comparable level to much of the known cave, e.g. Straw and Boulder Chambers, and to judge from Noel Dilly's rapidly progressing line survey, continue in much the same general direction. But once across the canal - a perched lake of considerable depth and length, though narrow - the direction of the main level takes on a decidedly Northward trend. Here, beyond the Canal to the right, passages become larger but less well decorated, though significantly the draught again becomes apparent beyond the Great Aven. It can be traced into a high but narrow rift passage which is almost a carbon copy of the more developed Tunnel Cave rifts. Exploration of this area has hardly commenced.

Bearing left beyond the Canal leads to a vast chamber with a pitch to the left and enormous choke up to the right. Once down the pitch - a convenient chimney providing a useful alternative to the ladder - an awkward rift leads into a well developed phreatic zone, comparable to one below Gerard Platten Hall. The first visit to this area indicated, through a muddy stream entering from above, that we were following a line back towards G.P. Hall. Later this was confirmed and the circuit was completed and it is now possible to do a splendidly sporting and varied round trip. More important perhaps is the potential of this area for it seems to be here that the anticipated Waun Figen Felin/Sink-y-Giedd bifurcation occurs, albeit at different levels. As yet this lower series has hardly been "pushed" partly because the water table has generally been high during these trips. In drier conditions it may be possible to enter what are now a sequence of sumps and find a "lakes-type" streamway. Alternatively the many smaller tubes and streams encountered may yield another way on.

As well as this lower level there are a number of indications that there is an, as yet, unentered upper series. The most spectacular of these clues is a great aven, some 20' - 30' across and 80' - 90' high with numerous rottenstone boulders beneath it! Another is the 100' cascade which, although exciting and intriguing, is not quite what the public associated with its initial name. As yet it has not looked like Niagara but perhaps when we finally by-pass the lakes it might be quite spectacular in full spate. There are also several vast, very loose boulder chokes.

The above covers extremely briefly the chief finds made mainly by those already mentioned plus Bryn Thomas, Noel Christopher, Colin Fairbairn, Charles Jay and Charles George. Numerous others have given great help in enlarging the crawl, increasing supplies, extending the telephone cable etc. Other activities have, however, taken up a lot of time, the chief one being photography. This arose from the fantastic and quite unexpected reaction of press, T.V. and Radio. While too complex to outline in detail, the most pleasing result to date is that an illustrated article on the new cave and "why we do it" will appear shortly in the Observer Colour Magazine. Much more important has been the collection of bugs, soil samples etc. due mainly to Ann Mason-Williams, Eric Inson, Bill and Bryn. This work is of the utmost value and has already yielded exciting results. It is also one reason why access to the new series has been placed in Bill's hands. The justifications for controlling access (i.e. outside the club)

are set out elsewhere but the opportunity available now must be obvious to every serious caver. As well as biological work a start is already under way on a study of temperatures, humidity and speleogenesis. It would be wicked to waste the opportunities available due to lack of foresight or patience.

A.C.

## CLUB NEWS

### New Members

The Club welcome the following new members:-

D. Holt, 6, Leighton Crescent, Elmesthorpe, Leicestershire  
C. Fairbairn, 544, Mumbles Road, Mumbles, Swansea.

### Ogof Ffynnon Ddu

The Committee would like to apologise to those leaders who have been let down when their visiting Club failed to turn up. We are taking steps to reduce this possibility and to minimise the inconvenience caused, meantime we confirm that, for the purposes of the rota, this still counts as a party lead.

### Dan yr Ogof

Members will have heard by now of the recent finds in Dan yr Ogof which will increase the size of the known cave by several times. All of us on the Committee feel the urge to join in the exploration but this discovery offers the opportunity to make a real contribution to cave science.

The C.R.G., and several of the biologists in the Club have appealed for a chance to work in an uncontaminated cave to study the population densities, range of indigenous animals and the available food sources. If we cannot hold back on this occasion it is unlikely that Cave Science in general will have the opportunity again, or at least, nor for some time.

Accordingly the Committee are asking that our Members agree to this proposal. (All non-essential work will cease in the cave and access will be controlled solely by W. Little).

Dr. Jefferson has been asked to prepare a list of the work which needs uncontaminated conditions. Bill will then see that this programme is carried out as quickly as possible, using all available expertise in the various sciences. The survey will be restricted to that needed for the biological work.

We have undertaken to allow the cave sciences preference only to the end of July. At this time the work is expected to be drawing to a close. As soon as possible after this time the cave will be opened again

and access will be available to suitably qualified parties. The new series will need special care and precautions owing to the danger of exhaustion coupled with the lakes.

As regards other Clubs, the Management are insisting they have some prior written proof that the leaders are known. Accordingly we shall operate a 'guest leader' system with the cave to keep the cave open to other parties. The organisation of this has started.

In arriving at this decision the Committee have considered the original explorers who have made this magnificent discovery. Alan Coase has done most of the pushing in the cave but it was Eileen Davies and Bruce Foster who were first in. They were closely followed by Rod Stewart, Alan Coase, Colin Graham and Bill Little. After the initial trips they formed an 'Explorers Committee' and effectively handled the discovery until the Committee Meeting. We should like to thank them for their work and their actions and it is to them particularly that we ask for patience whilst the biologists have a go.

Hon. Sec.

Correspondence:-

Copy of letter received from:-

The Grampian Speleological Group and The Scottish Cave Rescue Organization.

Hon. Secretary, P. MacNab,  
6, Bellevue Crescent,  
Edinburgh 3.

Headquarters:  
19A, North Street,  
Andrew Street,  
Edinburgh 2.

Dear Mr. Thomas,

We would like to take this opportunity to inform you of the formation of the Scottish Cave Rescue Organisation, which is now officially recognised and backed by the C.R.O. and the Scottish Police. Call-out in Scotland will be through the Edinburgh police, tel. CAL 1212.

We in the G.S.G. are also in the process of forming a Scottish Cave Registry, incorporating everything in Scotland from rock shelters to disused mines. This will obviously take a considerable time to complete, for, although we already have a list of over 600 caves, the majority of which are probably less than 100 feet long, we hope to visit all these to survey and photograph before they are finally recorded. If you, your club or your associates have any information on Scottish caves, we would like your assistance to save duplicating work.

On the other hand, if we can help you in any way we would be most willing to do so. As our club house has a postal address any of our members can be contacted through it.

The "Grampian" was formed by Alan Jeffreys in 1961 and now has a membership of over 30. Apart from our activities in Scotland, which are now very widespread, we have a monthly trip to Yorkshire, and excursions to the other British caving areas, to keep us 'up to scratch'. We produce a regular bulletin and also a journal. Exchanges would be welcomed.

Yours faithfully,

Signed Peter MacNab (Hon. Sec.)

Note:

If anyone is able to help, please contact Peter MacNab at the above address.

Editor.

Changes of Address

Peter Millet - 1.20.L.H. De La Salle College, Middleton, Manchester.

John Spooner - 45, Saloh Place, Penarth, Glam.

Gwyn Thomas - 4, James Park, Kilgetty, Pembroke.

John Osborne (Secretary) - 58, White Horse Street, Hereford.

There are still quite a number of club members who live at addresses which are unknown to the majority of other members, so please, if you have moved recently, send me your change of address. A list of members will be published in the next newsletters, so let's make sure that it's up to date.

Club Records

If anyone would rather store their copies of the newsletter in the safe, very safe, custody of the Records officer at 39, Heol Isaf, Radyr, Cardiff, then please send them along to Derrick. I am told that personal callers with lots of six or more are treated to tea etc.!!

Newsletter 53

I must apologise to members for the late issue of Number 53; I hoped to send it out some six weeks ago, but due to reasons, not excuses, beyond my control, this has proved impossible. However, I am now permanently established at Kilgetty and with a bit of luck number 54 should be issued on time.

If anyone, other than those already helping, would like to contribute to the typing of the draft, please drop me a line; many fingers make light work.



It would help greatly if articles were submitted typed on the same size sheets and with the same margins as used in the newsletters.

Editor.

Hon. Secretary

John Osborne, 58, White Horse Street,  
Hereford.

Hon. Treasurer

John Bevan, 62, The Greenway, Sutton  
Coldfield, Works.

Hon. C.R.O.

Gordon Clissold, "Silhouette", Staunton,  
Coleford, Glos.

Hon. Records Officer

Derek Webley, 39 Heol Isaf, Radyr,  
Cardiff.

Hon. Editor

Gwyn Thomas, 4, James Park, Kilgetty,  
Pembs.

