

CONTENTS

	Page
Editorial	1
Club News	1
Meets	2
From The Log	2, 9, 15
Further Exploration around Fuente De by P.G. Hendy	3
The Aurochs from Charterhouse Warren Farm by R.F. Everton	10
Water Tracing on Western Mendip by Sarah Pottinger	12
Extracts from the Hunt Report on Mountain Training	16

<u>Hon. Secretary:</u>	P.G. Hendy, 5 Tring Avenue, Ealing Common, London W. 5.
<u>Asst. Secretary:</u>	I. Jepson, 7 Shelley Road, Beechen Cliff, Bath, Avon.
<u>Caving Secretary:</u>	C.W. Davies, Greycott, Caemlyn, Aberystwyth, Dyfed, Wales.
<u>Hon. Treasurer:</u>	Mrs. A. West, 10 Silver Street, Wells, Somerset.
<u>Gear Curator:</u>	B. Hansford, 19 Moss Road, Winnall, Winchester, Hants.
<u>Hut Admin. Officer:</u>	W.J. Ham, "The Laurels", East Brent, Highbridge, Somerset.
<u>Hut Warden:</u>	J.R. Price, 18 Hurston Road, Inns Court, Bristol, BS4 1SU.
<u>Deputy Hut Warden:</u>	A.L. Vanderplank, 51 Cambridge Road, Clevedon, Somerset.
<u>Survey Sales:</u>	M. Hewins, 31 Badshot Park, Badshot Lea, Farnham, Surrey.
<u>Publication Sales:</u>	R.R. Kenney, "Yennek", St. Mary's Road, Meare, Glastonbury, Somerset.
<u>General Sales:</u>	R.A. Websell, Riverside House, Castle Green, Nunney, Somerset.
<u>Editor and</u>	A.R. Audsley, Lawn Cottage, Church Lane, Three Mile Cross,
<u>Journal Distribution:</u>	Reading, Berkshire.

EDITORIAL

At the Annual General Meeting the Club agreed that it would be a good idea to print extracts from the Hunt Report on Mountain Training in the Journal. Obviously much of the substance of the report is not relevant to the world of caving but the spirit applies equally to either activity. I would particularly recommend that the paragraphs on the interests and traditions of mountaineering be read and carefully considered.

Mountaineering and caving differ in one practical respect. Mountains are there for all to see and enjoy but caves are hidden with incredible cunning in the most unlikely places. Mendip abounds with such caves, some of which are hidden with considerably more cunning than the rest. However, such cave undoubtedly exists and "Tis your glorious duty to seek it".

CLUB NEWS

Extension

The extension has been built and roofed. Although the Club cannot afford to equip it as a workshop as yet, it is hoped that the glazing and doors will soon be fitted, thus making the building usable.

Handbooks

Club Handbooks are now available; they will be issued free to new members, but existing members who wish to have a copy can apply to the Hon. Sec. There will be a charge of 30p plus 12p postage.

Affiliated Clubs

The Committee believes that it has solved the problem with Parental Consent Forms, and outstanding affiliation applications are now being dealt with.

Tackle

Tackle is still not being signed out, and the stock of ready-use ladder at Upper Pitts is consistently depleted. Ready-use tackle will now be locked up, and will be available through Committee members. Any member who will be genuinely inconvenienced should contact the Hon. Gear Curator.

Swildon's Book.

This has now been printed, and is on general sale. A display copy and order forms are being kept at Upper Pitts. Prices: Leather binding £12.00, Rexine binding £9.00. Postage and packing 50p.

Public Liability Insurance

The Club's Insurance Company has pointed out that our Public Liability Policy is not valid abroad,, Members caving in foreign parts are advised to obtain their own insurance, which may often be tailored to their specific needs.

New Members

We welcome the following new members to the club:

Robert P. McIntosh, 8, Driftwell Drive, Stockton-on-Tees, Co. Cleveland.

Ian H. Wolff, 47, Blenheim Road, Weymouth, Dorset.

Alan T. Rogers, 11, Meadow Walk, Croespenmaen, Crumlin, Gwent.

Phillip H. Ford, 34, New Street, Deinolen, Gwynedd, Wales.

MEETS

Organiser Richard Kenny, "Yennek", St. Mary's Road, Meare, Glastonbury, Somerset.

Telephone: Meare Heath 296

Friday Night Club

Friday February	20th	Lamb Leer	7.30
Friday March	5th	Cuthberts	7.30
Friday March	19th	G.B.	7.30
Friday April	2nd	Swildons	7.30

FROM THE LOG

4th October 1975 CUCKOO CLEEVES

Fred and Simon Davies, Rich (from Bruton), Pete Moody. Fred put 1lb of bang on Strawberry Boulder in the main passage - the really large loose one. We heard no crash after the bang so Fred went down later after the fumes had cleared a bit. Fortunately the bang had been successful so no more tiptoeing.

P.M.

11th October 1975 ASSOCIATES POT

Intrepid party of Adrian, Alison, Jeff and June watched Phil intrepidly descend Associates' Pot. Then A, A, J and P intrepidly watched J intrepidly ditto. 24' to water and dead mice and frog. Otherwise as per Barrington. Dodgy belay to fence so back-up belay to equally loose sapling. Lifelining down through a Figure 8 is jerky on a laid rope though, coming up lined through a Jumar is OK.

P.H.

2th October 1975 WALDEGRAVE SWALLET

Phil H., Adrian, Jeff, Wal, June. P.I.S.S. Rides Again. Afternoon spent digging in Waldegrave. Built a dry stone wall at the base of the shaft - needs grouting before pipe can be fitted. Took 1' - 2' from the floor at the bottom, and prospects look as good as in June. More diggers and concreting needed.

H.F.

25th October 1975 WIGMORE AREA

Barry Wilkinson, Alison Hooper, Pete Moody, Marion Gay and Barry Gay. Returned to a double shaft near Wigmore Farm. There are two shafts next to each other - one round and one square. Barry was volunteered to go down first down the round shaft and after 110' he hit the bottom. The bottom is full of barbed wire and it is impossible to get off the ladder. There are many 3' long straws hanging from a beam. No levels but the two shafts connect near the bottom. A local farmer reckoned that mining was stopped due to flooding and it is possible that the shaft was originally deeper.

A.H.

26th October 1975 STOKE LANE

Jeff Price and Dave Howerd. To Stoke Lane to Sump 2. On the way out we found a small inlet sump which hasn't been dived. Quite a bit of gravel and silt has to be removed before anyone can investigate it.

J.P.

Continued on page 9.

FURTHER EXPLORATION AROUND FUENTE DE

by

Phil Hendy

The 1974 exploration in the mountains around the Vega de Liordes, in the central massif of the Picos de Europa, had concluded with more cave entrances being found than we had time or inclination to explore, and hopes were high this year of adding still further to our discoveries. Furthermore, a mild winter and wet spring had led us to believe that the snow plugs which block most of the shafts might be smaller, enabling further penetration than had previously been possible. We packed our tackle accordingly, and included 300m of rope!

Ian Jepson, Rich Websell and I drove to Fuente De from France, and arrived to find Wally Willcocks and family firmly established on the campsite and in the bar. As we pitched our tents, we were joined by Pete Moody, Alison Hooper and Chris Murray, who reported that NASA were already making discoveries in the Cares Gorges.

Our first priority was to carry tackle up to Sotano de Nido de Pajaro (Bird's Nest Pot, WX100), the deep shaft found last year. This was accomplished in blistering heat, and ropes and carbide were cached in a nearby shake hole. The following day the swallets on the col were investigated (WX5), but of the three holes found, one went down for 3m. before choking with bones and boulders and the other two had impassable entrances, though a way was visible farther down. It was very frustrating; as Ian says, if the Picos were on Mendip, every shake hole would be sporting sheer legs, spoil heaps and bang wire.

It had been recognised early on that the Fuente De party was not strong enough to tackle WX100 on its own, and so one cold and drizzly morning the NASA Range Rover rolled into camp, to supplement our number with Fred and Simon Davies and Nick Thompson. We climbed the track, picked up tackle cached in the Cueva de Liordes, and went up to the impressive oval entrance of WX100. We were accompanied by Brian and Janet Woodward, who had spent the night in the Refugio after arriving at Fuente De the day before.

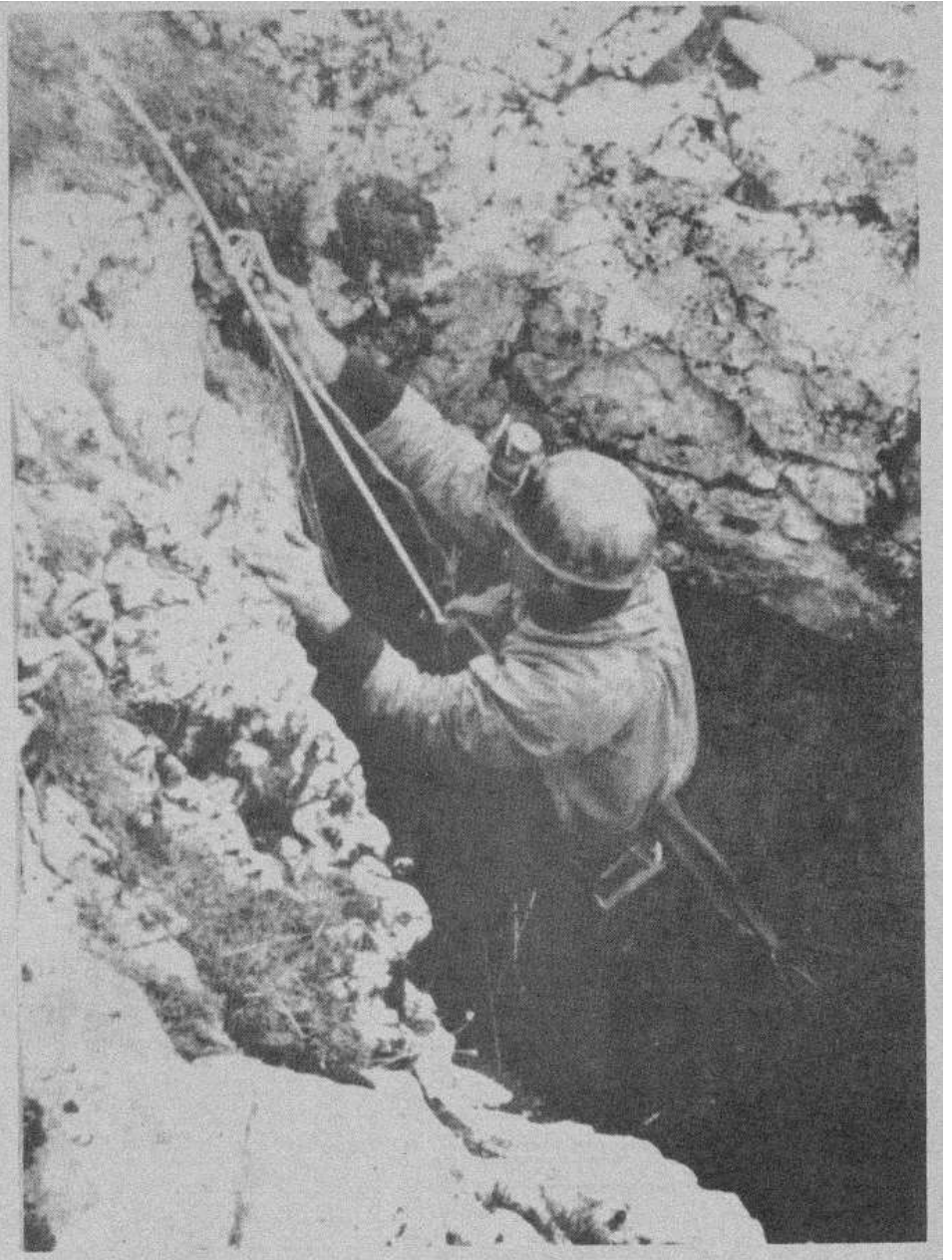
The cold drizzle swirled round us at WX100, and we rapidly changed into whatever warm clothing we had available. A 150m coil of rope was belayed to a boulder in the adjacent depression, and a wire belay was added for safety. Fred intrepidly wriggled over the lip, and was followed after an interval by Rich and Chris. The rest of us tried to shelter from the elements, and slowly froze; the only source of amusement was hurling rocks at a flock of omnivorous goats, who looked hungrily at the piles of rope and equipment lying about. A few days later we were to see one eat a packet of Celtas, complete with silver paper, but stone throwing usually kept them at a safe distance. One managed to wreak revenge by kicking a stone onto Ian as he sheltered in the depression.

At last we heard sounds from below, and the explorers began to emerge. They had reached ledges at 13 and 50 metres, then the rift widened, and ended in a level cobbled floor at 116ms. (380'). Draughts could be felt from the floor, but there was only a short continuation, a 7m drop at the narrow end of the rift, which ended in a narrow draughting slot. We coiled the rope, cached the gear and returned to the Refugio, noting another small shaft field on the way. Brian and Janet's peace in the hut was disturbed by Fred's party, who cooked on a cow pat fire and slept on the floor before walking back through snowstorms to the Cares the next day. The rest of us descended to Fuente De, for a meal and drinks in the bar.

After a rest day, we returned to the Vega, and while Pete and Alison made an abortive attempt on the sump in the Corredor de Frialdad in the Cueva de Liordes, Rich, Chris, Ian and I climbed to WX100, in order to carry the gear to La Cueva Debajo la Montana (WX16) in preparation for further attempts on shafts in the Hoyo de Liordes. On the way, we found a small crack at the foot of the Torre de Liordes, which we marked as WX23.



Rich Websell abseiling the 50 metre WX.17 *Photo: P.G.Hendy*



Fred Davies surfacing after bottoming the 100 metre-plus WX.100
Photo: P.G.Hendy

Chris wriggled along this for 10m., noting a small chamber halfway along, then the passage ended in a 10m. pitch, which we decided would have to be pushed another day.

As we crossed the lip of the Hoyo de Liordes cwm we stumbled across an extensive shaft field. We presume that the shafts were formed behind a ridge of harder limestone as the primitive ice sheet retreated into the cwm. Two more such areas can be seen lower down. It was decided to explore these shafts at the earliest opportunity.

The following day, Sunday August 24th was a fateful one, though it started well enough. Janet, Alison, Jan and I went up the Teleferique, and took a route to the Vega which was longer, but less strenuous than the Tornos de Liordes. As we crossed the Jou del Sedo we noted several shafts, and I descended a snow plug in a hollow to enter a roomy boulder chamber with a steep ice-filled exit on the far side. We decided, however, against further exploration in the area, as it was better to concentrate our efforts around the Vega, with which we were more familiar.

When we reached the Vega, we found that Pete, Chris and Brian had gone into the Cueva de Liordes to try diving the terminal sump. Leaving the others to sunbathe, Rich and I went to WX17, a shaft at the base of Torre de Salinas which Tim Gilbert had descended last year for 40m before running out of rope. As good belays were non-existent we carried a bolt kit, and soon had a double belay, with the rope hanging down the entrance. While I stayed and took photographs, Richard abseiled to a snow ledge at 17m. He was able to get under this, but at 50m his descent was stopped when the gap between rock and ice narrowed. His immediate return was prevented by ice clogging the rope walkers ('This doesn't happen in Rhino!'), but eventually Rich reached the surface, we left the gear by WX16 and retired to the Refugio.

Janet and Alison were waiting for the return of the diving party, unaware that tragedy had occurred. The divers had reached the sump, but it proved to be too tight and jagged to have any prospect of being passable. On the return, Chris Murray had been killed when the rope broke as he prussiked the wet, 40m Sima Mayor. Pete and Brian could do nothing but sit and wait to be rescued.

By morning we were aware that something was far wrong, and Janet rushed off down the track to summon aid. Thanks to the help of two Spanish walkers, Ian and Wal arrived at the Refugio carrying goon suits and Nife cells by mid morning. Ian, Rich and I promptly set off down the cave. At any other time it would have been a pleasant trip down a Yorkshire-type pot, but now speed was of the essence. It took less than four hours to make contact, replace the broken rope, and accompany Pete and Brian, to the surface. They were in good shape, considering their 24 hour ordeal at the foot of a wet and draughty pitch, and after warming up in the sun, and eating some of the food we had in the Refugio, they were able to descend to Fuente De.

The evening and following day were spent contacting the Consulate in Bilbao, the Police, the Mountain Rescue Division of the Cruz Roja (Red Cross) and NASA. We determined that a concerted effort was to be made the following day to recover Chris's body, if enough manpower could be raised. When we returned to Fuente De we were pleasantly surprised to find four members of Lancaster University Speleological Society; they had heard of our plight, and immediately left their main party in the gorge of the Rio Deva to come and help. With them, Brian and I climbed the mountain that evening, carrying full loads, and taking turns with the stretcher loaned to us by the Red Cross. Although the latter part of the trip was made in darkness, we reached the Vega in record time, spurred on by the rocks which the fall in temperature was causing to split off the mountain above us. When we reached the Refugio, we found it to be occupied by a scruffy shepherd, who later turned out to be the Mayor of Posada de Valdeon, and two Guardia Civil, who had come up to witness the recovery operation. A blazing fire filled the hut with smoke, and the nine of us settled down for the night in what we had previously regarded as a 4-man Refugio. In other circumstances it would have been a comical sight, the two Guardia wrapped in capes, the mayor sitting stoking the fire, and six cavers packed like sardines on the bench and floor. I lay by the door, dust blowing in my eyes, with my feet under the bench, a pile of wet rope and Brian's feet for a pillow, and my nose pressed against a Nife Cell. We needed no encouragement to get up with the dawn!

The next morning saw the Vega filling with people. The rest of our party arrived, some with the Red Cross, two priests and several Spanish walkers came up from Posada, and later three of the Cares group arrived. Brian and Ian led the Lancaster men down the cave, and were later joined by the Red Cross leader and one of his subordinates. Eventually the latter emerged to say that the party were on the dry 30m pitch, and Pete, Rich and I went into the cave to bring out the piles of rope and equipment which had accumulated. The recovery of Chris's body presented no real difficulties, for which we were grateful.

As the accident had occurred in the province of Leon the body had to be carried to Posada, the nearest village in the province. Brian accompanied the stretcher bearers in order to make a statement to the Guardia, and the rest of us drifted back to the campsite. Brian's statement to the Guardia was quickly over, and a priest brought him back to Fuente De the following evening. He had enjoyed tremendous hospitality in the village, and told us how almost the entire village attended a memorial Mass in the Church. At his parent's request Chris was buried in the British Cemetery at Bilbao. We mourn the loss of a good friend and excellent caver.

We all felt depressed after the accident, and enthusiasm for caving was at a low ebb. After a long and noisy evening in the bar, which lifted our spirits more than a little, Rich, Ian and myself stayed on in the area while the others left to catch their respective boats to England.

There was still a considerable amount of tackle to be recovered from the Refugio, so we climbed up to make our last visit to the Vega. As we returned we stopped to investigate a few holes near the col. I had previously noted an entrance somewhat reminiscent of the Cueva de la Canal del Embudo, (Gully Gave). It was situated high in a steep gully leading into Pico de la Padiorna, but when Rich climbed up he found that it was nothing more than a shelter. Two other 'caves' proved to be similarly extensive. I am convinced that there are caves to be found under this mountain, perhaps they can be entered from one of the mine workings. The few mines we have looked at cannot possibly account for the size of the spoil heaps in the area. It is worth noting that access to the Vega may in future be easier; plans are afoot to reopen the mines, and a start has already been made on grading the track up to Land Rover capability; where this is impossible, a tunnel may be blasted.

One future project had to be tackled. Daniel, a waiter at the Cafeteria had told us of a shaft a few kilometres away which he thought we would be interested in. We agreed to have a look, and a cold dark drizzly morning saw us waiting in the car park at the unheard of hour of 6 a.m. When Daniel arrived he was accompanied by Pepito, a French-speaking local, and we followed them down the road towards Espinama, turning off after a short way to rattle and bump along a cart track, where we parked the cars. Dawn slowly filtered through the cloud as we made our way up a stony path; for an instant we saw a col high above us, then the mist closed in and for the rest of the morning visibility was restricted to about 100m. Daniel had returned to start work, but with Pepito we plodded on. He said we would see two small caves on the way to the shaft, and the first was situated at the foot of the mountain, just on the col. It was the Cueva del Moro, so-called because legend said that a Moor had once tried to take refuge there, but was killed by locals. It was only about 26m long, and could be traversed without lights. A high rift entrance enlarged slightly, with a short choked shaft on the left, before rising and constricting at the bottom, so we were forced to traverse. A ledge on the right, with an aven above, led us into a slightly curved keyhole shaped passage with a sandy floor, which ended abruptly as a window in the cliff face.

We traversed the col and climbed up the heavily wooded El Mostajal ridge, stopping by a cliff known locally as 'The Castle' at the foot of which lay Cueva de Castillo (Castle Cave). Pepito informed us that the shaft was still several kilometres away; in view of the poor visibility and the fact that the route was a traverse through waist high bracken on a precipitous hillside, he did not wish to continue. Feeling more than a little relieved, we kitted up to explore the Castle Cave. A low cowsh floored shelter had two passages leading off at the back. The left-hand way was blocked by a vertical gravel fill after 6m, but the right-hand passage descends and becomes quite roomy, only to constrict and rise again to the right hand entrance, a larger shelter again floored by bovine excreta. Between the two entrances it is possible to walk behind a vertical slab of rock which has split off the cliff face.

At the back of the large shelter a roomy passage descends and assumes a keyhole cross-section before terminating after 7m in a boulder choke. An easy free climb led through a hole in the roof, and we were amazed to find ourselves in a large chamber, glistening with white tufa and drops of water hanging from the roof. At the far end a climb up earth and boulders led to another, high level entrance. The irregularity of the chamber made its size difficult to estimate, though it is at least 7m high, 12m long and 8m broad. Phreatic tubes lined with tufa ran in all directions into the rock. We crawled along some for considerable distances, yet others rapidly looped back to re-join the main chamber, or connect with other tubes. Draughts indicated the presence of other entrances, but the tubes we looked at eventually constricted. The undisturbed tufa was evidence that we were the first to enter these regions, yet in one remote tube I came across a couple of small bones. Bones lay scattered in the larger chambers and in alcoves; they looked caprine or ovine. Pepito led us through a low arch to the foot of a magnificently fluted yet dry aven higher than our carbide lamps could penetrate. Further exploration and a good survey are definitely required, and an archaeological dig would doubtless be worthwhile.

Our underground activities in the Picos terminated this year with the exploration of Castle Cave, but we are resolved to return. The night before we left Fuente De, Otto, landlord of the bar El Rebeco, drove the three of us to a fiesta in a village near Potes with Conche, his wife, and her two sisters Maria Theresa and Eva. Beer and Anis flowed, and we later joined the milling throng dancing on the netball court to the sound of an excruciatingly bad and noisy band. As we returned to Fuente De in the small hours of the morning, the girls sang local folk songs. When we drove to the coast a few hours later, we knew we had left a lot of good friends. This is one valley where we can be sure of finding a welcome.

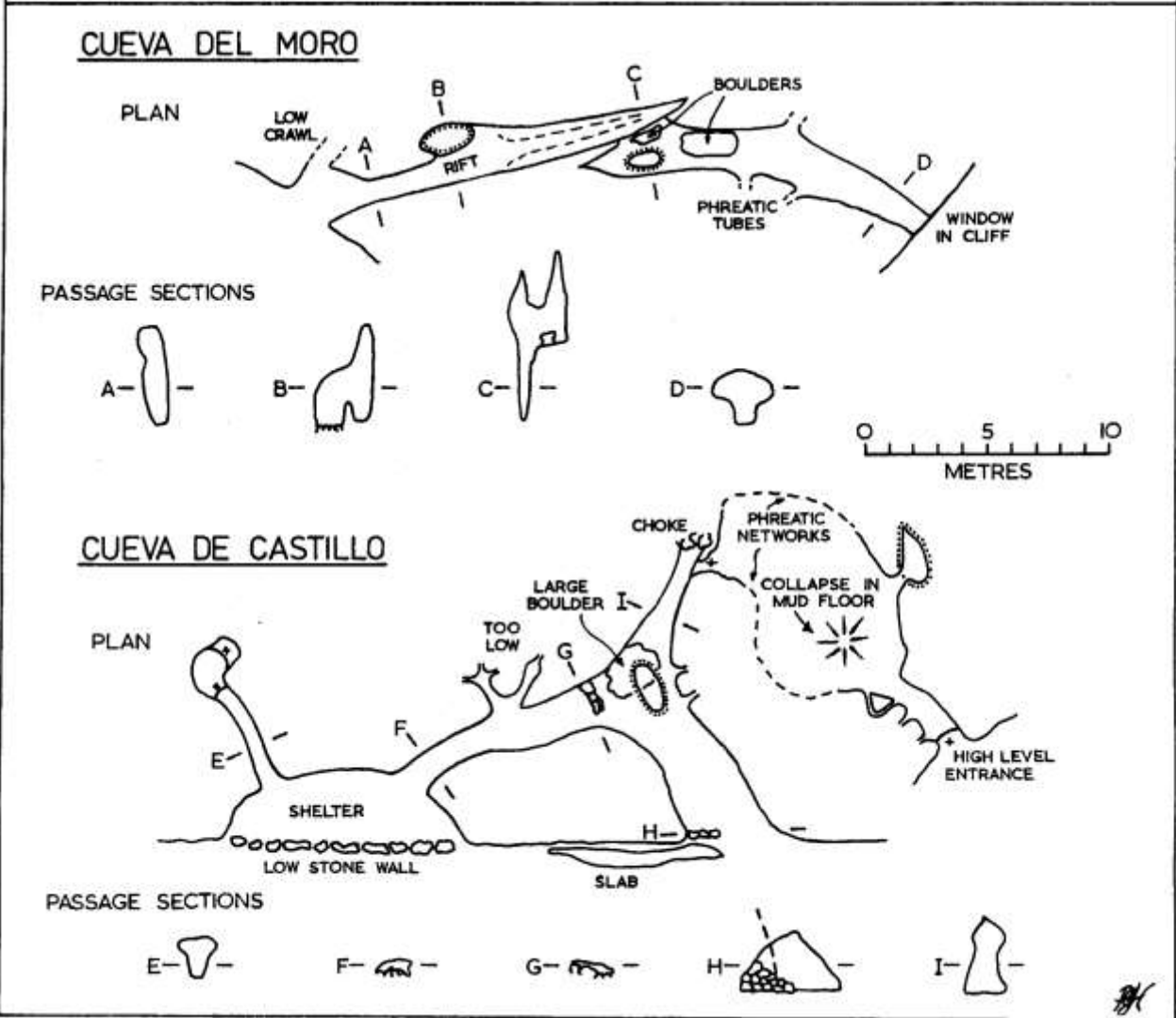
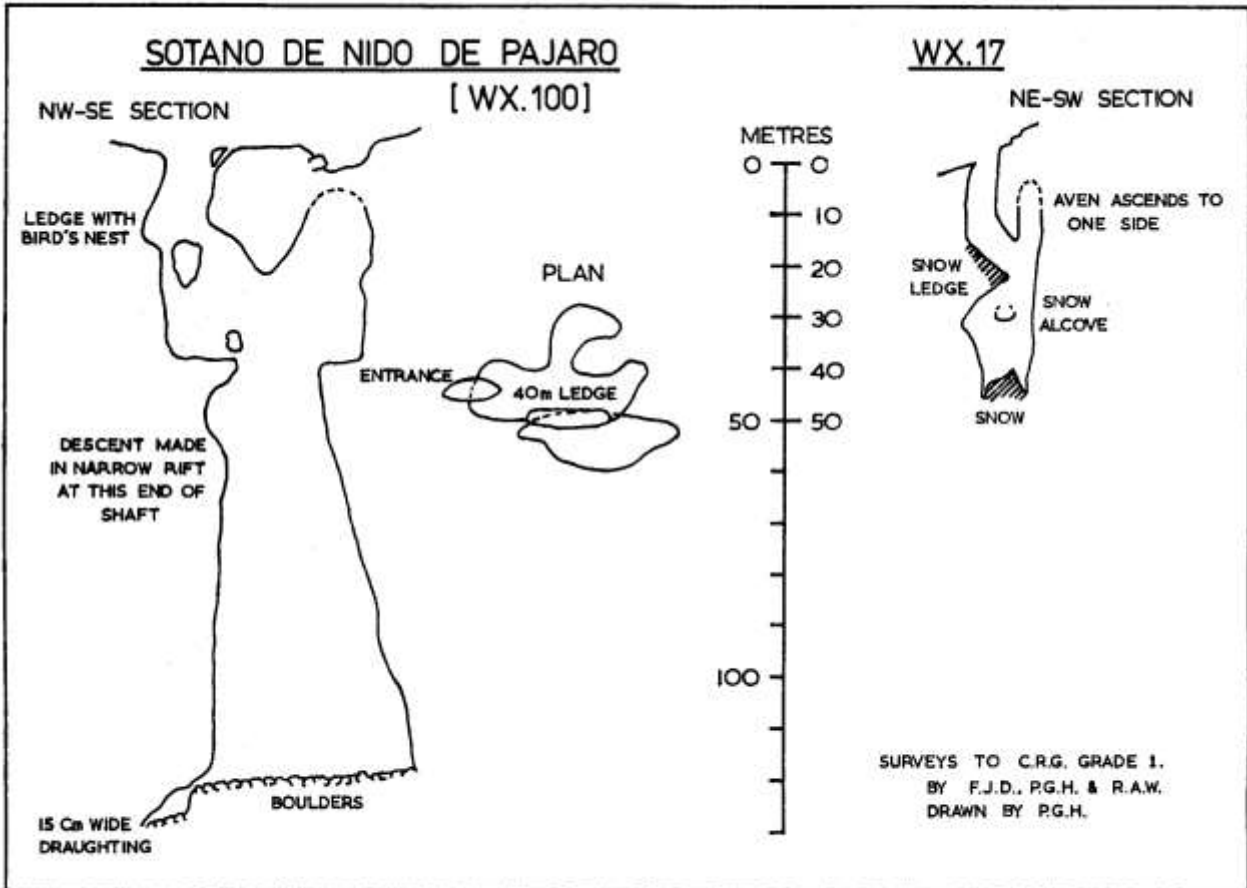
ACKNOWLEDGEMENTS

Our grateful acknowledgements go to the Comite Nacional de Espeleologia, Madrid, and to Senor Don Fermin Sanchez for their continuing help and interest. Thanks, too, to the staffs of the Cafeteria and El Rebeco, for their excellent food, stimulating drinks and friendship, even to the extent of acting as temporary unpaid mountain guides.

We also record our sincerest thanks to the Potes Mountain Rescue Unit of the Cruz Roja, the Guardia Civil, and the priests and people of Posada de Valdeon, for their help, kindness and understanding throughout the rescue. We are especially indebted to the four members of the Lancaster University Speleological Society who came so willingly to help us, although we had never met before. Our sympathy goes to them, for shortly afterwards one of their own party lost his life in a similar accident.

REFERENCES:

- | | | |
|---------------------------------|------|--|
| DAVIES, F.J. &
HANWELL, J.D. | 1972 | <u>The Exploration of the Cueva de Liordes.</u>
J. Wessex Cave Club 12, (143), 142-154 |
| HENDY, P.G. | 1974 | <u>I will lift up mine eyes unto the Hills...again!</u>
J. Wessex Cave Club 13, (156), 121-127. |
| HENDT, P.G. | 1974 | <u>Adios Liordes? - Not on your life?</u>
J. Wessex Cave Club 13, (157), 147-153. |



From The Log continued

26th October 1975 CUCKOO CLEEVES

Adrian VDP, Alison and Pete. Dug open a small inlet at the top of the canyon. After about a quarter of an hour we got through into 75' of well decorated, walking size passage, leading up into a loose boulder ruckle near the surface. P.M.

2nd November 1975 SWILDONS

Adrian VDP and Jeff Price. To Swildons 2 to dive several inlet sumps. One inlet sump opposite the Landing is silted up but seems to be going on. J.P.

8th November 1975 SWILDONS HOLE

J. Price & I. Jepson to good stuff dig, Abandon Hope. Dig surprisingly dry and unsumped, but the whole series is still as bloody as ever. Moved a token few buckets and exited, meeting R. Websell in 2. Three committee members underground at the same time, is this a record? I.J.

8th November 1975 SWILDONS HOLE

Rich Websell, A. Sparrow & D. Walker to North West Stream Passage to look at SWETC's Heaven & Hell dig which had been banged a fortnight previously. A boulder which blocked our way now consists of small chips, splattered down the approach to the dig - a good job done by Speleo Rhal. The dig can be seen along for about 10' with clay and gravel digging. Very promising now that our main obstruction has disappeared. R.A.W.

30th November 1975 FALKENSTEINER HÖLLE

Paul Hadfield, Greg Baird (NSS) The cave is situated in the Schuralischer Alps just north of Urach, about half an hours drive south from the Kirchem turnoff of the E 11 autobahn. A major effluent cave consisting of one major passage only, which when visited was in a healthy flood- condition. The first sump, normally only a wet canal, required a dive of about 12-15'. A large passage, well decorated in parts, continues to a second sump of about 200'. Following this further large passage leads to final breakdown and the present end of the cave. This trip got only as far as the descent into the second large hall between the first and second sumps due to the absence of a normally present fixed rope. Worth a visit if you're in the area. P.H.

20th December 1975 SWILDONS HOLE

P. Hadfield & I. Jepson, Swildons to N.W.Stream. Had a look at Heaven & Hell dig which looks promising but difficult to work and then dumped poly sacks at Vicarage Pot for Vicarage Dig. I.J.

28th December 1975 STOKE LANE

Al. Mills, Roger? Barry Wilkinson to Stoke 4. Climbed aven at the entrance to sump 4 to a height of 45' where cracks for pegs gave out. Aven is at least 100' high with loose boulders. Took compass bearings and left the cave.

Continued on page 15.

THE AUROCHS FROM CHARTERHOUSE WARREN FARM

by R.F. Everton

In 1972 a cave dig was commenced in a swallet on Charterhouse Warren Farm, Mendip. Animal bones were soon encountered but naturally at first they were ignored, as the presence of animal bones in any depression in farming country is quite common. Farmers, being tidy folk, usually throw their unwanted carcasses into any convenient hole.

When human bones were discovered, the diggers decided to slow down and get advice. An examination of the human bones showed that about thirty individuals were represented (Everton, 1974). From this time onwards all bones were collected for study and now, about 200lbs of assorted cattle, horse, sheep, pig, dog, red deer, roe deer, cat, hare and rabbit bones are awaiting closer examination. Although some of these bones were obviously recent, others had certainly been buried a long time.

In February 1974, a fragmentary skull and some pieces of an extremely large horn core were excavated. These bones were from a very large bovid animal, much larger even than a Charolais bull, nearer in size and character to the now extinct wild ox (*Bos Primigenius* or Aurochs). This identification was confirmed by comparing the measurements of the bones with those of Aurochs from the Pleistocene and later periods.

Following the identification of the skull and horn cores, I was informed that a number of very large "cow bones" had been recovered from the rift near to where the skull had been found. Thirty bones, including lumbar vertebrae, sacrum, pelvis, right femur and parts of tibia plus an assortment of metatarsals and phalanges, had been discovered, supine, in anatomical juxtaposition. This suggested that the animal had fallen, or had been pushed, into the open rift, landing on its back about 11 metres down. On examination, these bones were found to come from the Aurochs, and probably all had come from the same animal. (Everton, 1975).

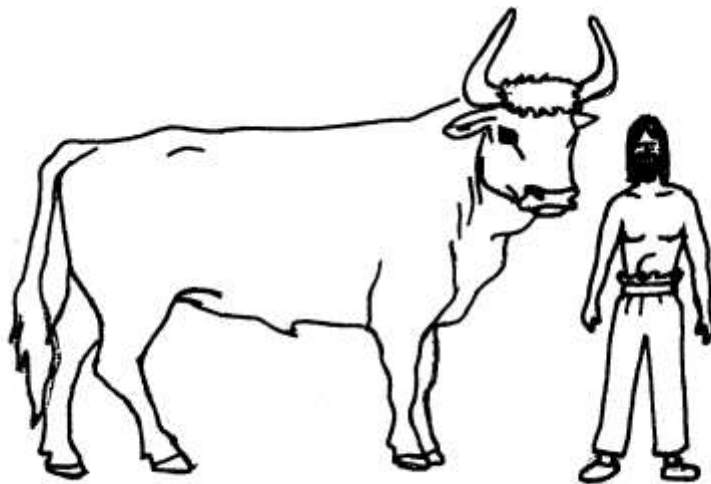
The Aurochs was a large animal, the bull standing about six feet at the shoulder, with a horn spread of three to three and a half feet. The horn tips would be about eight feet from the ground, when upright. It was an animal of the parkland, and was very common in Europe during the late Pleistocene period (from about 100,000 years ago) and later. It became extinct in 1627, when the last recorded cow died in Poland.

Julius Caesar, in his book "De Bello Gallico" in 65 B.C. compared the size of the Aurochs with that of the Elephant.

This animal was used as a source of meat by man until the advent of domestic cattle in the Neolithic Period. One can imagine the courage of man the hunter as he stalked one of these awesome, bad tempered animals, which probably weighed over one ton.

Apart from its great size, the Charterhouse Aurochs is of great interest in that a segment of horn core had been cut five times with a sharp straight edged instrument, which may have been made of iron, possibly a sword. (See Everton, 1975 for a discussion of these cuts). If these cuts had been made by an iron sword, it means that this particular animal was roaming the Mendip Hills during the Iron Age. At that time, a hunter must have attempted to remove the horns from the skull by chopping them through at the base, perhaps to be used as drinking vessels or even musical instruments.

The dating of this Aurochs to the Iron Age (ca. 600 B.C.) is of great importance, as the latest one to have been found in Britain is ascribed to the Bronze Age (from 1700 B.C.) having been found in a peat deposit in Cambridgeshire. A carbon 14 determination on the bones would settle the date but, unfortunately, this is an expensive procedure.



AUROCHS WITH IRON AGE MAN TO SCALE

Acknowledgements

Much gratitude is due to the cave diggers, whose care and restraint made possible this most important discovery. One hopes that all future cave diggers will be as kind to the archaeologist when bones are found in their swallets and depressions. Who knows, they may also make an equally important discovery. Thanks are also due to my daughter Jayne, who did the drawing of the Aurochs with his scale, the Iron Age man.

R.F. Everton A.C.G.A.S.

References

- | | | |
|--------------|------|---|
| EVERTON R.F. | 1974 | <u>The Bones from Charterhouse Warren Farm</u>
J. Wessex Cave Club <u>13</u> , 61-64 |
| EVERTON R.F. | 1975 | <u>A Bos Primigenius from Charterhouse Warren Farm</u>
Proc. Univ. Bristol Spelaeol. Soc. <u>14</u> , (1) 75-52. |

WATER TRACING ON WESTERN MENDIP

by Sarah Pottinger

During the summer of 1975 a piece of research was carried out to investigate the nature of the underground drainage of Western Mendip, by defining the catchment area of Banwell Spring. The spring (ST39875919) rises in red marl at 33ft O.D. It discharges an average of 4.5 million gallons of water a day which reaches the spring by subterranean drainage through Carboniferous Limestone. Water flow to the spring has previously never been traced, due to the absence of sinks and swallets in the area and it has been assumed that the spring is fed by percolation only. The present water tracing results have shown that such an assumption is not justified.

Water Tracing

Regional Geology of Western Mendip determined the choice of two sites for dye injections:-

- 1) Rowberrow Swallet (ST 45535809, altitude 415ft) in Dolomitic Conglomerate.
- 2) Banwell Stalactite Cave (ST 38305879, altitude 259ft) in limestone.

On July 26th, 250cc of Rhodamine WT was poured into Rowberrow Swallet and 250g of Fluorescein deposited in Banwell Stalactite Cave Lake. This procedure was repeated five days later using doubled amounts, since no positive results had occurred at Banwell. Seven days after initial dye injection, Rhodamine WT gave peak fluorometer readings with samples taken at the spring - conclusive evidence of conduit flow from Rowberrow. Unfortunately, there was insufficient evidence of a similar connection from Banwell Stalactite Cave. Fluorescence readings fluctuated daily, tending to give higher readings after a month. This might have been due to traces of Fluorescein reaching the spring, but one cannot overlook the possibility that murky rain water, also reaching the spring at the same time, could cause a similar response.

Tracing results prove that subterranean drainage within the catchment area is made up of diffuse and conduit flow. Using an estimated discharge taken at Rowberrow, swallet/conduit flow contributes less than 5% to the total discharge at Banwell, thus the spring is mainly fed by percolation/diffuse flow. Rowberrow Swallet drains an area of Dolomitic Conglomerate on central Mendip, and it can be assumed that this terrain, plus the limestone area between the swallet and the spring, drain west to Banwell. This area, illustrated on the map, is 9.9Km². Added to this is an area of surface drainage into these water bearing rocks of 3.5Km². Therefore the total estimated catchment area of Banwell Spring is 13.4Km².

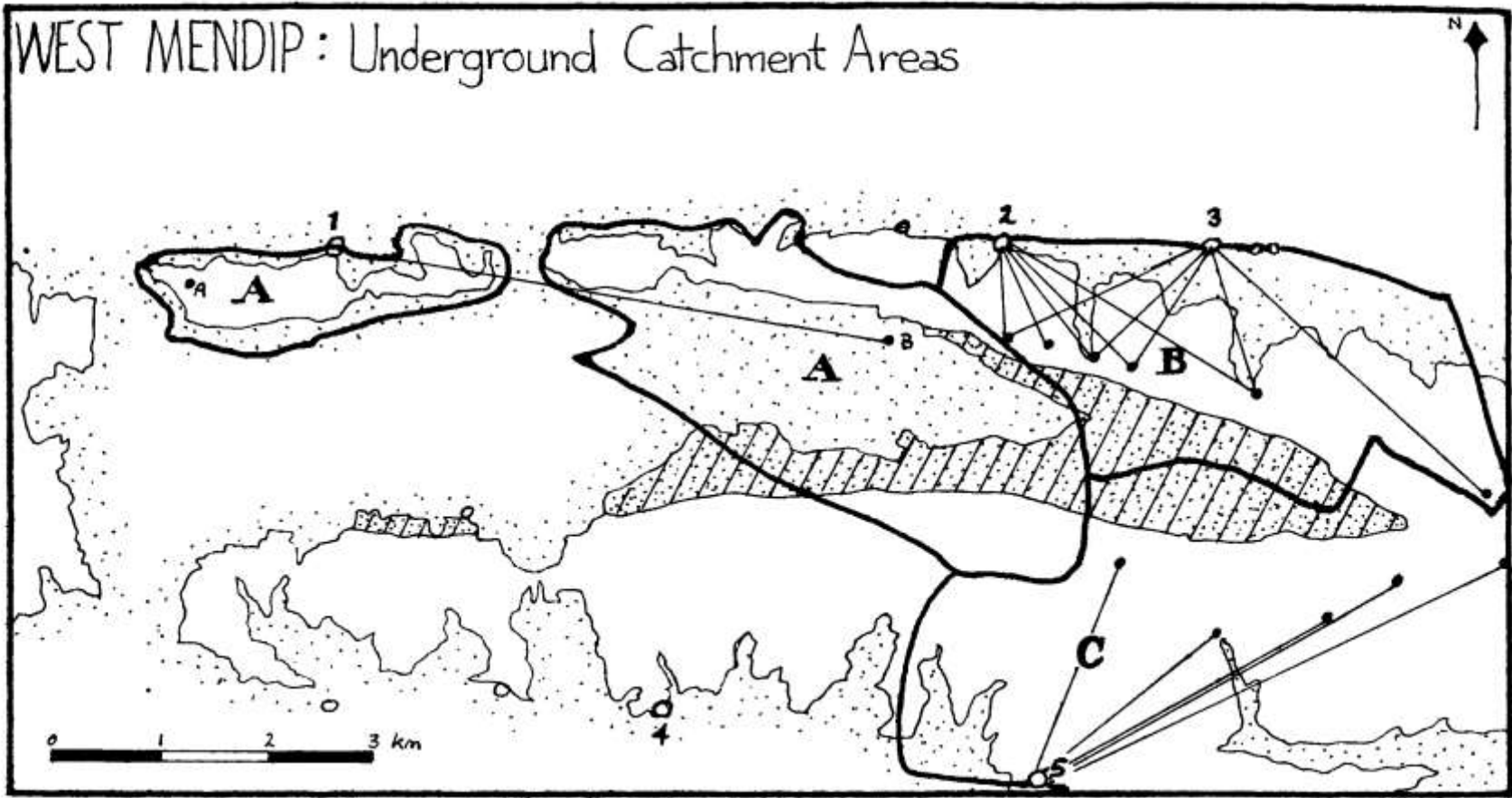
Analysis of Spring Discharge and Water Budget Calculation


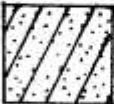

Spring discharge analysis was undertaken to test whether seasonal fluctuations supported the results already found. Spring response to rainfall is immediate in the wet season, giving fairly peaked flood waves; whereas dry season floods have a more gradual response. This suggests that water is derived from the surrounding area by conduit flow. Further evidence is the decrease in pH value and hardness of the water during the passage of the flood wave. Such a drop could only be caused by rapid conduit flow, the water having only a short time in which to equilibrate with the rock wall.




The equation $A = \frac{R}{P - E}$

was used for water budget calculation, where:-

WEST MENDIP: Underground Catchment Areas



-  Dolomitic Conglomerate and younger rocks
-  Devonian and older rocks
-  Carboniferous Limestone

-  Swallet or Cave + Flow Line:
A: Banwell Stalactite Cave
B: Rowberrow Swallet
-  Springs:
1 - Banwell
2 - Langford
3 - Rickford
4 - Aulbridge
5 - Cheddar
-  Catchment Boundary

- Catchment Areas
- A** : Banwell Spring
 - B** : Burrington Springs
 - C** : Cheddar

A = catchment area
 R = total spring discharge
 P = total precipitation
 τ = total evapotranspiration

For the period October 1972 - September 1974 the following data applies:-

Total spring discharge	2 873 027 000 gallons (13 060 780m ³ .)
Total precipitation	1.8134m.
Total evapotranspiration	1.0068m

$$A = 13,060,780 / (1.8134 - 1.0068) \text{m}^2$$

Thus $A = \underline{16.19\text{km}^2}$

Dr. W.I. Stanton's "rule of thumb" average for Mendip catchments (1m.g.d. equivalent to 3km²) gave a value of 13.5km² (assuming an average spring discharge 4.5 m.g.d.). This figure compares favourably with both estimated and calculated areas. But 10% is the margin of error used in water budget calculation of catchment area, and the estimated area of 13.4km² does not lie within the 10% for 16.19km² (14.7 – 17.81km²). In consideration of this the case of Banwell Stalactite Cave was reviewed. Although not proved to be connected to the spring, successful results might have been achieved with more time and wetter weather (to raise the hydraulic gradient between the cave and the spring). Thus it seems reasonable that the Banwell Hill area of 1.3km² drains to the spring because of its proximity. Therefore, total catchment area = 14.7km². This value, similar to the one calculated, can now be regarded as a valid estimate of the catchment area for Banwell Spring.

During this research an interesting fact emerged from the study of flood peaks at the spring. Six to eight days after the highest discharge is recorded, a second flow of similar magnitude occurs, to give most floods double peak. Assuming velocities of flow between swallet and spring increase during times of flood, this might be evidence of swallet flow reaching the spring seven days before the main peak. It is however, equally reasonable to assume that flood conditions within the catchment delay the swallet flow to the spring, so that the second peak is due to swallet water arrival., In either case it is clear that flow is made up of two components which might simply be due to the two distinct contributing areas of the catchment.

I hope that information gained from this undergraduate project will be applicable to problems associated with water resources on Western Mendip, I refer mainly to water pollution control within the catchment, to avoid contamination at the spring. For example, it is likely that sub water-table quarrying at Sandford (ST 422591) could cause spring pollution.

Acknowledgements

I would like to thank Wessex Water Authority and Bristol Waterworks Co. who made available meteorological, chemical and discharge data in the Banwell Spring area, and in particular, Dr. W.I. Stanton of the Bristol Avon Rivers Division, who gave advice and supervision in water tracing and Mr G. Bowen of Banwell Treatment Works. Pete Smart, Marie Clarke and Chris Richards gave me valuable assistance in the field.

References

- ASTON, K. 1966 The Analysis of Flow Data from Karst Drainage Systems.
 Trans. Cave Research Gp. G.B. 7, 161-190.
- ATKINSON, T.C. 1971 The Dangers of Pollution of Limestone Aquifers.
 Proc. Univ. Bristol Spelaeol. Soc. 12, (3), 281-290.

- | | | |
|-----------------------------------|------|---|
| ATKINSON, T.C. &
DREW, D.P. | 1974 | <u>Underground Drainage of Limestone Catchments in the Mendip Hills, Somerset</u>
Spec. Publ. Inst. Brit. Geog. <u>6</u> , 87-106. |
| BARRINGTON, N. &
STANTON, W.I. | 1972 | <u>The Complete Caves of Mendip (revised edn.)</u>
Cheddar Valley Press, Somerset. |

Sarah Pottinger,
School of Environmental Science
University of East Anglia.

From The Log continued

1st January 1976 SWILDONS HOLE

AVDP & PM. Down Swildons to Vicarage dig. Picked up the polybags that Ian and Paul had left at the bottom of Vicarage Pot, went into dig and bailed it dry. Water began to flow in from Abandon Hope, bringing in quantities of liquid mud. This soon blocked the rift down which we were pouring the 'water'. Before it is possible to dig here we need to blast open a rift so that it can be kept permanently drained. Alternatively, a slurry pump could be used. P.M.

2nd January 1976 CUCKOO CLEEVES

Alison Hooper, Pete Moody and Bob, took an ammo box full of mud and a rope down to the lake ready for a banging trip in the hopefully not too distant future. Also took a length of hose pipe down to the inlet by MK1, but were not able to syphon the pool as a stream was flowing. The pool was muddy, which indicates that it is probably connected to the lake. The connection would be a tight sump and would not give easier access.

2nd and 4th January 1976 SWILDONS

Climbing in NW Stream Passage, Mick Borroff, Mick Mooney, Deryck Bowler, with assistance from Kate Hobson & Rich Hunter (all L.U.S.T.).

2nd January: Bolting commenced 45' above the floor of the stream just past the 28' pitch, to gain access to the hole visible from below. 15' bolted in very friable rock, covered in gelatinous mud.

4th January: After a day of recovery, two more bolts were placed in good rock and then 10' free climbed to a sentry box. Two more bolts were placed and then another 10' free climbed to just below the hole, which appears to be an alcove. Quite a few loose boulders, one just in the entrance to the hole, which is very muddy. The loose boulders would fall on anyone lining on the ledge at 45'. Very hairy.

Mick Borroff.

EXTRACTS FROM THE HUNT REPORT ON MOUNTAIN TRAINING

Extracts from the report are printed in italics and are identified with their original paragraph numbers. We thank the British Mountaineering Council for permission to print these extracts.

The Hunt Committee was set up by the BMC to enable a policy on training to be established. It was especially concerned with training which involved course attendance of any kind, and wanted to ensure that any training should be conducted "in the best interests and traditions of mountaineering as a sport".

The Committee was faced with several problems, perhaps the most serious being the widespread growth of interest in, and uses of, mountains for training in mountain and hill craft, as well as for education in geographical and allied disciplines.

Two main factors have contributed, on the one hand a spontaneous interest and urge for adventure which, coupled with greater affluence and mobility, has led many people to the mountains thus creating a demand for training to reduce accidents. On the other hand, however, experience of the mountains has been seen by educationalists as being of value in the development of personal qualities such as self-reliance and confidence. In this case the motivation has not come directly from the young people involved, but from others on their behalf.

Whatever the motivation, the net result has been to contribute in part to the overcrowding of certain areas of our National Parks, such overcrowding being further compounded by generally increased tourism.

Climbers and walkers have expressed concern about the volume and nature of organised training and have alleged that it adversely affects their freedom and the interests of mountaineering generally. However, it was held that the only restrictions on the use of mountain areas could be those imposed by the laws of private property, there could be no other claim by interested parties. It was further recognised that the interests of those who visit the mountains, whether as private individuals, or while engaged in organised activities, were varied and possibly even opposed. Further to this there was a fundamental difference of interest between visitors to the areas and those who live on, and make their living from, the land.

It was against this background that the Committee set itself the task of defining the interests and traditions of mountaineering, in order that threats to these interests and traditions might more easily be identified and, thence to structure future policy so as to minimise their effect. The Committee was reluctant to define formally the interests and traditions of mountaineering, being of the opinion that the basic nature and spirit of mountaineering was not amenable to formal definition, and that any definition made ran the risk of being debased into a code, or exalted into a creed. However, despite their reservations, the Committee believed that an attempt needed to be made and they produced the following five most admirable tenets

- 15 *The pursuit of mountaineering should imply a certain feeling for the mountain scene, as well as a sensitivity in regard to other people who wish to enjoy the mountains.*
- 16 *Mountaineering in all its aspects should be pursued as a matter of personal choice for its own sake, whether from a sense of adventure, or from a desire to acquire knowledge or fresh experience. The essence of motivation to engage in activities in the mountains is that the decision should be that of the individual, acting spontaneously rather than under impulsion.*
- 17 *A basic element in mountaineering is the presence of serious risk in varying degrees. Without this element it would lose something as vital as is competition in organised games. The attraction for some people lies in discovering where the risks lie and in developing skills and gaining the experience to measure up to them.*
- 18 *Those who go to the mountains of their own free will must be free to court these risks. Those who are being introduced to mountaineering must be safeguarded against accidents arising from exposure to risks which are beyond their experience and skill to cope with. At the same time, they should not be taught attitudes or practices which, by over-playing safety, may stultify enjoyment and restrict their ability to progress in climbing*

with all its attendant challenges and opportunities. By becoming prevalent, such attitudes and practices deprive mountaineering of its unique characteristics and charm.

19 Mountaineering is a pastime which most people like to enjoy with a few friends, or occasionally alone. Some are more gregarious; but whether they go alone or in smaller or larger groups, all would wish to preserve a sense of remoteness and an element of wilderness in the mountains.

The Committee thought that the interests and traditions of mountaineering were threatened in three main areas; overcrowding, the increase in bureaucracy, and the over emphasis of safety.

Overcrowding

This was not caused entirely by the growth of training centres but they did add to the problem and it was recommended that future centres should be discouraged in areas which were already heavily visited.

Bureaucracy

The Committee deprecated the growth of unnecessary bureaucracy and expressed the wish that bureaucracy be kept within the strict bounds of necessity.

With regard to training and educational establishments, the Committee made the following points.

25 The Committee is aware of the concern expressed among mountaineers on a number of points. We accept the emergence of professional instructors, as being a result of the need to provide adequate and high standards of training, full or part-time, in the training centres. We acknowledge that this has raised the standards and skills required to introduce beginners to the hills, as well as the art of teaching in this field. But we would point out that professional status does not of itself equate with authority to pronounce upon the highest standards of mountaineering as a sport. We make this point in order to draw attention to the fact that the highest expertise in mountaineering is shared among all leading climbers, including those who are not engaged in training.

Overplaying safety

27 The Committee is well aware of, and respects the proper sense of responsibility of those who organise groups of inexperienced people for training in, or visits to the mountains. Our concern is twofold:

- (i) that the emphasis on safety can be overdone, destroying the spirit of adventure, to the detriment of the true value and enjoyment of the experience.*
- (ii) that by structuring safety conditions and codes, these tend to cramp initiative, to the detriment of safety. Several instances of this tendency have occurred in recent years. Likewise, over-reliance on the rescue arrangements may induce over-confidence, neglect of resourcefulness, and of the sensible precautions which the group should take on its own account.*

28 The true safeguards against unnecessary accidents are:

- (a) experienced leadership, which enables students to learn by their own experiences in the mountains and which encourages individual initiative from within the group.*
- (b) small, manageable groups, which are also conducive to the gaining of personal experience as referred to above.*
- (c) starting from small beginnings on terrain which does not present too demanding or frightening a challenge. This argues for locating some centres and choosing venues for early training visits, in areas other than wildest country.*

With regard to the National Mountaineering centre at Plas y Brenin, the Committee felt that it should be seen as a principal source from which information on equipment and techniques could be disseminated,

and as a focal point for international contacts. To this end they felt that the centre should establish more contacts with climbing clubs and leading British climbers. Plas y Brenin played a focal role amongst the other training centres, but the Committee had reservations about the notion that any one centre should be seen as the principal authority with respect to mountain training.

The value of other training centres and private schools was recognised, but it was felt that perhaps the best introduction to mountaineering could be obtained through a climbing club.

41 TRAINING IN THE CLIMBING CLUBS The Committee considers that the best introduction to the mountains and all they have to offer is usually to be found within the ambit of climbing clubs, where skills and experience are passed on to newcomers in a natural way. A number of clubs make a practice of helping beginners to climb, as a preamble to full membership.

The Committee felt that the BMC held the major responsibility for training in mountain areas and it was considered advisable to attempt to achieve some degree of rationalisation of the various training bodies at national level.

Considering the mountain leadership certificate, the Committee recognised that adequate knowledge was required before teachers and other adults could lead inexperienced groups in mountain country.

49 But, with the exception of one member who dissents from this view, we have serious reservations about the value of conferring Certificates on large numbers of adults who are not professionally engaged in mountain training, and in the absence of any feasible arrangements for on-going oversight over their competence in this field. The majority of the Committee feel that basic mountaineering and hill walking represent too broad and individual a field of activity, interest and expertise to be easily susceptible of certification. Furthermore, certification in any sphere carries its own limitations, in that it tends to prescribe in a rigid manner the content of a course of training, making it more difficult to provide imaginatively for varying needs.

50 Specific causes of concern with regard to Certification are:-

(a) In many circles the Mountain Leadership Certificate has been vested with greater authority than it warrants bearing in mind that it provides only a basic grounding in hill craft and provides little training or evaluation in probably the single most important aspect, namely leadership in a difficult or dangerous situation.

(b) It has achieved enough status as an extra educational qualification to attract those who otherwise would not engage in mountain activities.

(c) In certain quarters it is regarded as the only suitable qualification for taking youngsters out in the hills and people of experience greater than that required for the certificate are thereby disqualified from leading groups.

(d) The Certificate is too readily seized upon by LEAs and other bodies who see it as absolving them from the responsibility of assessing the suitability of individual leaders

Finally, in the appendix dealing with future policy:-

The Council wishes to play its part in ensuring that trainers and leaders of parties should have or acquire adequate experience of mountain terrain and weather conditions and the necessary skills to pursue their plans without undue risk to those for whom they are responsible. It believes that such trainers and leaders should ideally be persons already possessing experience and skill as mountaineers, provided that they also possess the skill and flair for relating with and imparting their knowledge to beginners.