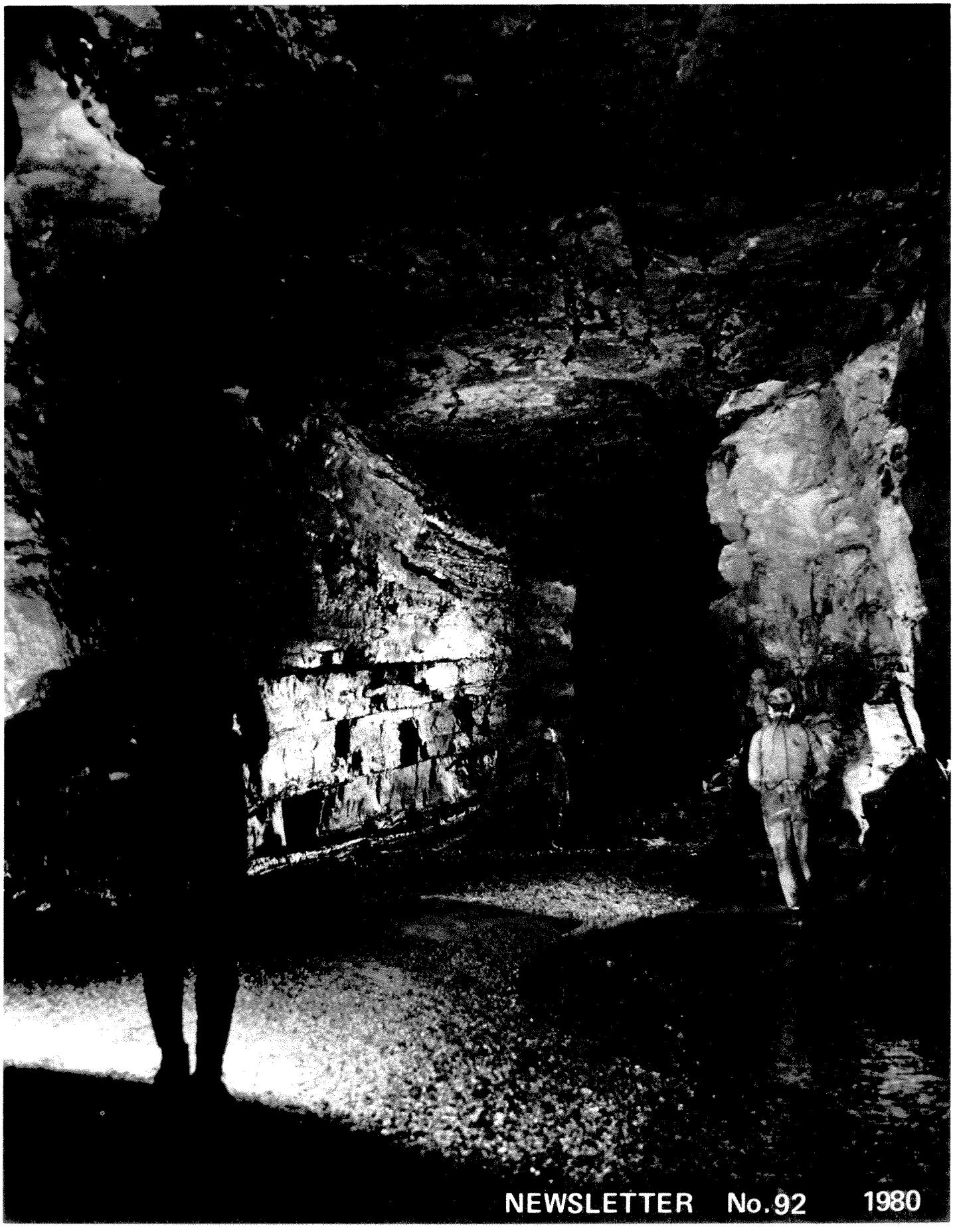
# SOUTH WALES CAVING CLUB



NEWSLETTER No.92 1980

CONTENTS



oooOOOooo

COVER PHOTO:

The Far North - Dan yr Ogof.....Clive Westlake

p10. Þorsmork valley river crossing/Falljokull Glacier.....
.....Brian Jogensen

p17. Pinnacle Chamber - Dan yr Ogof.....Clive Westlake

oooOOOooo

Editor: Dave Edwards
109, Elgin Avenue,
HARROW, Middx HA3 8QN.

## EDITORIAL

A considerable amount of water has flowed since the last Newsletter and it seemed appropriate to include an 'Editorial' in this issue, even if only to bring things up to date. Please be assured that the Editorial will not be a normal feature so cries of 'Ego Trip' are unwarranted. Or are they?

By now, all members will have received a copy of the SWCRO report on the death of two cavers in OFD II and a copy of Frank Baguley's verbatim report of the Inquest is available at the HQ for those who wish to read it. This tragic accident has prompted an increased interest in the need for a strong rescue organisation and it is hoped that this interest will be something more than transient. In practical terms, the re-building of the Byfre dam is well under way thanks to a concerted effort during Whitsun week and the use of the 'Destination Board' is being more closely watched. It is also intended to devote an entire issue of the Newsletter to 'Rescue' in the near future so that as much information as possible can be imparted to all members.

Our ties with Yugoslavia have once again been recognised following the death of President Tito. The Embassy acknowledgement to the Club's letter of condolence is displayed on the HQ Notice Board.

Regarding the Newsletter itself, I am just finding out all that is entailed. (I know. If you can't take a joke - you shouldn't have joined!). This issue contains a backlog of articles and apologies are offered to all those who have waited so long to see them in print. I also know that photographs are a very popular feature of the Newsletter and would therefore make a plea. Photographs are needed. These should preferably be in Black and White with a good range of tones, (i.e. not too much black or too much white) so that the contrast can be adjusted during plate photography to obtain a good ink picture. Colour prints are acceptable but, since they also have to be re-photographed in black and white, may not give quite such good reproduction. Colour slides are difficult. They require an expensive (and time consuming) Cibachrome print which again must be photographed in black and white. However, if you have a slide which you feel is exceptional, we will always consider it. It is easier to get your photograph on the front cover of 'Time' than the cover of the SWCC Newsletter, so if you think your print is good enough.....!

Finally, if you have any comments or constuctive criticism regarding any aspect of the Newsletter, please do not hesitate to let me know.

Dave Edwards.

# AUBREY

## BRIG.E.A.GLENNIE, C.I.E.,D.S.O.,F.R.A.S.,F.R.E.S.,F.R.G.S.,F.G.S.,etc.

A grand old man, a good friend and counsellor whose influence helped the S.W.C.C. grow into the club it is - that was Aubrey.

Gradually debilitated by age, his brilliant brain was active until nearly the end. Following a long illness, he died peacefully on 15th February 1980 at the age of 91.

In 1946 he was chairman of the inaugural meeting of the S.W.C.C. and later an active President. Internationally known in the speleological world, he was the founder of the Cave Research Group of Great Britain and later its President. With the eventual merger of the B.S.A. and C.R.G. he became a President of B.C.R.A. He was also a founder of the National Institute of Sciences in India.

This Scotsman saw during his lifetime the development of modern caving techniques from the Middle East to Mexico, from Wales to the Himalayas.

He bought his studies in Geodetics and Biospeleology, on on which he was a world authority, to bear on caving. He received the Gold Star of the Royal Geographical Society.

Although retiring after long service as Director of Indian Survey, a military organisation, he never gave the impression of rank or 'bull'.

Records of early exploration are scarce but in 1938, following after the crossing of the Dan yr Ogof lakes, he is recorded as trapping 'bugs' there. Other caves, numbering Eglwys Faen and Pant Mawr Pothole among them, were 'bug-hunted' during leave from India before World War II.

In effect, caving in Wales stopped during the war but afterwards, then retired from the Indian Service, Aubrey devoted a great deal of his time to the newly discovered Ogof Ffynnon Ddu. This led to his papers on Bedding Plane Development in Caves, then at the forefront of speleological thinking.

At 78 years of age he visited the recently discovered Fault Series in O.F.D.I, but unfortunately, time was taking its toll and he never reached O.F.D.2.

On the occasion of the Club's 21st Birthday Dinner at Bishops Meadow, Aubrey was in the chair to welcome H.E.Mr.Saracic, the Yugoslav Ambassador, who was the Guest of Honour.

In 1968 he resigned as our President; his reason, typical of him, was to make way for a more physically active man. His offices will continue to be filled, but Aubrey Glennie will never be replaced.

What I have left out would fill a book - and has!

W.H.Little.

I am indebted to C.R.G. Transactions Vol II No 2 for dates, etc.

W.H.L.

## RE-SURVEY OF OGOF FFYNNON DDU

The updating of the survey of Ogof Ffynnon Ddu is a subject that has received a great deal of verbal and mental attention for several years now, but so far, in comparison with the length of the cave, little work has actually been done. The main reasons for this are that firstly, although deficient of heights and a lot of passage known to exist, the original survey (mainly the work of P.O'Reilly and S.W.C.C.) has served well for the last ten years. Secondly, the task has proved to be too great for any individual to take on.

The original survey established Ogof Ffynnon Ddu to be the longest and deepest cave in the country. Recent developments threaten this record and if we do not produce a survey in the near future, this is a record we will have to relinquish. Time is clearly overdue for a concentrated effort to be made to produce an up to date survey of a good standard.

It has been decided to make this a Club Project with an early target date. This is to be the 35th Anniversary Publication - YES - i.e. to be published for Easter 1981. That is not much time to do a lot of surveying but we think that it is enough provided that people treat this as a CLUB project and do their bit. The skeleton survey of the cave is to be done to a high standard, High Grade 5 or even Grade 6, which is to be the task of comparitively few people under the expert guidance of Bruce Foster. There will be a multitude of fixed survey stations in the cave on this skeleton from which other surveyors can work. The rest of the survey, with the exception of very awkward unimportant sections, will be done to a good Grade 4 or 5 standard. It is intended to make many radio checks on the main survey and also at the end of long legs of the sub-sections. All the stations will have co-ordinates computed and all sub-sections will be corrected to the main survey if the results are within acceptable limits of accuracy.

The task of fixing the survey stations in the cave has already commenced (this does not need to wait for the skeleton survey). The exact routes of the skeleton survey are being finalised now and soon the rest of the cave will be split up into areas of approx 2,500 feet each.

We require as many volunteers as possible (we have many already the list is growing all the time) to be responsible for an area. Once allocated, it is the responsibility of that individual to survey that area to the standard required. If you have not surveyed before - don't despair - read on.

If you have experience of cave surveying, your help will be particularly valuable. We are hoping to arrange an informal demonstration of techniques and if necessary, give tuition to novice surveyors.

We have two lists of volunteers - those capable of taking an are (LEADERS) and those willing to learn or not able to commit themselves to an area (HELPERS). The helpers may be designated to a particular leader to form a team or may just be prepared to float. As much choice as possible will be given to leaders and helpers with regard to team and area designated.

There is an excellent publication by BCRA (Ellis) on Cave Surveying which is available at the club at a reasonable price. It is also in records - so - you have no excuse.

Does 2,500 feet sound too much for you? Remember Pant Mawr? This survey was done in three trips! The survey was done in three trips. The survey team were not experienced. They developed a technique that worked well and gave a good result. This was a good survey of 4,000 feet in three trips. With 30 survey teams taking on two areas of 2,500 feet each, this could be done in six trips, we would then have surveyed 28½ miles of cave and,

since we do not intend to re-survey OFD 1, that would make over 32 miles of Ogof Ffynnon Ddu surveyed. Well on the way there!

The first task you, as a leader, would have would be to thoroughly explore every passage in your area; liase with the leaders in adjacent areas and make sure that you do not duplicate work. Every passage MUST be surveyed. If you can see a passage and you can't get into it, consult the working party in charge of the co-ordination of the survey. We will muster up the expertise and find the necessary hardware to get you in if at all possible. Also make sure that the area is not significantly larger than it should be due to an oversight on allocation (or the discovery of huge areas of new passages!). If it is too big, refer it back to the working party to break it into two or more areas.

Meanwhile, make sure that you know, or learn, the technique required to do the work to the specification laid down (still being drawn up). This is vital. Since the co-ordinates will be computer co-ordinated, they must be presented in a standard format. A little patience now will save a lot of work later.

Finally, if you feel that you have any constructive criticism or useful suggestions to make, please do so without delay. If you think that we are going to make a PUSLLAB, tell us how. We are eager to hear from you.

Bob Radcliffe.

## THE RECORDING OF GEOLOGICAL DATA DURING CAVE SURVEYS

The proposed re-survey of Ogof Ffynnon Ddu gives everyone involved an opportunity, if they so wish, to take part in scientific as well as topographical studies since a great deal of very valuable information can be recorded while the survey is being carried out without at the same time adding significantly to the time involved. There is a great fund of data already available based on a high standard survey and a fair knowledge of the geology. The main geological features that may be recorded are the dip and strike of the beds, the presence and attitude of faults and veins, the nature of mineral veins and formations. However, there is no aspect of cave surveying where it is more important to get ones eye in.

Generally speaking, certain aspects of geological surveying underground are much more difficult than on the surface; while other aspects are easier to work on. The absence of light, walls covered with mud, floors with loose boulders, contrast with the advantages of sometimes excellent exposures, especially in stream passages. Often, owing to the weathering of surface exposures, features such as bedding are different above and below ground. What I therefore propose to do is to record a few type localities underground where certain geological features are accurately located, well exposed and above all, unambiguous. It must, however, be borne in mind that beds in the area suffer from what is termed in geology as 'lateral facies variation', and also they change sometimes from place to place.

### Marker Bands

The preponderant bulk (or absence of bulk) of Ogof Ffynnon Ddu is located within what is now called the Cil-yr-Ychen Limestone by the Geological Survey. This corresponds to what was formerly called the Seminula Limestone of the North Crop, approximately equivalent to the $S_2$ faunal zone and to the Holkerian Stage of modern trendy geologists.

There are about three horizons within this sequence which are sufficiently widespread and also sufficiently narrow to enable location with reasonable accuracy. Unfortunately, these are near the bottom and at the top of the succession of at least 100metres. In between these marker bands the beds are fairly uniform and although it is possible for the cognoscenti to locate themselves with reasonable certainty at the surface, life becomes more difficult underground. Within this 100m there are thick sequences of beds of up to 10m which may be recognised which, while being useful as general indicators of position, are rather less suitable for precisely locating oneself.

Starting at the bottom and working upwards, about 40ft above the base of the Main Limestone in this area is a very widespread coral bed. The coral rejoices in the name 'Lithostrotion Martini'. This is just about reached by erosion in Ogof Ffynnon Ddu III stream passage but exposures are hardly frequent enough to make it an important intersection. If you need to get your eye in on how it looks underground, investigate the Waterfall area of Pant Mawr. Going up the succession, the next most important and widespread marker bands are two beds of dolomite separated by more normal limestones. Although variable in thickness, this 'Double Dolomite' is widespread in the North Crop where it forms a usefully recognisable horizon both at surface and underground. The best exposures underground are found in the stream passage, especially in OFD II and III, and it is also well exposed between the lakes in Dan yr Ogof. It is generally easily recognized in the stream passage as the dolomite beds are more resistant to erosion than the surrounding and contained calcite limestone, and they weather to a rusty-brown colour. Probably the best exposures are found in the stream passage between the Marble Showers and Maypole Inlet. A word of caution here however. There are other dolomite beds within the sequence of rather similar character so that the partial exposure of a dolomite, while worthy of record, should not necessarily be equated with the 'double dolomite'. The next convenient sequence which is easily recognised is one containing a large number of densely fossiliferous beds. This sequence is unfortunately rather thick and within it the individual fossil beds are rather discontinuous. The most common fossil is one which was formerly called Seminula (now called Composita since it was found that the name Seminula had already been given to a butterfly) and gave its name to a fossil zone in the limestone. The Composita Beds occur near the top of the Cil-yr-Ychen Limestone and are best exposed underground in a very widespread series of passages ranging from the Labyrinth, through the upper part of Arete Chamber, Chasm Passage, Edwards Shortcut, passages to Midnight Chamber and the Great Oxbow Series and many other passages. Probably the best and most useful marker horizon is the so-called Honeycombe Sandstone. This horizon can be regarded conveniently as forming the boundary between the upper part of the Cil-yr-Ychen Limestone and the overlying Llandyfan Limestone - (≡ᗡ≡Aptian stage). The horizon is very variable in character but seldom exceeds one or two metres in thickness. On the western side of the valley, the horizon outcrops down the Dan yr Ogof dry valley and may be located just above the entrance to Pwll Dwfn. Underground, its best exposures are in the mis-named Rottenstone Avens in Dan yr Ogof II and III where the fretted siliceous nature is well demonstrated. However, further south, and especially above and to the south of Dan yr Ogof entrance, the horizon is not recognizable (easily). On the other side of the valley the Honeycombe Sandstone horizon is exposed in the quarries above Powells Cave and Ogof Pen Pant. Here the sandy nature of the bed is recognizable and at this locality it is

sandwiched between two black shale beds. Underground this variant of the Honeycombed Sandstone is extensively exposed in the Rawl Series, e.g. Shale Crawl, Starlight Chamber and Coronation Aven. Further east the character of the beds changes again, (contrast the exposures just above Top Entrance and in the Clay Series), shales are not so common at this horizon although they do exist here and there. The best exposures in this area are found in the Bedding Chambers and in one or two high level passages between the Bedding Chambers and the Mini Columns.

While carrying out a survey, any information which may be diagnostic should be noted. Even if such obvious marker horizons such as are noted above do not come to light, on a small scale, very subtle differences in character between beds maybe noted and may give important information e.g. changes in bedding plane frequency, bedding planes which are more susceptible to erosion, fossil bands, differences in colour, shale horizons etc., etc. The only criterion is that they should be recognizable by the surveyor. Undoubtedly, as a result of such work a larger number of distinctive marker bands will be recognised.

Bedding planes, Joints, Faults and Veins.

Any planar feature can be represented by a measurement of the strike (i.e. the direction of the unique horizontal line on that plane) and the dip which is the smallest angle between a horizontal and a line along the steepest slope of the plane. The direction of dip will, of course, be perpendicular to the strike. It is often easier, especially when the planes are at low angles, to identify the strike direction first. The dip may then be measured easily along a line at right angles.

In smooth walled passages it is often difficult to determine the bedding dip accurately, but a measurement of the 'apparent dip' may be made. This, as the name implies, is a measure of the apparent dip of the beds in the direction of the passage. Clearly, if two passages intersect, a measure of the apparent dip in each can be used to calculate the true dip and strike. In an area of cave, several apparent dip measurements can be used to construct the average true dip for that area. The calculations may be made using graphical or stereographic techniques, or by trigonometrical calculations. For constuctional details see Glennie's papers (1949,1950), although the calculations are greatly simplified by the use of modern electronic calculators.

Joints are very abundant but it is not suggested that a comprehensive joint analysis can be made without greatly increasing the time involved. However, important joints should be noted.

Faults are very much less abundant than joints and each fault should be recorded. Again, there is no better aid to recognising faults than to see as many types as possible. The Entrance Series to Ogof Ffynnon Ddu I has many faults conveniently exposed. Particularly interesting are the faults in Pluto's Passage and 'The Fault'. The roof of the Big Chamber Near the Entrance displays some small faults to advantage and the eastern wall of the chamber has a nice example of a vertical fault with a westerly downthrow with accompanying drag folding.

Data to be recorded should be the dip and strike of the plane, the direction of downthrow, the amount of downthrow where recognisable, the trace of the fault in relation to the cave passages and, where appropriate, the nature of the mineral infill of the fault plane.

There are going to be occasions when many of these parameters will be difficult to measure. This is more especially the case where broad fault zones occur. In such events, just record what may be

recorded and call on 'expert' advice to provide further confusion. A rough sketch to scale is usually worthwhile in any event and particular attention should be paid to the possibility that the amount of downthrow may vary along the fault. Therefore, record the downthrow in many locations along the fault. Faults can often be recognized by the presence of veining but the reverse is not the case. Veins are not always emplaced along faults. The attitude of veins should be recorded along with the minerology.

Speleothems

These are usually recorded during the course of cave surveys but there is a tendency to note rare features, such as helictites, to the exclusion of other more common formations. Some information on the minerology should be recorded, especially whether calcite, selenite, mixed or earthy gypsum and also stains and colouration.

There are by now a fair number of geologists in the club who will be only too pleased to bore you to tears with conflicting theories of cave formation. Please call on them for any help or advice. They can usually be recognised by a sedentary habit and a marked reluctance to go into caves, but you can always try.

Most of the early major advances into understanding our caves were not carried out by geologists or geomorphologists with formal training (see e.g. the work of Glennie and Railton) and there is great scope for anyone with the capacity for detailed observation to push back the frontiers of science just a little bit.

For a detailed stratigraphical succession see Christopher and Charity - 'Smith's Fractured Limbs' - S.W.C.C. Newsletter No.88, 1978.

Glennie - 'Some points relating to Ogof Ffynnon Ddu' - Trans: C.R.G. 1 No.1 (1948) and 'Further notes on Ogof Ffynnon Ddu' - Trans: C.R.G. 1 No.3 (1950), describe methods of calculating true dip from apparent dip. Any textbook on field geology should also include such methods.

Keith Ball.

## DIGS - AND BONES

In a recent letter to the Secretary, Mel Davies pointed out that much archeological data may be lost by not taking sufficient interest in the bones uncovered during the early, or even later, stages of digs. Since he appreciates that museum staff are often disinterested in identifying these bones, Mel has offered to undertake this task, free of charge, and requests that any bones found during the course of a dig be posted to him. If you wish the bones returned to you after examination, please include the cost of return postage.

Mel's address is: Tan-y-Dderwen,
Glanyrafon Road,
Penmaenmawr,
Gwynedd, LL34 6UE.

# ICELAND '79

On June 28th, seven of us flew to Iceland for two weeks holiday. With the exception of Alan and Marylin Jackson it was a first time visit for us. We had all agreed beforehand that we would hire a Volkswagen Mini-bus for transport but that we would spend more time walking and climbing than driving - a very necessary agreement in trips of this nature as it is all too easy to become a vehicle based sight-seeing safari.

It is not my intention to write a 'travelogue' article detailing where we went and what we saw etc., but to give a personal view of some of the difficulties we encountered and to make recommendations based upon our experiences in the hope that they might prove useful to anyone else contemplating a holiday in Iceland.

## FOOD

We were aware that food prices in Iceland are considerably higher than in the U.K., especially if lightweight camping type food is required, so we took with us a sufficient quantity of Bachelors dehydrated meals (Farmhouse Stew, Chicken Supreme, etc.) to last us through the holiday, plus additional items such as Ready Brek, Muesli, dried fruit, dried milk and tea. These were supplemented by local purchase of such items as bread, butter, jam cheese etc. In the event that our Treasurer (Alan Freeland) reckoned that this policy had saved us a reasonable amount of money. My only complaint was that I had not purchased a large enough bottle of duty free whiskey on arrival at KEFLAVIK Airport.

## TRANSPORT

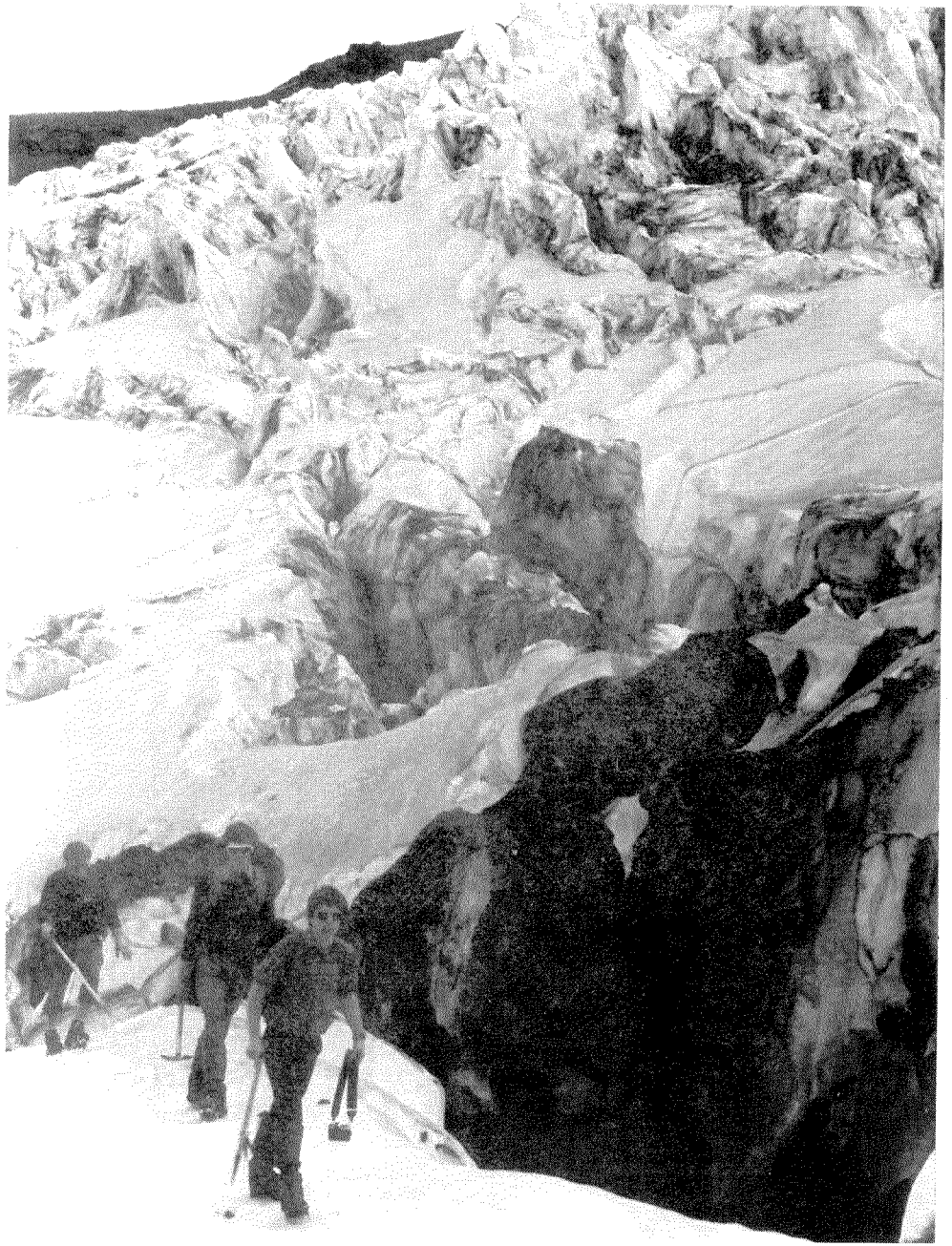
In order to minimise our transport costs and to maximise our convenience, we decided that the most suitable hire vehicle was the mini-bus. It proved to be a reasonable choice but there were too many occasions when we wished that we had hired a four wheel drive vehicle. For any but the shortest excursions off the main roads (and sometimes even on the main roads) a four wheel drive vehicle is pretty well essential; even if only for the driver's peace of mind.

## MAPS

Maps published by the GEODAESTIK INSTITUT are readily available in REYKJAVIK and in many of the smaller towns. We mainly used maps to the scale 1:100,000 and generally found them to be accurate, only parts of Iceland are covered by the 1:50,000 scale. It is worth noting that when gravel roads are re-opened after the winter weather, they sometimes vary from the routes shown on the maps.

## WEATHER

Those of you who have more faith in the pronouncements of T.V. and radio weathermen (and women) rather than in an ageing piece of Welsh seaweed, will have noticed that Iceland is often affected by bad weather. Icelandic weather is influenced by the Gulf Stream and, as in the case of Britain, this does cause periods of unsettled weather. We did not know what the elements were likely to throw at us, so our guidelines were simply 'take enough clothes to be able to dress for Scottish Winter Hill Conditions' (Good advice - thank you Alan). The weather we encountered varied but on many days it was exactly the same as 'Scottish Winter Hill Conditions'! We experienced - blizzards, white-out, snow fall and rain.



Falljokull Glacier
Brian Jogensen

Þorsmork valley river crossing

As a token gesture towards the fact that this was our SUMMER holiday, on the days of our arrival and departure we actually saw some sunshine. The weather situation in Iceland can be summed up in two words - POT LUCK. In fairness I should add that several local people informed us that we were experiencing the worst July weather conditions for many years.

TERRAIN

The terrain in Iceland is extremely rugged and varied, any cross country walking routes should be chosen with care. We only visited a fairly small area of the country; the mountains around the South Coast region, but I would expect the terrain which we encountered to be reasonably representative of the country as a whole. Some footpaths/tracks were well marked whereas others were difficult to follow, the amount of well marked footpaths will probably increase in the more popular areas as the amount of visitors increase. As we were mainly concerned with mountain walking and climbing I shall limit my comments to our experiences in mountainous terrain.

Most british hill walkers will probably be surprised at the amount of river crossings which have to be made in Iceland. Almost all the walking routes we followed crossed at least one ice cold river and some routes crossed several; the most we crossed on any one route was four but as we returned by the same route this figure doubled to eight. The volcanic rock in many places is easily eroded, so rivers were often narrow and deep. Perhaps on a (rare?) warm sunny Icelandic day the experience of crossing one of these rivers is not too unpleasant but when it is raining heavily or snowing it is easy to remain unenthusiastic over the prospect.

The lava fields are clearly defined on the maps together with the date that it was formed. This is very useful information because a recently formed field would be extremely difficult to walk across whereas an older weathered field is simply difficult. When possible it is best to avoid walking across the lava fields even if this means a lengthy detour. The fields are time consuming and must have been designed by nature for breaking legs.

The rock in Iceland is generally unsuitable for climbing on, many hills are little more than volcanic ash piles, so whenever we approached a mountain we looked for a suitable snow and ice route to the summit. Despite the bad weather we did manage to reach the summit of Mt.Hekla, 1491mtrs (white out), almost reached the summit of EYJAFJALLAJOKULL, 1666mtrs (blizzard) and climbed several lesser summits. The mountains are not as high as the Alps and there is little difficulty in aclimatizing, but the height is misleading as some of the glaciers present routes of high mountains standard, many of them being heavily crevassed. If you can imagine starting from Glen Nevis and climbing to the summit of Ben Nevis over a broken slope of snow and ice then you will have some idea of what climbing in Iceland is like.

EQUIPMENT

Footwear is the only item of equipment worth discussing in detail as all other items can be standard British hill gear. Because of the rough terrain a pair of good boots are essential if you intend doing any extensive walking but the real question is "what should be worn inside the boots?" Depending upon what you intend doing, there is a definate case for considering the use of a pair of thin neoprene socks. Personally, I like to have comfortable, warm, happy feet and I will do all I can when climbing to maintain this condition. On the river crossings I religiously removed socks and boots, crossed barefooted and replaced them on the opposite bank. This often proved to be a painful way of doing things as many of the river crossings proved to be on beds containing a horrible selection of rocks and gravel.

Others in the party removed their socks and crossed wearing only boots but, whichever method was used, after several days of river crossings, wet ground and soft snow our boots became saturated. This resulted in cold, unhappy feet. A pair of thin neoprene socks could have been worn on many occasions with little risk of discomfort and would have enabled the wearer to keep his boots on at each river crossing and to travel for long distances over the wet snow often encountered without having to worry about cold feet.

ACCOMODATION

Just a few brief comments will suffice to cover this subject. The mountain huts varied from being extremely comfortable buildings with a warden, through the range to "I'm not bloody well sleeping in there!" You can put up a tent almost anywhere in Iceland so camping presents no problem and when all your gear is wet and you need to regain your sanity, you can go along to the nearest village school and use its facilities for an overnight stay at a cost of approximately £1.

Finally, for the disbelievers, I confirm that the were hot springs complete with nude women (and men)!

Brian Jorgensen.

ASTRAKA '79

Members:
M.Blake; J.Bryson; M.Borland
P.Cardy; L.Cardy; I.Cardy
P.Francis; R.Gledhill; J.Kitching
L.Millett; P.Rust; D.Viggers.

The expedition left England on Sunday 22nd August and after five days driving arrived at Papignon, a small village at the foot of the Astraka Plateau in the North Western part of Greece. Base camp was set up alongside the river, near the mouth of the 3600ft high Vicos Gorge. An excellent site which would have been even better had it not been six miles by road to the start of the walk up the mountain.

Prcvetina is situated in the wall of a steep gulley near the top of the 1600ft cliff line overlooking Papignon. The gaping hole, 40ft high and 75ft across, acts as a perfect natural amplifier for the shrieking of the many chuffs which make the first 200ft of the daylit shaft their home. Sleeping less than 60ft from the shaft was an unsettling experience as the birds whirred and chattered down below.

On Sunday 29th the first pitch was rigged (528ft) and work was started on the second (705ft) pitch. The following day the bottom was reached.

The 1275ft vadose shaft, formed entirely by drip and film water, has an eerie beauty. Fluting and scalloping have given the shaft a cathedral like quality. The first pitch is deceptive as the snow ledge 528ft below looks only about 100ft away and descent is made without seemingly getting anywhere. The second pitch, 705ft, is damp and the descent is made only 6 inches away from from the glistening grey rock. The caver gets the impression that he is abseiling through the middle of a multi-decker sandwich as the different layers of rock are clearly defined and of differing shades of grey.

On the bottom, coming down to earth with a bump as it were, one trips over a reel of telephone cable and various pieces of scrap metal left by the previous winch expeditions. The bottom consists of a large chamber, 200ft by 160ft, containing a muddy pool and a small impassable tube leading off from one end. Looking up one can see a shaft of hazy light - a comfort and a suitable goal to aim for while prussiking back up. Three people went to the bottom and four others did the first pitch - an incredible trip in itself.

The locals showed a certain amount of interest in our activities. Occasionally a shepherd would come and stand in silence at the lip looking slightly bewildered. At the sight of a 'crazy Britisher' suspended in mid-air and ascending with ease a long piece of string, he would cross himself fervently and pass his worry beads through his fingers.

It took three days to complete Provetina. On Tuesday evening after a photographic trip the rope was hauled out. Phil Rust, Jane Bryson and Margaret Blake were to start on Epos, an hours walk away, while the rest of the party went down to base camp for a rest. It was there that we found an agreeable tavern in the nearby village of Aristi which served fresh salads, kebabs and kept a good stock of cheap retsina wine.

Arriving back on the plateau on Friday, bringing with us much needed supplies, we found that Phil had run into a problem. He seemed to doubt that he was rigging Epos Chasm proper and suspected he had found something new. Epos starts in a gully in a heavily dissected pavement in the bottom of an enclosed basin. Dave Viggers went to investigate and found bolts at the bottom of a long 'gryke', just beyond daylight. Phil had started rigging in a gully running at right-angles to this and about 70ft to the West. He had found no signs of previous exploration. It was decided to carry on down this, assuming it would eventually join Epos. We were wrong. Phil had rigged a 125ft ladder down a series of three ledges in the gully, which opens into a large cylindrical shaft. Here, a 250ft pitch went down to another large ledge. From this ledge a 450ft pitch led down to a smaller ledge.

On Saturday, Phil was rigging the 4th pitch when the bolt drill broke. Dave Viggers was transferring the 450ft rope from a natural belay to a bolt belay when his drill broke too. There was no more to be done. Pete Cardy and Dave Viggers were leaving on Sunday so Phil went down with Pete and Dave on Saturday to drive into Ioannina to get the drills fixed. The rest of the party spent the next two days taking photos of Epos II and walking over the area beyond the Astraka summit partially explored by the Americans in 1977.

On Wednesday, Phil Rust and Dick Gledhill went off to rig the rest of Epos II. Phil got to the end of the rope 300ft from the bottom. This meant that another day would have to be spent to get to the bottom.

On Thursday, Phil Rust, Pete Francis and Dick Gledhill were to go to the bottom and de-rig. We were now running on a tight schedule as we wanted at least a week on the American T area. From the foot of the 450ft there were another six pitches. Including the ladder pitch the cave had nine pitches. They were short and ended on small rock ledges. The shaft seems to spiral round on itself in an anti-clockwise direction and because of this, communication is difficult. Dick and Pete followed Phil on the way down, putting extra protection on the rope where needed. They met an edgy Phil 200ft from the bottom.

He had done the last pitch without protection - we had none left - and the rope had run over some nasty protrusions. Sixty feet from the bottom he saw a window through which he lobbed stones. They fell into water after less than one second. Phil got off the rope on a mud floor, certainly not Epos. Epos was definitely on the other side of that window - only a few feet away. Due to the lack of protection it was thought imprudent to put more than one person on the bottom. After photographs they started the long haul out, de-rigging as they went, and got to the surface twelve hours later. Measuring the pitch lengths later, we estimated that we had been to a depth of 1480ft! This was only an arbitrary measurement; subsequent surveys will probably prove this figure inaccurate but we are fairly sure we got deeper than Epos Chasm and we therefore claimed the descent of the deepest cave in Greece.

As we walked back to camp at Provetina over the moonlit, thyme-scented plateau we felt that we had justified our expedition in style. A new 400metre plus shaft had been discovered in a well explored area and not 70ft away from the much visited Epos Chasm. There was still the promising T area to be looked at.

In three days in the summer of 1977, two Americans, Fred Wefer and Nevin Davis, had discovered many small pots in the area East of the Greek climbing hut between Tymfi to the North and Astraka to the Southwest. In their report they listed them and pointed out five which had good potential.

By Sunday the 12th a camp had been set up on T area and work started on the final stage of the expedition on Monday. We divided into two groups to do the two most promising pots; the Ice Palace and T33.

The Ice Palace was the deepest cave found on T area. The pitch started at the far end of a snowfield in a large depression. The Americans descended 150ft until the rope ran out 25ft from the floor. They could see a pitch at the South-western end. They tossed rocks down this and it sounded like a 90ft drop. Phil and Pete got to the back of the entrance chamber but the way Wefer and Davis had taken was blocked by a large snow plug.

T33 was a 45ft by 9ft wide gash on the Southern edge of T area. The pitch was 60ft deep with snow at the bottom. It was in a position to take a lot of run-off water. It too, however, was blocked by snow.

These two frustrating discoveries did not take up much time and we decided to check the pavements, which the Americans had not looked at, and find T4, T26 and T10.

The pavements yielded three small caves. One discovered by Jane had a 50ft pitch into a chamber with a small side passage. This was surveyed by Jon Kitching and Dick Gledhill. At the bottom of the ladder they found themselves standing on live clips of rifle ammunition. They took a few bearings and then beat a hasty retreat. We subsequently found out from a shepherd that the ammunition had been left by retreating Italian soldiers in 1941.

On Tuesday, T10, a 90ft with unchecked leads, was descended by Liz and Jon but it ended after the last ladder pitch.

T4, or Tripa pou kitozei tee Gomilla (Pit that looks at Gomilla), a 200ft deep pit, had an unchecked pitch leading through a tight hole in the floor. This was passed by Dick Gledhill and Pete Francis but went only 25ft down to a small rift passage which quickly choked.

T26 and T27, two 90ft pots were descended by Phil and Jon but yielded nothing.

There was little else to do on T area so we decided to carry the gear down on Wednesday and get ready to leave on Thursday.

We packed up base camp on Thursday and after a farewell meal in Aristi headed for Yugoslavia, looking forward to the tourist trips that we had booked with Ljubljana Caving Club.

After a week travelling up the Adriatic coast we made contact with a member who worked in the Karst Institute in Postonja. The S.W.C.C. is held in awe in this area and many members still reminisce on the good times that were had when Rod Stewart, John Osborne, Terry Moon and Colin Fairbairn made their visit.

We were invited to the celebration of the 10th anniversary of the discovery of the deepest cave in Jugoslavia, near Bochin, and spent an enjoyable weekend on the shores of Lake Bochin. The caves we did were, to say the least, impressive. We did Krizna Jama, Lipica Jama. Needless to say, Pete Francis and Dick Gledhill were shipwrecked in Krizna Jama.

On Monday evening we left our Jugoslav guide in Sezana and I think a few of us were already making plans to return to Slovenia in the near future. There is so much potential there and they are so short of cavers that many caves go totally unexplored. We hope to meet some Jugoslav friends who are coming to South Wales soon, and something could possibly be organised for summer 1980.

We got back to England on Thursday 28th August after six weeks away. During these six weeks we had people doing large strenuous pitches who new nothing about the techniques a few months before - a tribute to single rope technique and our rope walking system, the Howie system.

We have discovered a new 400 metre plus shaft and probably got the Greek depth record. On T area we have exhausted the potential with the exception of T33 and the Ice Palace which remain unexplored. Future expeditions could probably search further to the East of this area without feeling that they were ignoring it. We have made favourable contacts with a foreign club who seem anxious that we give them some help in the form of exploration and supplying gear unobtainable in their country.

On the whole I think the Astraka expedition was a success and personally I enjoyed every minute and cannot wait to 'go foreign' again soon.

R.Gledhill.

## URCULU - PYRENEES ATLANTIQUES

A caving expedition to the Pyrenees can present problems to the middle-aged caver with a family, unless the family prefer mountain mists to sunny beaches. One solution to this problem is to rent a cottage midway between the mountains and the sea. Whilst the family bask on the sands, the caver can slope off to the limestone.

This year (1979) I rented a cottage at Arcangues, about 5km from Bidart and within an hours drive of the Pyrenees-Atlantiques. Biarritz, Bidart and St.Jean de Luz have excellent beaches, restaurants and all that the summer holidaymaker desires, so my wife and daughter were quite happy to live it up whilst I went off caving on the longer trips and yet enjoyed the mountain scenery when accompanying me on the shorter trips.

My caving contact was the headmaster of the school at St.Martin d'Arberoue and a member of Ziloko Gizonak, the Bayonne Caving Club. (Ziloko Gizonak is Basque for Caveman). His brother and friends of the S.C.Dijon were visiting and the school was converted into a cavers hostel for a week or so. I was invited to the Bayonne club camp at Urculu near the Spanish border where Ziloko Gizonak were extending a pot called Bela Lezia below - 550M. Urculu is a magnificent place with views across the Pyrenees and into Spain. Huge brown vultures wheel overhead, probably waiting for the odd caver to drop.

Several of the caves used to be occupied by bears and we visited "Oyanbeltza", a cave about 1km long and 150m deep with bear nests, padmarks and claw scratches in many of the passages. There were lots of Sea Urchin fossils in the walls of Oyanbeltza, some sticking out like large round pebbles. Urculu has many deep systems, but I could not get a good map of their locations. It was a bit like discovering Yorkshire for the first time. We also visited other areas within 2 - 3 hours drive of Arcangues.

A trip to 'Pierre St.Martin' was unfortunately cancelled due to a mixture of heavy rain and some difficulty with the local Mayor. This was to have been the high point of my trip but instead we visited several lesser known systems. Unfortunately the Basque names have slipped my memory but I remember 'Lucuzillo' near Alcay in the Massif d'Arbailles. Lucuzillo is an interesting S.R.T. trip with pitches of 15m, 15m, a tight rift descent of 15m, 8m pitch to a pendule over a deep pool, 35m, jagged 8m and final 15m to a large chamber with the way on via a very tight rift, at present the end of the cave. All the pitches required complex rigs with handlines and bolts to such an extent that one of the French cavers said it should be called "La gouffre des fractionnements". Visits were made to "Les eaux chandes" near Larun, a river cave with several kilometres of streamway, similar to a smaller, well decorated system near St.Etienne de Baigory. The "Gouffre de Aphanice" is in the area having the huge "Pirates Pitch", 328m deep. When I am fitter and have the rope it might be worth a visit but instead I took my family to the caves of Sare which are quite extensive but fairly easy going on foot.

The French cavers were a friendly and hospitable bunch. When I stayed with them they housed, fed, transported and provided tackle for me, refusing to let me pay for anything. I finally persuaded them to accept a bottle of Armagnac as a gift. When I invited them to visit Britain to do some caving they said "Pour quoi?". However, after showing them surveys of OFD, DYO, Agen Allwed, Easegill and Gaping Ghyll they said that they would think about it!

If anyone is interested in more details these can be obtained from me or by writing to:

Ziloko Gizonak,
12, Rue des Prebendes,
64100 Bayonne.

Anyone holidaying in the area can call in at 12, Rue des Prebendes at 2030 on Wednesdays for their club evening.

The following comments may be helpful:-

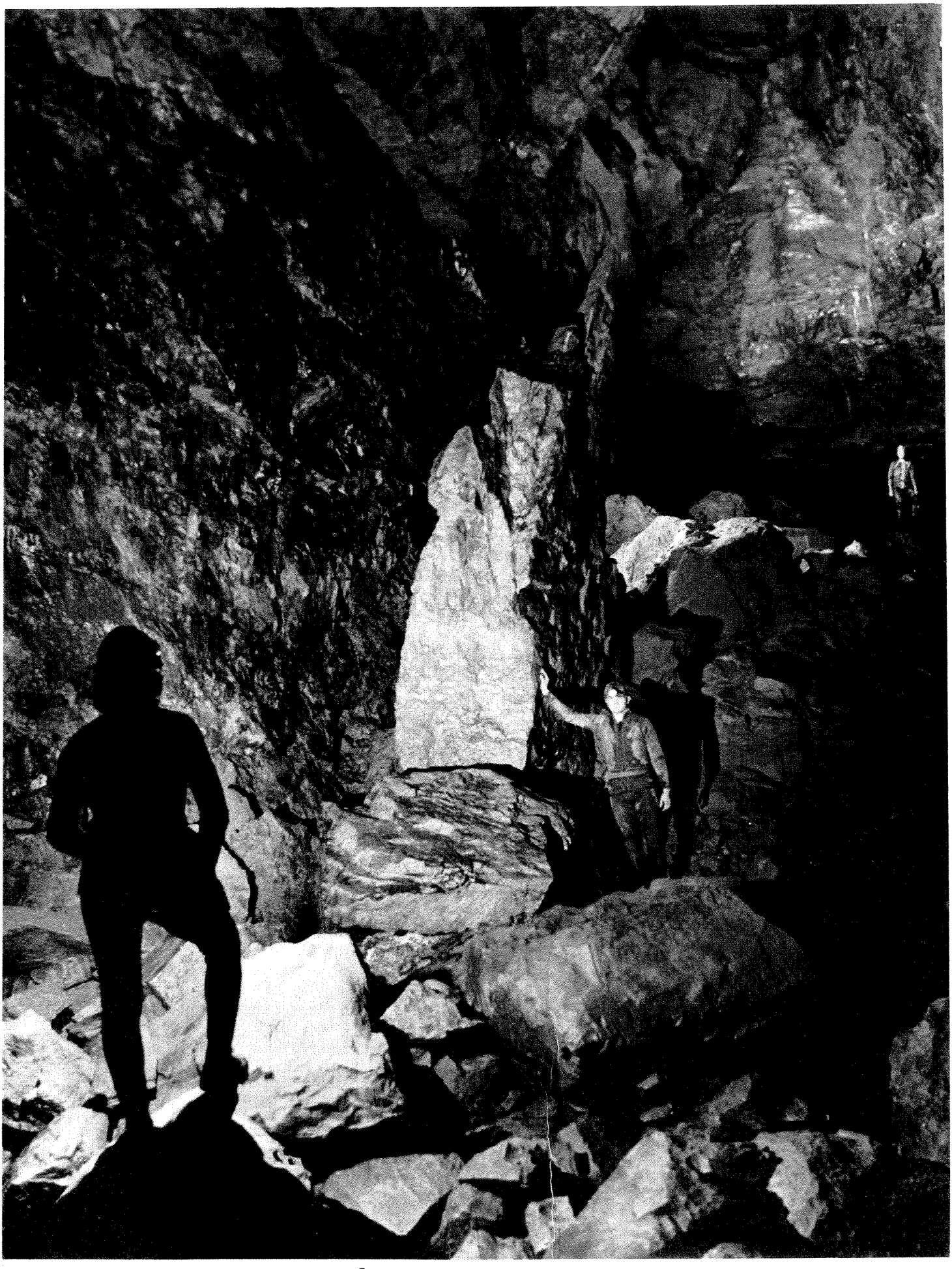
1) Speak some French; none of those I went with could speak English. I bought the original French edition of Mike Meredith's 'Vertical Caving' to learn the words and technique beforehand.

2) S.R.T. is the sole method of descent used by the French. The 'sit/stand' system is best because although it is slow on big pitches, it makes the numerous bolt changes easier.

3) If using electric lamps, take a charger. The French use acetylene lamps and the garages charge at too high a rate.

4) The wine and food in the area is excellent; so are the beaches, decorated with very interesting mammary formations. You may decide to stay on the beach!

J.E.Gillett.



Pinnacle Chamber - Dan yr Ogof.



Clive Westlake

## OFFA'S DYKE FOOTPATH - THE EASY WAY

I had half planned to attempt the Scottish 4000's in July '79 but the friend who was to accompany me backed out during the preceding December - so I decided to do something on my own! Offa's Dyke Path was my choice.

I spent many hours looking at maps, counting contours, picking out overnight stopping places and choosing a lightweight tent and stove. In the event, I decided to stay at bed and breakfast places each night and with the help of the Offa's Dyke Association I found accomodation for each night so I did not need to carry a tent or sleeping bag. I really planned it to make it easy; I booked an evening meal and packed lunch at each stop too!

Not being able to order the weather, I planned a rest day at Knighton in order to dry out clothes or wash them, so I booked accomodation for the first five nights at Monmouth, Pandy, Hay, Kington and Knighton. I then met Dot and Idris Williams who insisted that I stay two nights with them. I had another rest day planned for two days later booking to stay at Brompton in between and then I booked my last few places at Selattyn, Llandegla and Bodfari. I aimed to reach Prestatyn in time to catch the 14.38 train home!

The planned time drew near and Laurie drove me to Sedbury where we camped for the night and he waved me goodbye on the Saturday morning. I was now on my own.

The whole holiday went according to plan. My shortest day was only eleven miles and my longest - twenty two. I covered 185 miles in all and had about 22,000ft of ascent. I never walked for more than 9½ hours on any day and in all was out for 81 hours during 10½ days. Having breakfast prepared for me and no tent to take down meant, in theory, an early start but my usual starting time was between 8.30 and 9.00 because only one place served breakfast before 8.00 (and that was at 6.15). I was able to have a bath and wash my clothes every night - a real luxury.

Whilst walking I met other people, all most friendly. Here are a few examples.

On Saturday, I caught up with two youths about 4 miles from Monmouth; a Belgian and a German with English as their common language! They then walked with me as they had repeatedly got lost and I appeared to know the way! I didn't - every step of the way was new to me - but I had a good map in the book by C.J.Wright and also the step-by-step instructions and strip maps from the Offa's Dyke Association. (I also had the 1:50,000 maps but rarely needed to refer to them).

On Sunday, I walked with a young German couple but they carried on when I stopped at a 'Tea' sign - a pot of tea and biscuits for 15p. Later that day I walked with a young man who had just come back from going up the wrong hill! On Monday, over the Black Mountains, I had company all day.

Tuesday I walked alone but I lunched with some Dutch people and had a pot of tea at an inn in Gladestry. Wenesday, I walked with three schoolboys during the latter part. They hadn't liked me catching them up as thay had set off the day before me! Thursday was a rst day - the hottest day so far.

Friday: Knighton North was very energetic and enjoyable, but at one point I could not find the start of the path through a wood for ages. Saturday was my longest day and at lunchtime the three schoolboys caught me up! They were most annoyed to find that I had overtaken them and would not believe that I had also had a rest day! After I left them it was a very long, flat, not very interesting walk to Llanymynech from where I 'phoned Dot and Idris. Sunday was another rest day - again hot. Monday was a short day and when I arrived at Selattyn Lodge Farm, which I can well recommend, I was

informed that I had climbed over 420 stiles by now!

Tuesday was a longer day but with a 7.15 start I finished quite early. I met a large party of 18 going South who told me that I had a hard two days in front of me - most unfortunate as I had only allowed 1½ days.

Wednesday was the best day, over the Clwyddian Hills; fairly energetic, but not 'hard'. On Thursday, a short day and home as planned.

In all, I had an excellent time; no rain and generally a cooling breeze in quite hot weather. It wasn't a mountaineering holiday but as I had only expected it to be a walking holiday, I wasn't disappointed. It was fairly energetic - but not 'hard'. I enjoyed the terrain North of Knighton; I felt that I had achieved something and may well plan another of the long distance walks - the easy way - for next year.

Mary Galpin.

## A NEW INTERPRETATION OF THE 1946 HUMAN SKELETON FROM OGOF FFYNNON DDU

When Ogof Ffynnon Ddu was first entered in 1946, human bones were discovered in what became known as 'Skeleton Chamber'. They were photographed 'in situ' by Dr.H.N.Savory, recently retired Keeper of Archeology, National Museum of Wales, and then despatched for examination by Professor West at the Department of Anatomy, University College of South Wales. Professor West is now long dead, but his report describes 5 prime facts:

1. The skeleton was sealed in place by a roof fall on one side and silt on the other, hence a great age is suggested.
2. It had no accompanying clothes, buttons etc., so it was probably not modern and had no grave goods buried with it.
3. The limb bones were platycnemic.
4. The teeth showed "very considerable wear, some of them a good deal more than might be expected in a youth of 20 - 25 years" - a characteristic of prehistoric and Early-Christian burials.
5. Only fragments of skull, few vertebræ and ribs, and portions of limb bones, to quote Professor West, were found. The fragmentary nature of the find again suggests great age.

Taken as it stands, the report was sufficient to suggest a considerable age for the skeleton, certainly before modern times. Unfortunately, a local legend about an itinerant worker who vanished into the cave was resurrected and became attached to the skeleton, although the 1946 entrance had, in fact, been laboriously excavated and there was no tradition locally of an open entrance to a large cave.

The original 'in situ' photograph was closely re-examined in January 1976 and shows the following bones:-

Clavicle, 1 lumbar vertebra, many ribs, 2 humerus bones, 1 ulna, 1 femur, 1 patella, 2 tibiæ, 1 fibula, 1 astragalus, 2 metacarpals (or metatarsals), and several unidentifiable fragments.

The state of the bones is such that the articular ends are damaged, badly eroded or completely missing. This is normally the condition of bones found in Neolithic cave burials where the bones have been exposed to the air. Bones sealed in

stalgmite or buried in clay fare better. Even in loose cave earth, bones only become slightly pitted and softened. It is likely that the humid, alkaline, cool, constant-temperature environment of caves is conducive to the preservation of bones for several millenia.

With clear evidence that the bones were possibly prehistoric, the Skeleton Chamber was examined in detail in October 1976. The chamber is now sealed at both ends and entry is via a hole in the roof from an upper passage. The 1946 explorers assumed that the skeleton was that of an unfortunate explorer who had fallen into the chamber through this hole. In fact, the hole is somewhat narrow and would only be likely to form a trap if the person had climbed down through it and failed to climb back - an unlikely course of events as it is only necessary to put rocks on the floor, under the hole, to render exit an easy matter. The lower end of the elongated chamber is sealed with clay, but the upper end is blocked by boulders from an old roof collapse. This was photographed and then partly excavated. It was found to be fairly solid, lightly cemented with stalagmite and contained cobbles of Old Red Sandstone, proving a one-time connection with the surface. That other entrances to Ogof Ffynnon Ddu were once present is attested by the fact that a horse skeleton was discovered, just inside the cave, during the opening of 'sealed' Top Entrance in September 1967. Clearly this entrance had been open nearly up to Neolithic times and then become blocked, as horse remains later than the Mesolithic period are not known from Welsh caves, the animal having become extinct.

It is therefore suggested that the human bones represent a deliberate burial in the cave, introduced through an entrance which later collapsed or was filled in, and that its age is at least Neolithic or Bronze Age. Such a practice was common in those times, as cave burials have recently been exposed, dating from that period, in Ogof-yr-Ychen and Potter's Cave, both in South Wales, and from Ogof Pant-y-Wennol and Ogof Colomendy in North Wales. Indeed, in Ogof-yr-Ychen the human remains were taken down a small shaft which was then back-filled with rubble and boulders.

The platycnemic lower limbs and the very worn teeth are quite consistent with this hypothesis and the lack of grave goods is also characteristic.

Mel Davies.