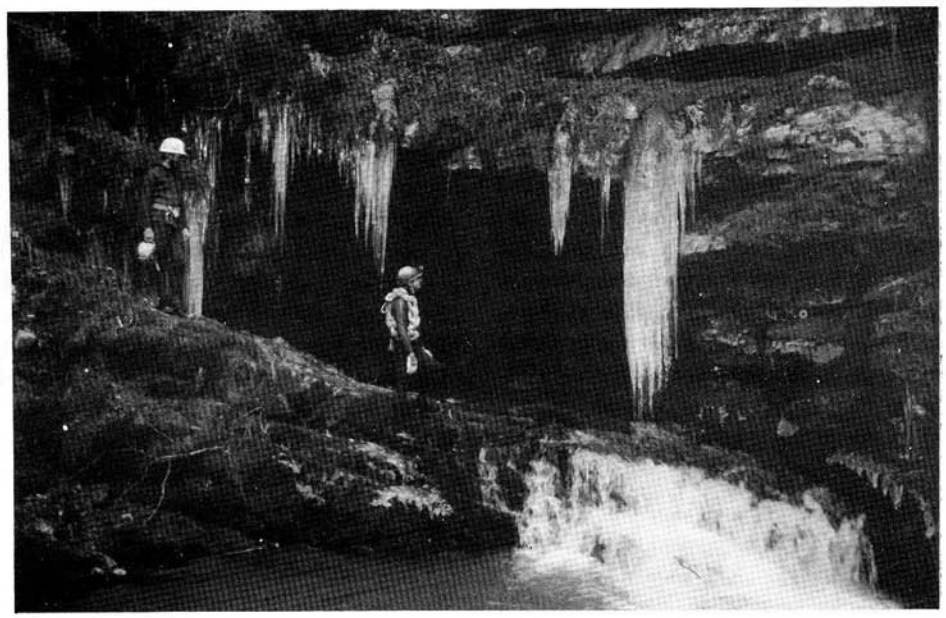
SOUTH WALES CAVING CLUB

clwb ogofeydd deheudir cymru

SPELEOLOGICAL PROSPECTS IN THE DAN-YR-OGOF CATCHMENT

THE PROCEEDINGS OF A CONFERENCE

No. 106 NEWSLETTER 1990



Dan-yr-Ogof Resurgence

Annie Peskett

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Cover Photo : **Jenny Peat in Bakerloo Straight, Dan-yr-Ogof** *Graham Crisp*

INTRODUCTION

Dan-yr-Ogof is one of the classic cave systems of the British Isles. Often more popular with visiting cavers than with SWCC members it has more of the northern character than other Welsh caves. Wet, rocky and linear, Dan-yr-Ogof lacks the relative cosiness of Ogof Fynnon Ddu. Perhaps for these reasons, or perhaps because an air of stalemate has pervaded our relationship with the cave, Dan-yr-Ogof has not received the attention it deserves for a decade or so. Work in the 'hinterland' on the Black Mountain has also been at a low ebb with the same sense of stalemate being a constant discouragement to diggers.

Much of the Dan-yr-Ogof system remains to be discovered. The sinks of Waun-Fignen-Felin, Sinc-y-Giedd and Twyn Tal-Ddraenen all lie well beyond the known cave yet despite this promise there has been little pushing activity in recent years. As a result there was a danger that a 'generation' of members would pass through the club unaware of the efforts that had been expended by previous 'generations' seeking the elusive missing miles. To avoid this and to stimulate interest in all aspects of the Dan-yr-Ogof catchement and its potential it was decided to hold a meeting at which past pushers could describe their achievements and failures and where the theories and facts relating to the geology and hydrology of the area could be presented. This meeting was held at the Copper Beech, Abercraf on Saturday 8th April 1989 and was well attended.

The articles in this Newsletter have been written by the speakers at the meeting. Much of the material presented here has been published before in earlier Newsletters or elsewhere. Nevertheless it was felt to be worthwhile to bring this together in one publication with the previously unpublished material. This should be of particular benefit to newer members who will not have their own copies of the earlier Newsletters. The editorial policy has been one of speed rather than 'finish' or completeness. The objective has been to get the facts into cavers' hands as quickly as possible rather than to delay in the hope of producing a more perfect publication.

Bob Hall
July 1989

Waun-Fignen-Felin Shaft, 1971 *Bob Hall*

The Geological framework to Dan-yr-Ogof

Abstract

The geological succession in the area was summarised. Originally a tripartite subdivision was applied: the Main Limestone being sandwiched by the Lower and Upper Limestone Shales. As knowledge progressed, further subdivision of the limestone was undertaken., initially according to coral/brachiopod zones (used by Coase, 1976) and finally one on a formation basis was adopted by the British Geological Survey.

Formations	Coral/Braciopod Zones	Thickness
Upper Limestone Shales	D_2 & D_3	2-3m
Penwyllt Limestone	D_2	20m
Penderyn Oolite	D_1	20m
Dowlais Limestone (aka Cil yr Ychen Limestone)	S_2	120m
Lower Limestone Shales	K	c 0.10m

Most of the cave is found in the Dowlais Limestone and although there are minor excursions into the Penderyn Oolite these are statisically insignificant. The oolite, however, because of its massively bedded nature, and freedom from cave development provides an excellent roof over the cave bearing limestones and largely protects the cave from being infilled by superficial material. At the base of the oolite is a 1-2m thick calcareous sandstone which is known as the ''honeycomb sandstone''.

The Glacial history of the area is complex and lengthy. In Wales there is direct evidence for two glaciations : the Newer and Older drift. In the midlands of England there is evidence of an earlier drift deposit which includes boulders from Wales. In Europe there is evidence for four glaciations, whilst evidence from a deep sea drilling programme, in the north Atlantic, provides evidence for there having been at least eleven cold events since the initiation of the Pleistocene period about two million years ago. The penultimate glaciation was by far the most intense in our area and its effects largely obscured evidence for previous glaciations. Since our area was also likely to be an area of glacial erosion during all of the glacial epochs the observed surface drift is likely to represent the ground moraine during the waning of only the last (=Devensian) glaciation. However the drift deposits from earlier episodes may be preserved in the caves.

The analysis of longitudinal stream profiles shows that in the present area there is evidence, from the position of nick points, that there are local erosion levels at about 1400', 1000-1100' and 800'. These accord with extensive horizontal passage developments in both Ogof Ffynnon Ddu and in Dan-yr-Ogof. Most of Dan-yr-Ogof suggests development to the 800' erosion level but there is evidence in the Far North of an 1100' development and also of further erosion to the present resurgence base level. The cave as is presently known does not extend as high as 1400'.

The positions of the major anticlines in the area are marked on the accompanying map as are the positions of the areas of ''foundered ground'' which are identified as major collapse features where the Basal Grit has been let down through the underlying limestone. Most of these features may be ascribed to collapse related to scarp recession, but there are large areas of foundered ground well south of the Millstone Grit scarp and these indicate the presence of considerable cave development in these areas.

There is strong evidence from Ogof Ffynnon Ddu, and from considerations of likely flow patterns in the Tawe/Giedd area, that streams have invaded pre-existing major cave systems. Considerations of the geomorphology (erosional and terrace features) in the Sinc-y-Giedd area show that an entirely surface flow of the river continued after the last glaciation ended. There is evidence that the river is invading a cave system and resulting in northward migration of the influent point. Any cave system in this particular area is likely to be filled with glacial debris.

The best places for surface digging are therefore :

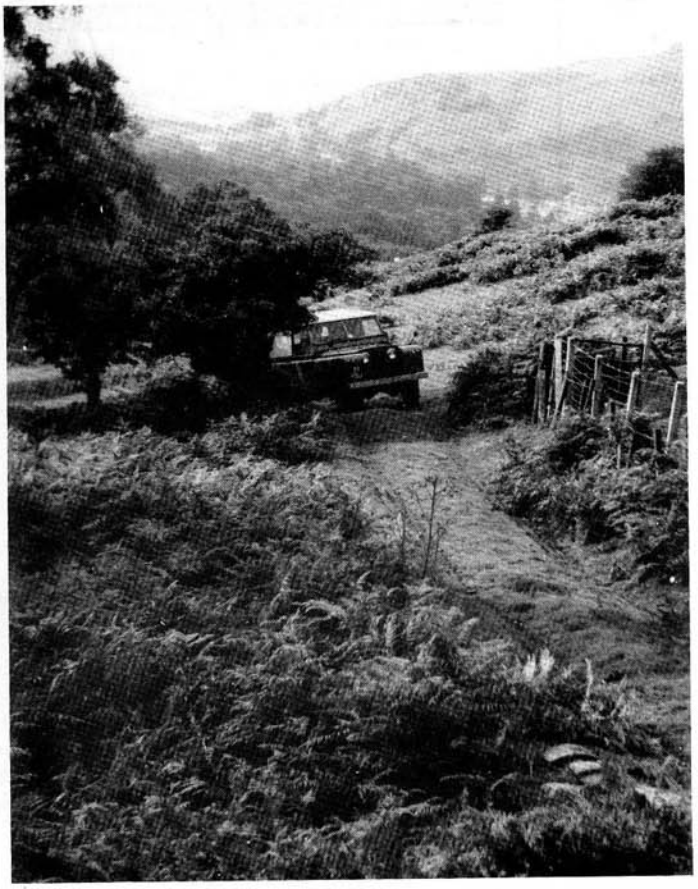
1. ground underlain by Dowlais limestone.
2. areas free from glacial drift.
3. in areas of thin drift cover, close to the contact with the protective capping of the Penderyn Oolite.
4. in zones corresponding to erosion levels which are at approximately 1400', 110' and 800'.

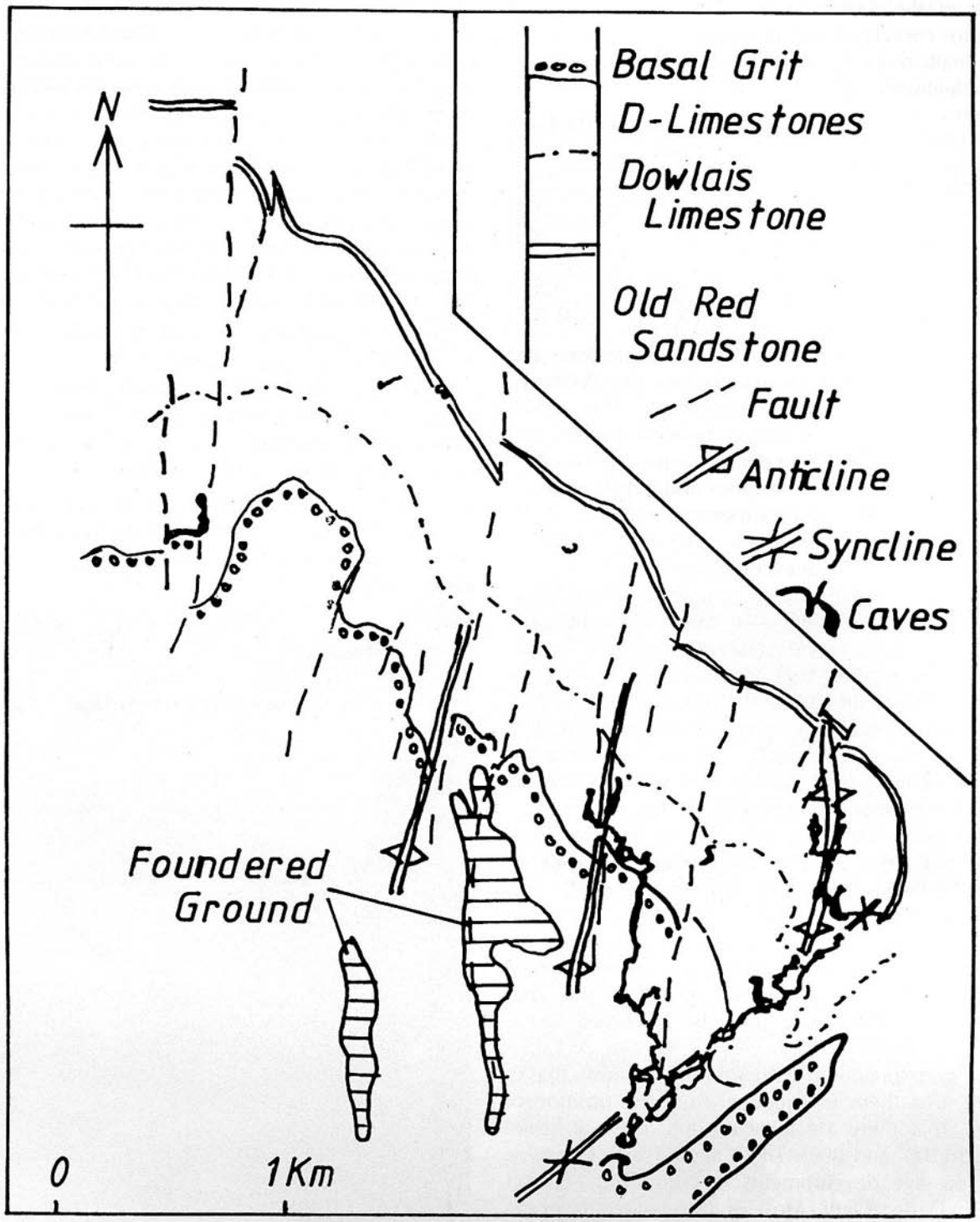
It is considered that these controls would be better indicators of cave presence that the post glacial sinks of permanent and ephemeral streams.

Keith Ball

May 1989

Land Rover on the track above Dan-yr-Ogof *Bob Hall*





A simplified geological sketch map showing the position of the main cave passage in relation to the major elements of the geology. The limestone is underlain by impermeable rocks of the Old Red Sandstone, and overlain by the Basal Grits of the Millstone Grit Series. In order to avoid an overly complicated map only foundered ground south of the Basal Grit scarp is shown. Much of the limestone suboutcrop is in fact covered by Glacial Drift and collapsed Basal Grit boulder fields.

A Hydrological Study of the Dan-yr-Ogof and Ffrwd Las Resurgences

Object

To ascertain the area of the water catchment using the Lycopodium spore method of water tracing and thus to determine the western limit of the Dan-yr-Ogof system.

Method

The method of tracing underground water courses using Lycopodium spores is as follows :

Lycopodium spores are small pollen-like objects, 30 micro-metre across, which come from the Lycopodium plant - a small, heather-like plant found mainly in arctic regions. They can be dyed several different colours using biological stains and have the special property of neutral buoyancy in water, thereby enabling them to pass sumps with the water flow.

They are introduced as a slurry into likely sinks on the surface of the hill and are collected in 20 micro-metre mesh plankton nets held in metal frames which are submerged in suitable places in the likely resurgences.

The contents of the plankton nets are examined under a microscope at suitable time intervals and any coloured spores collected and identified, thereby linking sinks and resurgences positively. The spores are clearly visible at 100x magnification and may be studied in detail at 400x magnification.

The main advantages of using Lycopodium spores, instead of water soluble dyes like fluorescein, are that they do not contaminate the water and can be used in public supplies without risk of pollution; also, dilution does not really impede the success of a trace as one spore collected in the net will confirm a trace from a sink.

The Study

After a period of unsettled weather which included very heavy showers and thunderstorms, dyed spores in 1kg aliquots were introduced into sinks in the Black Mountain area to the north, west and south of Sinc-y-Giedd. Nets were placed in the river Llynfell just below the entrance to Dan-yr-Ogof and in Ffrwd Las resurgence in the Twrch valley, north of Ystradowen.

The details of the results obtained are listed below :

On 14th August 1982 : 1kg of spores were put into :

1. Carreg-Lem sink at SN 805178 (dyed Methylene-blue).
2. Twyn Tal-Ddraenen sink at SN 807191 (dyed Magenta).
3. Diwedd yr Enfys at SN 796191 (dyed Safranine-orange).
4. Lost Valley sink at SN 826156 (dyed Malachite-green).
5. A sink south of Banwen Gwys at SN 798184 (dyed Bismark-brown).

The nets at Dan-yr-Ogof and Fffrwd Las were inspected for the presence of spores on the following dates and with the results indicated :

1982

16th August	The Dan-yr-Ogof net tore under flood conditions but contained the following spores : Magenta - a considerable number. Malachite green - a few. Methylene blue - one spore identified. The Ffrwd Las net contained no spores.
17th August	The Dan-yr-Ogof net was repaired and kept in place.
18th August	Both the Dan-yr-Ogof and Ffrwd Las nets contained no spores.
20th August	The Dan-yr-Ogof net was clear of spores. The Ffrwd Las net tore and was taken away for repair.

Twyn Tal-Draenen

Bill Gascoine

22nd August	The Dan-yr-Ogof net was considered too damaged to be of further use so was removed and the repaired Ffrwd Las net put in its place. Also a further 750g of Magenta spores were put in Diwedd yr Enfys sink during flood conditions.
24th August	The Dan-yr-Ogof net contained a few Malachite green spores.
27th August	The Dan-yr-Ogof net again had green spores in it.
29th August	The Dan-yr-Ogof net was clear.
30th August	The Dan-yr-Ogof net was clear.
4th September	The Dan-yr-Ogof net was clear and was removed for cleaning and future use.

Conclusions and Comments

The water which resurges at Dan-yr-Ogof had already been positively linked with sinks at Waun Fignen Felin (SN 822177) and Sinc-y-Giedd (SN 810178). We can now add to those, sinks at Twyn Tal-Ddraenen, Carreg Lem and the Lost Valley near Pwll y Wydden.

The resurgence of so many Magenta spores within 48 hours from Twyn Tal-Ddraenen must give this sink a good chance of being connected to good cave, even though it is so far distant from the resurgence.

The lack of spores (one only) from Carreg-Lem can probably be attributed to the tearing of the net happening just as the spores came through the system; Carreg Lem may well feed the cave stream, as does Twyn Tal-Ddraenen, although after a longer period of time.

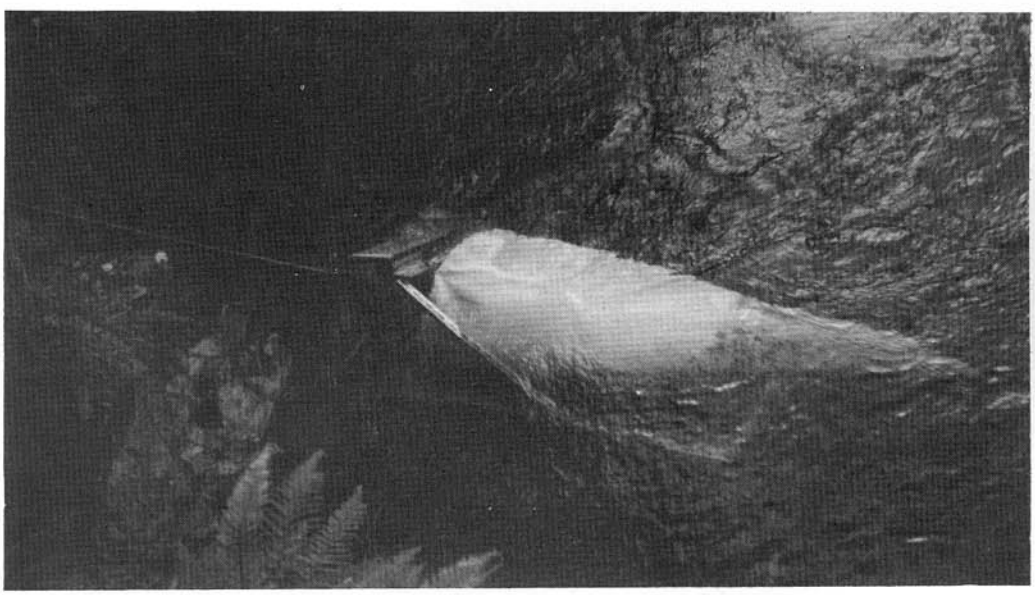
The green spores from the Lost Valley sink appeared over many days (13 days in all) and this must surely indicate an intermittent water connection from sink to cave, probably only after heavy rain : the relevant weeks were punctuated with heavy showers.

The failure to detect spores from Diwedd yr Enfys, either Safranine or Magenta from the later test, would seem to indicate that this cave is beyond the limit of the Dan-yr-Ogof catchment, as is the case with the sink near Banwen Gwys; however, the spores from these two sinks did not appear in the Ffrwd Las net either, at least not for six days until it tore and was removed. This must raise the question, where did they go?

Putting Spores into Twyn Tal-Draenen

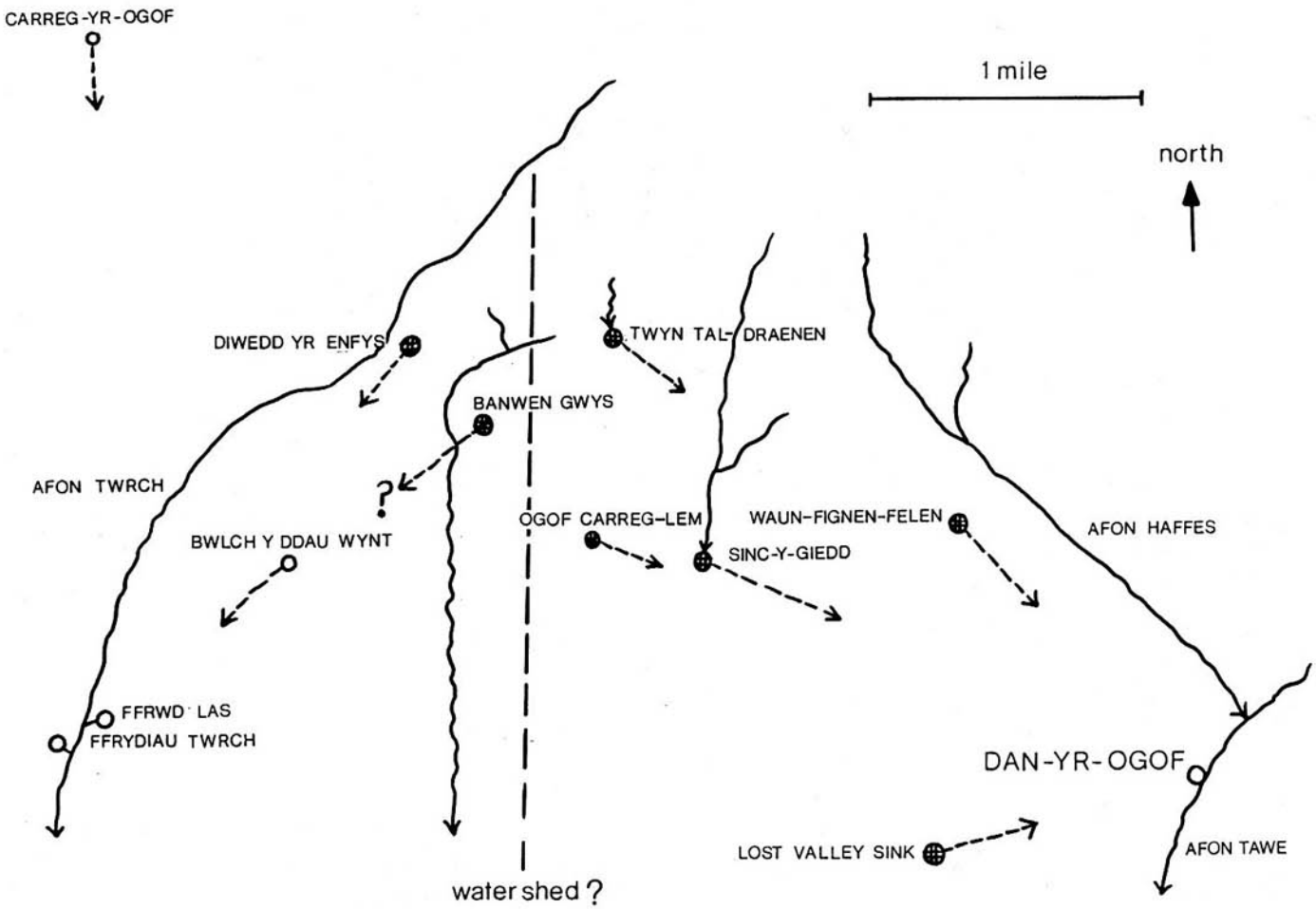
Bill Gascoine

My assessment is that Diwedd yr Enfys and the other sink probably do feed Ffrwd Las but via the water table, ie. as 'ground water'. This could explain why the spores did not appear within six days, ground water can take weeks or even months to travel to the resurgences; also Ffrwd Las was noticeably unresponsive to heavy rain, only varying slightly and slowly in volume even though the weather was very unsettled. The Dan-yr-Ogof resurgence flood-pulsed rapidly and frequently over the same period.



Plankton Net in Dan-yr-Ogof entrance

Bill Gascoine



The indications are, therefore, that Ffrwd Las water is largely saturation zone water, only reponding in flow to a general raising of the local water table after a considerable period of heavy rain.

Bill Gascoine

Winter 1982 (Text substantially as published in N/L No. 97)

Supplementary Note :

Since this work in 1982, Ffrwd Las has been identified as the resurgence for water sinking into Diwedd yr Enfys as well as water from Carreg-yr-Ogof sink and a sink in Bwlch y ddau Wynt (see map.)

The work was done by Nig Rogers using fluorescein dye and strongly positive traces were obtained. The volume of water issuing from Ffrwd Las however may still indicate that much of its flow is from ground water.

Bill Gascoine

May 1989

Letter to the Editor

The very welcome news that a major water tracing exercise is to be undertaken in Dan-yr-Ogof is a reminder that withdrawal of support forced Bray to abandon his hydrological investigation there in 1970, and to transfer his operations to Ogof Ffynnon Ddu, which monopolised club interest.

This was unfortunate. His detailed measurements of water hardness during the summer of 1968 had produced memorable results.

The relevant hardness readings (in ppm) were: Main Sump 72, Far North L/H 119, Washing Machine 121, Resurgence 122.

So, when the measurements were made, the main stream was composed entirely of hard water, on which blendings with the softer water from the Giedd had no measurement effect. The hardness was the same from one end of the system to the other. The role of the Giedd (usually regarded as the 'major basic feeder') was in fact negligible.

There is no doubt about the figures. Bray stressed their reliability, and made four sampling trips, which produced consistent results. They provide food for thought and further investigation.

Was the situation abnormal? The weather was very dry, and the comparatively high hardness of the sump (56 or 58 ppm on other occasions) suggests that the Giedd flow was small.

But EFF would have been dry then. Where did all that

hard water come from? Now do the flow rates from the Washing Machine and Main Sump compare, under normal conditions?

Was the softening effect of the Giedd water offset by an increase in hardness during flow through the cave? It is not aggressive, and Bray considered that it had developed its full hardness when it entered the cave. Equally, there is no increase in hardness in the flow from the Far North. The indications are that the mainstream is hardened by an inflow downstream of the Washing Machine.

Are Sinc-y-Giedd and Waun Fignen Felin really the only major feeders of the Dan-yr-Ogof system? Clearly there are times when the former is not, and the latter is very often nearly dry.

The discrepancy between the flow rate at the Resurgence and the input from the major sinks led Ede to conclude that there must be another inlet. This was disputed by Coase, who felt that the difference was accounted for by percolation and stream sinks, particularly into the Great North Road. Who was right?

My own view is that there is another major source of hard water. Something sizeable must be draining the big, wet, catchment area between the Giedd and Waun Fignen Felin systems.

The low hardness of the water in the Main Sump suggests that there is little percolation into the feeder from the Giedd, and I presume that the normal stream in Dan-yr-Ogof 3 is not big enough.

Where do the flows into Greenstick and the big active swallets near Pwll y Cig enter Dan-yr-Ogof? Dye tests from these might produce an important result.

Another factor in the statement by Coase that passage development in the Great North Road and Far North occured at a very late stage, which only just pre-dated the loss of the Haffes stream from Waun Fignen Felin.

If this is correct, the Haffes flowed for thousands of years into an older, unknown system. Why not the one I'm postulating?

There may be more than one system, since the geology favours discrete development (Pwll Dwfn, Tunnel Cave), but everything seems to point to the same conclusion.

Paul Dolphin

Source: BCRA Transactions, March 1977.

Diving Related Prospects in Dan-yr-Ogof

It is now 17 years since the last big breakthrough in Dan-yr-Ogof; a fitting time to review the prospects and to share what information we possess. The immense value of diving as an exploratory technique has been proven time and time again, especially here in South Wales, and there is little doubt that as far as Dan-yr-Ogof is concerned the possibilities are legion.

Details of the Mazeways discoveries in 1972 and 1978 are covered in some detail elsewhere*. Here I shall try and restrict myself to the very real possibilities that still exist. Techniques in the fields of both caving and diving have advanced considerably since the last aquatic activities took place in the cave and there is little doubt that extensions will result if the following information is acted upon.

Starting from the cave entrance :

The complex area of sump beneath the Show Cave has yet to be systematically explored. No serious attempt has been made from either end (ie. from Lakes 1-3 or from the resurgence). The north wall is worth following as there could well be passage entering from that side.

Upstream from Lake 4

This horribly murky sump has been passed to reach Lake 5, from which point an awkward deep-water duck gives access to Lake 6. To my knowledge no one has systematically followed (ie. examined every rift and alcove, as opposed to the main tunnel) the north wall through this sump. The same goes for the 20m dive into Lake 7.

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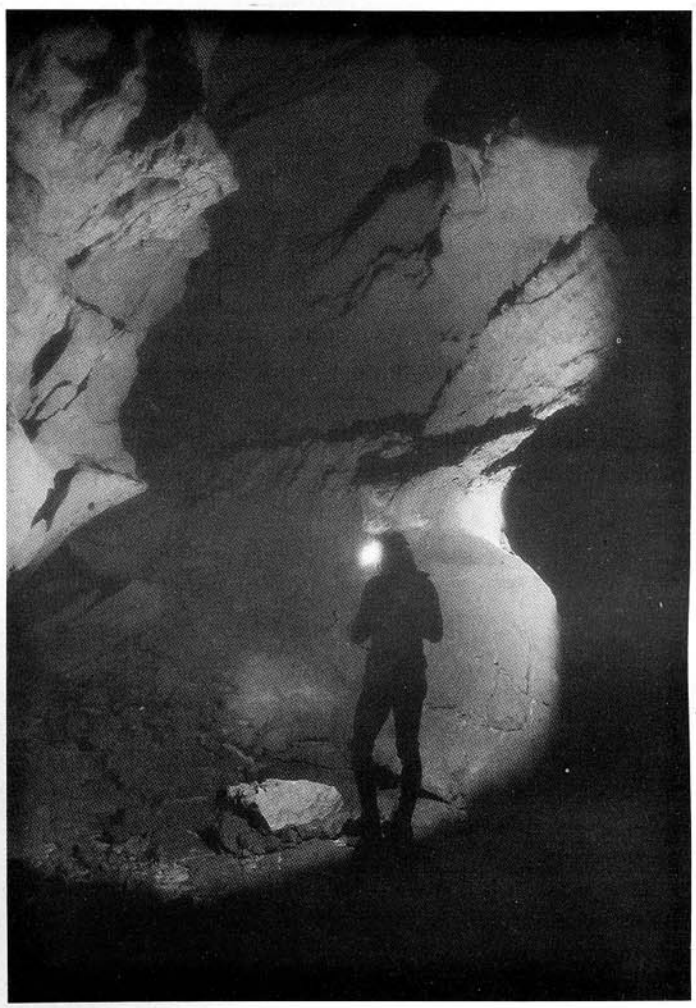
CDG Newsletters 1972	Nos. 24, 25, 26
CDG Newsletters 1980	Nos. 55, 56, 57
SWCC Newsletters 1973	No. 72
SWCC Newsletters 1979	No. 91



Mazeways 2: Main passage

Martyn Farr

Beyond Lake 7

There are two routes forward but both degenerate rather unpleasantly within 30 - 40 metres (from memory). It is assumed that the water contained in each passage is the same, as the visibility is typically atrocious. Neither route was pushed to any conclusion. The right-hand passage presently terminates in an area severly obstructed by pinnacles and flames — rather like the confused area near the start of Dali's Delight. Progress here is assured but the diver would have to pay close attention to the installation of his line.

Lake 8

This is the area of apparently static water beneath Virgin Passage, in the Lower Series of Dan-yr-Ogof II. This large murky sump pool is deep (approx 15-18m) and trends directly back towards Lake 7. This was dived for some considerable distance in 1974, but is probably still 100-200m from a connection with the Lake 7 passage. The interesting thing is that the terminal area is a massive ongoing tunnel - easy diving and no obstructions. Something unusual, for example the presence of a fault, perhaps accounts for the radically different passage type (and depth) experienced at the downstream end of this eventual 'link'.

Upstream from Lake 8

No diving has been undertaken in the direction of the Washing Machine (Lake 9). This missing section of passage must be at a similar depth to that trending towards Dan-yr-Ogof I, ie. relatively deep, if the tentative examination of the Washing Machine is anything to go by. Once again it must be stressed that no systematic exploration has been conducted; distances and depths are only approximate.

Between the Washing Machine and Lake 10 (the Mazeways Entrance Pool)

Apparently Pwll Dwfn water enters the system in this vicinity (but this 'fact' needs confirmation). From a diving point of view this again is a very interesting area. The upper end of this section has been covered exhaustively -between the western, upstream end of Bakerloo Straight and the the beautiful sandy passages of Mazeways I everything has been thoroughly explored. This is the last point where the 'mainstream' water is seen by the non-diver and the resurgence of this water can be discounted (it is impossibly tight!). However, there is an interesting complex of passages beneath Bakerloo Straight that requires examination and neither the upstream Washing Machine nor the adjoining flood overflow sump have been dived at all.

Mazeways

The reality of the non-divers section is nowhere near as complex as the name implies. In the main, attention has been focussed upon the terminal sump area, but before a few comments are passed on this I should like to draw attention to an extremely significant section of passage that has only been entered a couple of times. At the head of the fine sand slope at the start of Mazeways I there is a flat-out sandy dig. When cleared this leads to a long section of dry passage (which is on the survey) and an inviting sump. This was dived in 1972 for 45m. The way on is open. I mention this site because there is a possibility that it could by-pass the complex of passages in Mazeways II !

The Mazeways Sumps

The passage leading to Mazeways II has been thoroughly explored. However, the passage leading to the 'Bridge', ie. that explored by Moon, Arculus and Fairbairn in 1968 could do with another visit. The 1968 dive has not been repeated.

Lake 11

This is the last point in the system that 'mainstream' water, ie. the flow presumed to be derived from Sinc-y-Giedd, can be seen. This sump pool is highly significant; not only does water 'rise' here but the location is also that of a sink.

Mazeways 2: Waterfall, Cribarth inlet passage

Martyn Farr

(Water which flows into the sump beneath Dali's Delight drains via the '1968 route' and the Mazeways II access route to this sump. Why is the Giedd water so cloudy? That from the Great North Road is crystal clear. What is certain is that the origin of the mainstream water is closely associated with Mazeways II.

Mazeways II

Over a mile of passages are known here but the important areas lie at the north-eastern and south-western extremities. Everything else has been reasonably covered. The north-eastern passage terminates in a strongly draughting, riftlike, ascending choke. A very small stream enters at this point, and it was here that radio contact was achieved with A2 Chamber.

At the south-western extremity, at low level, lies the Cribarth Inlet - a fairly large streamway containing clear water. I believe that this is a flood overflow route for the mainstream. The terminal choke here is impossible but pursuing this line of thought led to a reasonable extension in 1978, namely Mazeways III. (Entry via an aven and desperately loose choke at the start of Cribarth Inlet.) This section of cave is, if anything, more complex in every respect than Mazeways II. The area draughts, there is a multitude of interesting chokes and I am convinced that this is a key area for the mountain as a whole. Efforts in this sector culminated in a syphoning project in the early 1980s, a project that is well within the capabilities of non-divers .... assuming access can be gained to Mazeways II. The draught disappears into an impossible choke adjacent to the perched terminal sump. No accurate survey exists of Mazeways-III. This must be regarded as a priority.

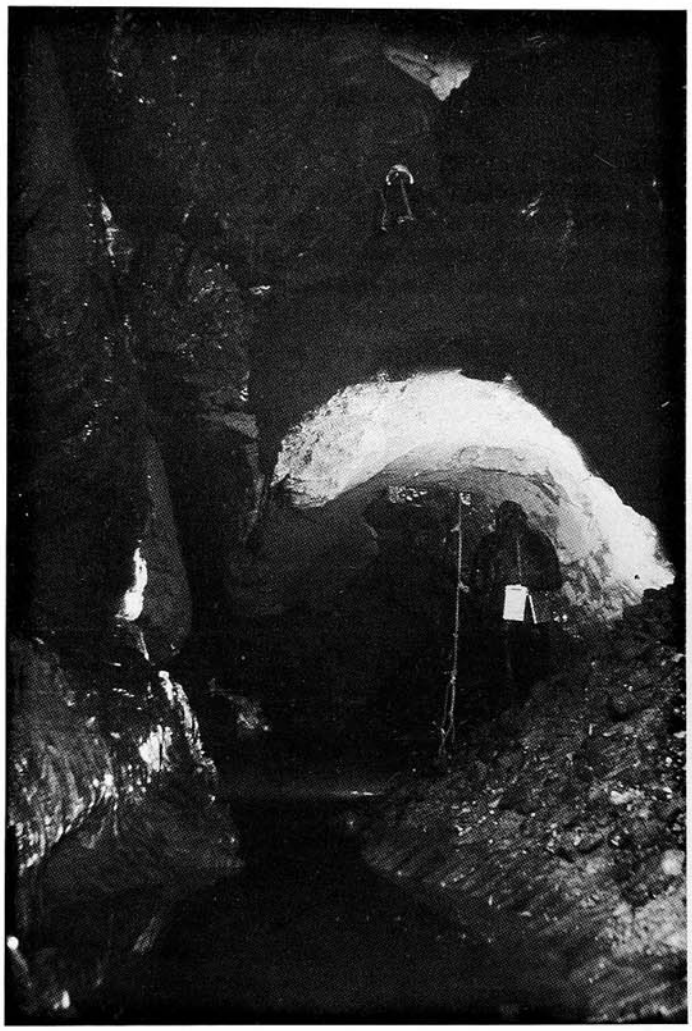
Steve Jones at bivisite Mazeways 3, Dan-yr-Ogof 1984

Martyn Farr

So where does this leave us? Non-diving access to the Mazeways extensions is essential. A radio location exercise to tie in the grade 5 survey of Mazeways II to that of Dan-yr-Ogof II would be an invaluable first step. Coordinated visits to the end of Hanger North and Mazeways II might even yield a few more surprises.

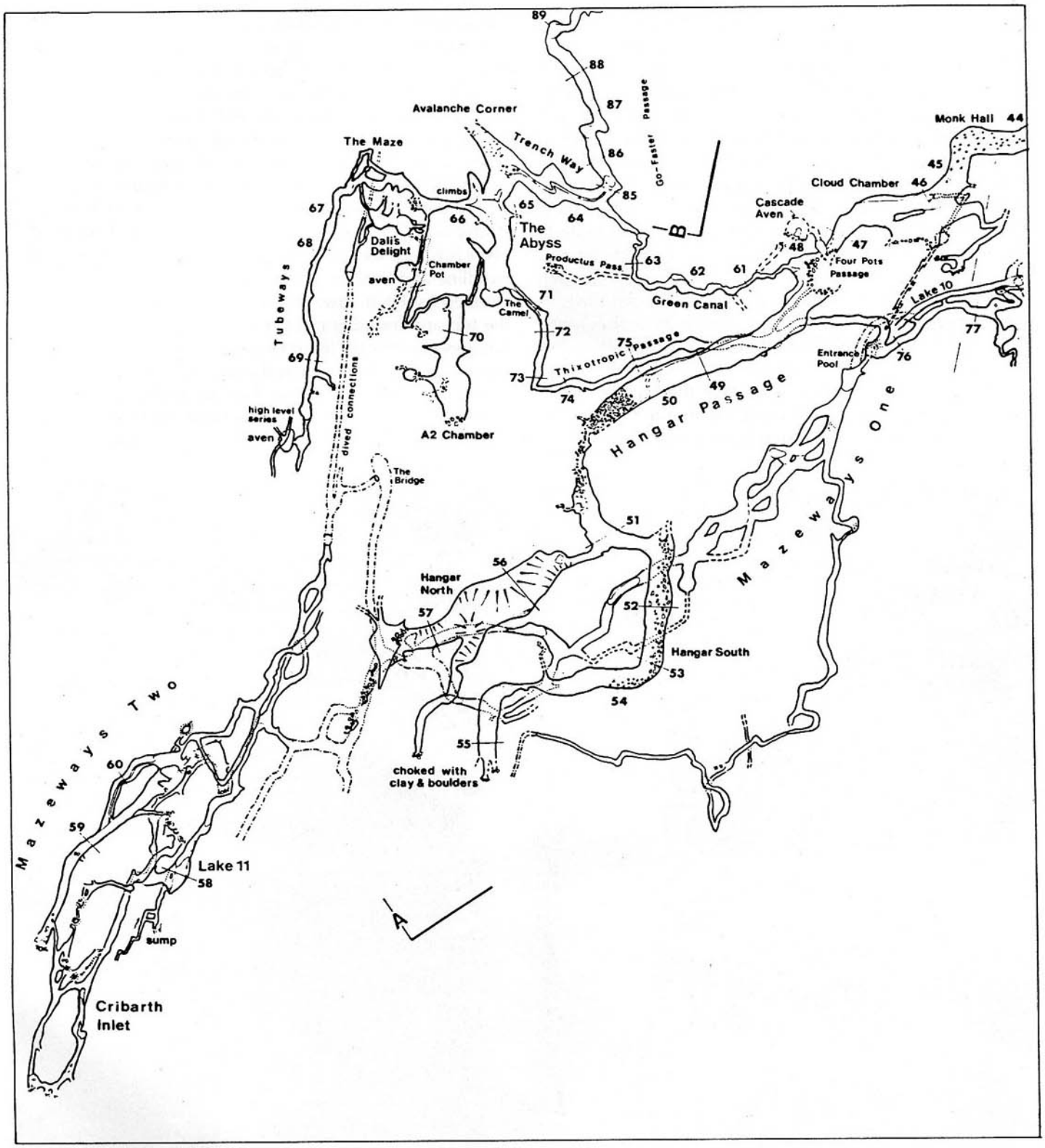
To conclude I should like to draw people's attention to a couple of other leads. There is an undived sump above the Green Canal, trending in a southerly direction. Much nearer to the entrance there is a perched sump in Straw Chamber... an extemely good bet for breaching the big blank area of mountain between Pwll Dwfn and Tunnel Cave. There is so much to go for!

Martyn Farr
May 1989



Mazeways 2: Last place one sees the Giedd water

Martyn Farr



Part of B.C.R.A. survey of Dan-yr-Ogof, showing Mazeways and Hanger areas
(with kind permission of B.C.R.A.)

The Giedd Series : Digging Prospects From Dan-yr-Ogof II

Ever since the long crawl was passed in Easter 1966 there has been much discussion concerning the possible existence of a series of passages leading towards the main source of the Dan-yr-Ogof water at Sinc-y-Giedd. Attempts to enter this series from the sink have ended in total failure and, with the exception of the discovery of Mazeways II and III by the divers in 1972 and 1978 respectively, efforts within the cave have met with a similar lack of success. It seems likely that the high-level passages in Mazeways III may still prove to be the best bet but it is worth remembering that these are getting very close to the much faulted and folded area around the Cribarth disturbance. There is no guarantee of a passable underground route to the passages which must exist beyond this although it is reasonable to assume that these should be large and open once the cave trends north-west beneath the grit cover.

So what are the chances of getting into the much postulated Giedd series direct from Dan-yr-Ogof II and so by-passing not only the Mazeways extensions but also the Cribarth disturbance? There is always the chance that a passage heading north-west could be found from any of the areas I am about to describe but it is equally likely that they could just provide a dry way into Mazeways II. Only time and effort will tell for certain.

Dali's Delight was first climbed into by Eric Inson in May 1966 and entry is now gained by an exposed rope-climb of 12m (a fixed hand-line is in place) from the floor of the Abyss. From the top of the climb one passes through a strange area of phreatic chambers before reaching Tubeways which leads south and is the obvious way on. An easy 4.5m climb up a fixed rope leads to the base of an aven, about 9m high, with 2 fixed ropes in place; one white SRT rope and one hawser-laid handline, both of which are belayed to good bolts. Unless you have very strong arms the safest way of getting up and down this aven is to self-lifeline using the SRT rope whilst using the handline and then to abseil back down. This aven was first climbed by Glyn Edwards who passed the large choke at the top and found 60m or so of passage ending in further boulder chokes. He left no record of his exploration other than a rope on the aven and his initials in the final choke and it was left to Martyn Farr to rediscover these in December 1971. Martyn reported that the final choke was taking a 'howling draught' but was very loose. A dig in a

Waun-Fignen-Felin shaft, 1971
Left to right: Clive Jones, Martyn Farr, Mike Ware, Gerry Woolf

Bob Hall

rift chamber led to a further 30m of passage, up to 3m in diameter, blocked by chokes at either end. A further dig, ten days later, led to 30m of very shattered passage and no-one really pushed here until 1978 when Pete Francis, Steve West and others found 9m of passage beyond one of the end chokes. Pete reported the way on to be 'easy digging' and has not been back since! Most people who have been up to high-level Dali's, myself included, have shown very little inclination to return; the whole area is very, very loose so if you do go there be careful. The strong draught is very promising and attempts at producing a connection with Mazeways II by using smoke-bombs and explosives have, to date, been unsuccessful. Geologically, the passages are too high up in the limestone, actually being above the honeycomb sandstone, but I see no reason why one could not easily drop down an aven just as one has come up one to begin with.

It is possible to follow a complicated route from Dali's Delight to A2 Chamber, another area of excellent potential for producing a possible route to the Giedd Series or a dry way into Mazeways II. In July 1973 a 'very strong' radio link was made between the centre of A2 Chamber and Mazeways II, verbal contact being possible, so the latter possibility seems the more likely. It is hard to tell exactly where would be the best place to begin digging in A2 Chamber itself, the large choke at the southern end being perhaps the most obvious but also the most massive. On one of my first visits to this part of the cave I noticed a suspended choke above the centre of the chamber; this seemed a good place to dig, especially after studying the relative heights of the passages in A2 and Mazeways II. Unfortunately, reaching the choke in the first place meant bolting out from one wall, surmounting an overhang of 6m or so. It was far to intrepid for me to consider so I passed the lead on to Rob Parker who, accompanied by Roddy McLauchlan and Steve West, took three trips to get to the top of the climb. Tales of having to wear a diving mask to keep a dirt and dust out of one's eyes whilst placing bolts in the roof made me glad that I had not attempted it myself. So did the fact that it did not appear to go anywhere apart from into a delicately poised mass of vertical boulders continuing upwards. Rob kindly left a rope in place for me to take a look at what is there but I have yet to take up his invitation. If anyone else fancies a look then feel free - SRT gear is needed.

The easiest way to get into A2 is from the Abyss where two short ropes hang from a passage 4.5m up on the west wall. Prusiking up the white SRT rope (or free climbing if you have really strong arms) leads to a short crawl which goes straight into A2 chamber. Abseiling down is the best way to get back, although a better bolt needs placing high up on the right to give a nicer take-off and to reduce abrasion.

The area between A2 and Dali's Delight consists of phreatic passages and avens at various levels. In 1983 a dig on the 'shelf' between the two obvious 'twin avens' led to a small well decorated rift chamber and a further dig on the left with a big black space beyond. This led to a 2m diameter tube trending west but initial hopes of a major breakthrough soon died when we came across a set of footprints in what should have been undisturbed sand. A very awkward climb up in the roof led to what must have been the original point of entry, emerging very close to the top of the 12m climb up into Dali's. The westward-trending tube ends in an easy sand dig but neither John Lister nor myself have had the heart to go back so if you fancy an easy 'bucket and spade' type of dig then go and take a look.

Peter Harvey and the Land Rover on the track above Dan-yr-Ogof *Bob Hall*

There are also several climbs in the area of the twin avens which have not been pushed to any definite conclusions. Although these appear to lead the wrong way - ie. north - one never knows what might happen in an area of phreatic passages such as this.

The final area to be considered lies beyond the choke terminating Hanger Passage which is on the the left at the start of the Green Canal. This choke was first passed in March 1967, two large continuation passages being discovered, these being named Hanger North and Hanger South. Once through the main choke, Hanger South is the obvious way on, Hanger North being entered via a low crawl on the right. Alan Coase commenced a sand dig at the end of Hanger South and this paid dividends in August 1968 with the discovery of a further 30m of large passage. The continuing dig has seen efforts by various people since but it is very awkward as spoil has to be sent back quite along way (c 20m) along a crawling-sized passage.

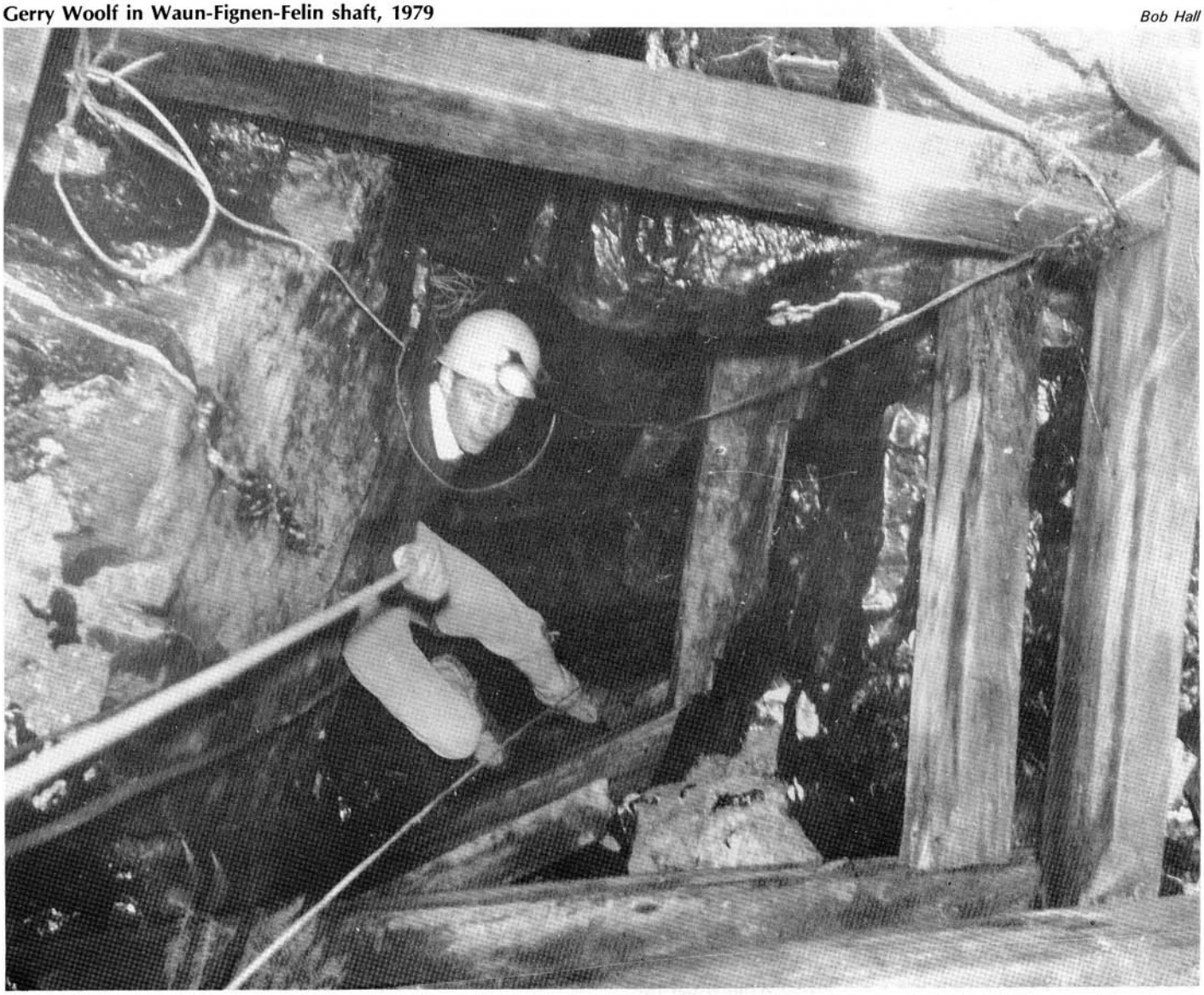
The loose choke at the end of Hanger North was banged by Coase at Whitsun 1968 but it was not passed until April 1971. Martyn Farr and Mike Ware followed an unstable route upwards through the choke to emerge in a large, very shattered chamber with scree slopes leading upwards. The left-hand one choked almost immediately but the right-hand one led to a couple of low crawls, one of which contained some quite nice formations. A draught was noticed at the end and on returning through the choke 'sizable falls could be heard in the distance'; this does not surprise me at all. A follow up trip with Dave Morris only succeeded in connecting two of the crawls and the extension was little-visited for the next ten years or so. We began digging at the end of the passage containg the formations, the termination being an inclined bedding

plane. Approximately 16 trips by various teams of diggers, including myself, Mike Hopkins and Richard Jenkins, has produced perhaps 3m of passage - there is a good draught outwards on a hot day and water can be heard dripping not too far away.

Back in the main shattered chamber of the Hanger North extension a hole in the floor, just before the top of the right-hand scree slope, was noticed on our first trip there. It looked desperately loose and dangerous so I sent Little Richard down it to make it safe. All I could hear interspersed by the crash of falling boulders was the cry, "I don't like this, I don't like this at all, Nig!", so a retreat was soon allowed. Richard Jenkins repeated this performance on the next trip, although he did get further to a point where the roof came down towards the floor of the slope forming a low section. On the third trip I got really brave and went down myself, a lifeline above only being psychologically reassuring. A peg was inserted in the roof part-way down in order to stop the rope dragging along the floor and the bottom was reached after 9m or so. To the left was a narrow alcove just about big enough to take shelter in if the slope collapsed whilst to the right a hole dropped down through the boulders. Digging soon enlarged this and what appeared to be a sandy floor could be seen about 2m below. An attempt to reach this failed when a projecting rock part-way down could not be passed and a hasty retreat was made when it was realised that this rock was responsible for holding up much of the slope above. Clive Gardner has since been down to have a look at the squeeze but didn't like it either. It seems odd that Martyn did not show this passage on his sketch survey in the log-book and made no mention of it in his write up. It is certainly not impossible that the hole has opened up since the initial discovery of the large chamber; the whole place is very loose and shattered.

Anyone visiting the Hanger North extension is asked to be particularly careful. Keep well to the right of the bang-wire when going up through the choke and don't worry if you feel it moving about you in places - it always has done. The scree-slope up in the shattered chamber still tends to shift if you step on the wrong rock and the hole down on the right to the unpushed squeeze is still dangerous - if you go down there, then keep well to the left. The way to the dig is via the right-hand of the two crawls, once you leave the chamber don't follow the bang-wire which is laid down the left-hand crawl. If you go here then feel free to move some spoil back from the dig into the loose chamber where you meet up with the bang-wire again.

Gerry Woolf in Waun-Fignen-Felin shaft, 1979 *Bob Hall*



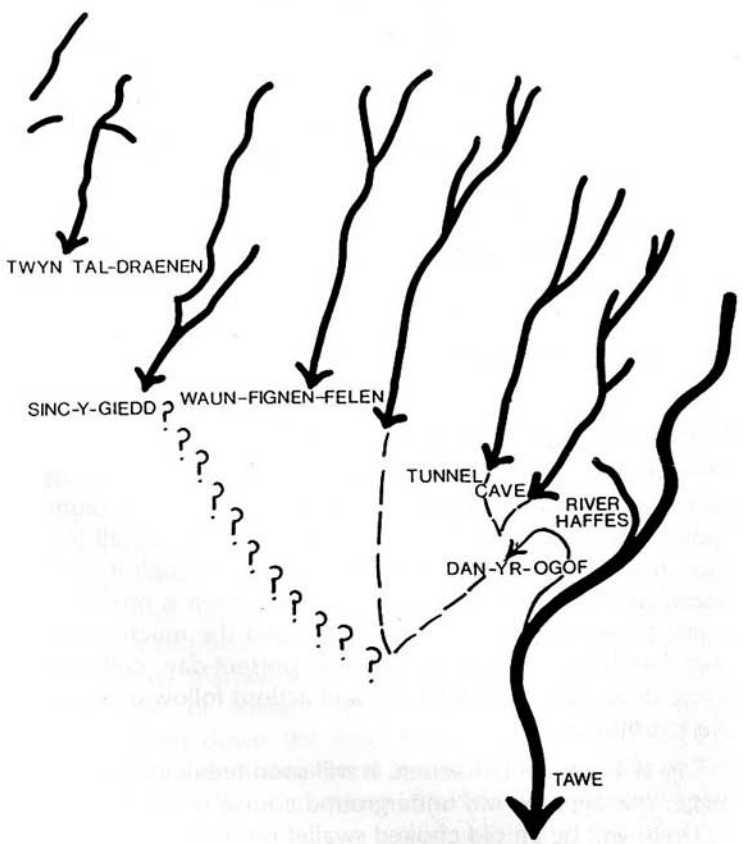
One other place in the Hanger Passage area which may be worth looking at is upwards in the original Hanger Choke. Coase mentioned this in an article back in the '60s and I feel inclined to agree with him. Every time I come out of the choke into Hanger South I feel that something has been missed and that this is not a continuation of Hanger Passage. It would come as no surprise to find that the true continuation (Hanger West?) is waiting to be discovered at a higher level.

If you gain the impression that most of the digging sites I have described are in nasty, loose, dangerous places then you are probably right - this is why they need digging and is why not many people have dug them in the past. Whether or not any of these sites will provide a major extension is uncertain - this is one of the things that makes digging so exciting. What is certain is that new passage is virtually guaranteed at any of these places given sufficient time and effort on the part of the diggers. The purpose of this article is to encourage people to dig, not to put them off, and I hope it has the desired effect. So if you fancy finding some new passage, get a hammer and bar and give it a go - you won't find anything sitting in the Common Room or at the Copper Beech. Just be sensible, take care and remember the laws of gravity when prodding about in that loose boulder choke. Writing this article has made me want to get back into the the cave to do some more digging but it has reminded me of the dangers involved. Maybe I'll have a game of tennis today and leave the trips to Hanger North until next week.....?

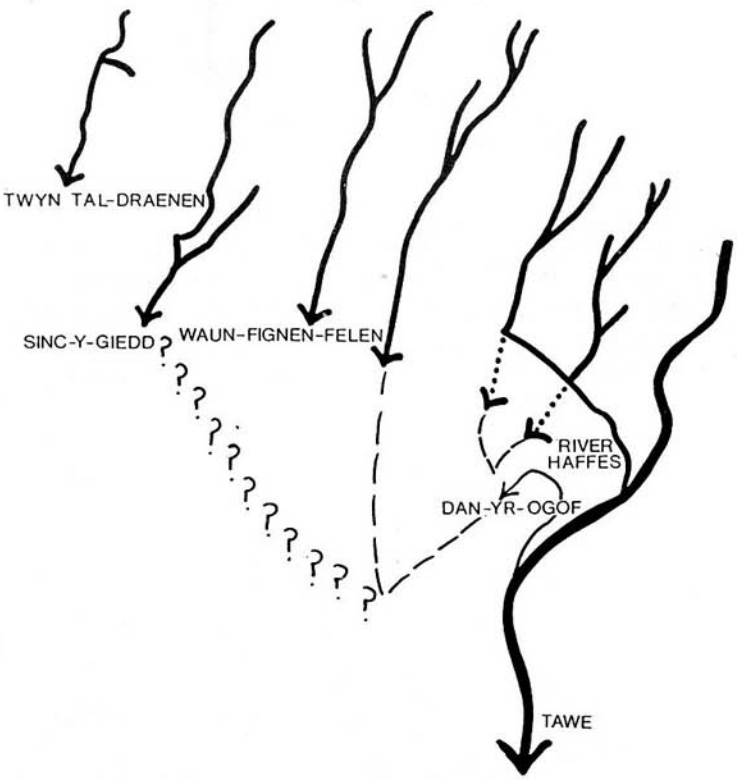
Nig Rogers
June 1989

How does Dan-yr-Ogof extend, plus a theory of the origin of Sinc-y-Giedd.

Dan-yr-Ogof is obviously at two levels, the upper dry, and the lower containing the stream. Secondly the Great North Road is much bigger than the stream it currently carries can account for. Coase (77) has put forward a theory of formation of the cave in at least three stages (Figures 1, 2 & 3), which neatly accounts for passages being left dry as the streams that feed them are beheaded by river capture, noteably by the Haffes.



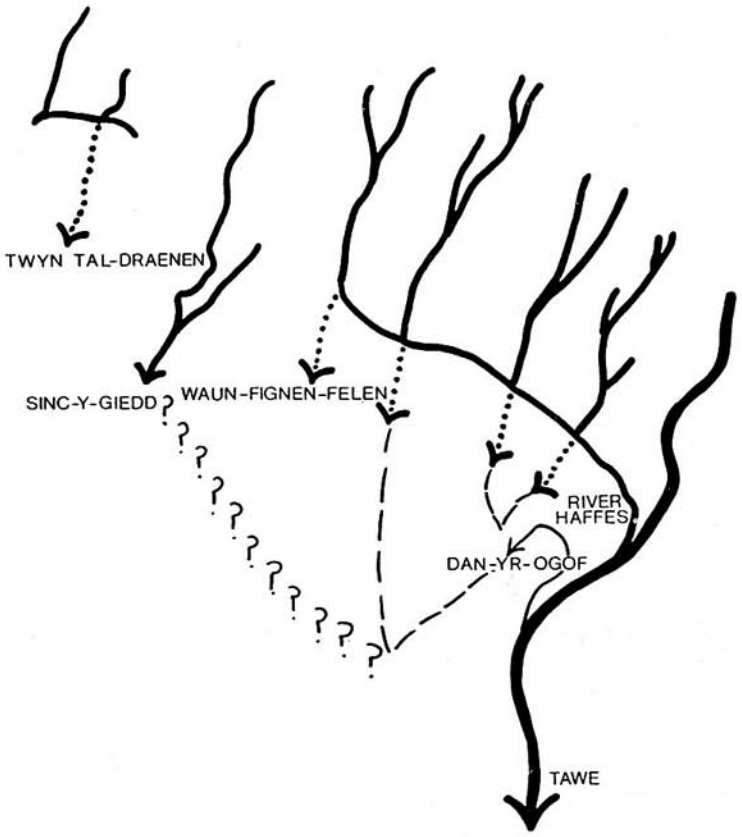
RIVER CAPTURE OLD COASE(77) fig 1.



RIVER CAPTURE INTERMEDIATE COASE(77) fig 2

This mechanism of river capture seems at first sight implausible, with river sources apparently etching their way upstream and uphill. However, this has actually happened in my own lifetime, with the head waters of the Twrch running off the west face of Fan Ffycheiniog being captured by the northward running Sawdde (Figures 4 & 5). This change of course is noted in the latest 1:2500 OS map Sheet No. SN 81, and the dry valley of the old course can be clearly seen when outlined by the setting sun.

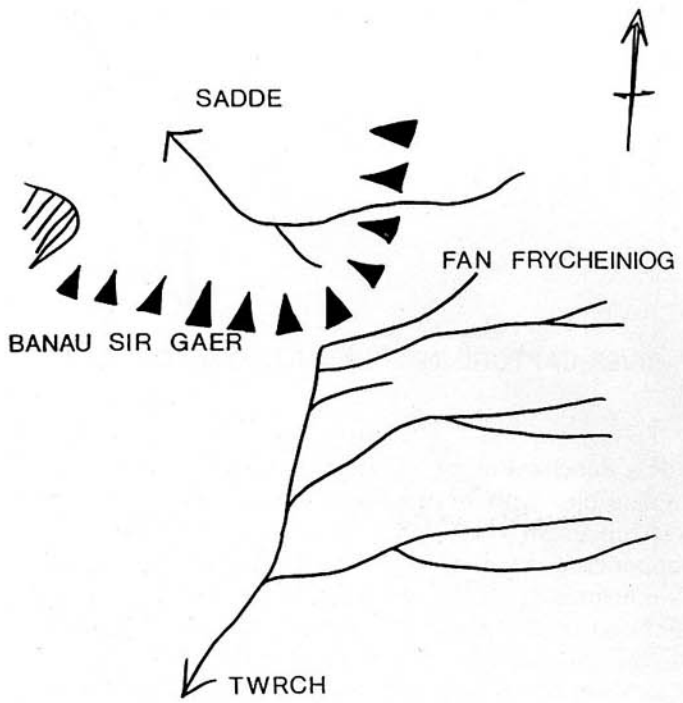
The unknown Giedd series between Sinc-y-Giedd and Mazeways remains a tantalisingly inaccessible dream.



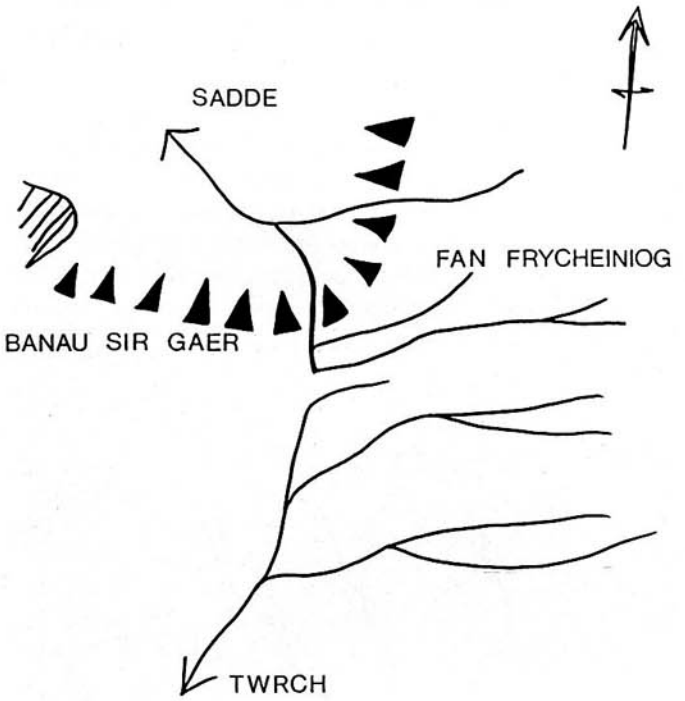
RIVER CAPTURE NOW COASE(77) fig 3

What would be helpful in defining where to dig would be a series of dye tests to find the surface watershed between the streams that run into the Great North Road (Waun Fignen-Felin sink and eastward), and those that must run into Mazeways (Sinc-y-Giedd and westward). In between is a no-man's land, and I would suggest multiple dye-tests from the many streams therein to multiple underground tracers. Possible sites for the latter would include the Rising, the sump in Dali's Delight, as well as Mazeways and the Washing Machine.

The western boundary of the Dan-yr-Ogof Catchment area is another problem. For years, the conventional wisdom was that water to the west of Sinc-y-Giedd did not flow to Dan-yr-Ogof. In fact, Coase (77) was well ahead of his time, in predicting that the Twyn Tal-Ddraenen sink went to Dan-yr-Ogof, and he believed that the sink had once taken much more water. The whole area is anomalous, with Bill Gascoine's definitive lycopodium test appearing at Dan-yr-Ogof in 48 hours or less, compared with dye tests from Sinc-y-Giedd of 36-72 hours. The current stream at Twyn Tal-Ddraenen is far too small to have formed a major system, and the recent discovery of a large phreatic tube close by in the shape of Twll Tal-Ddraenen suggests that much more water used to pass underground by this sort of route.



RIVER CAPTURE OLD fig 4



RIVER CAPTURE NOW fig 5

Hypothesis - the River Twrch formed Dan-yr-Ogof

This idea would, I believe, explain most of the above anomalies. In particular, the very fast transit of lycopodium spores from Twyn Tal-Ddraenen implies air space all the way in a passage that is currently vadose, though it may once have been phreatic. Twyn Tal-Ddraenen is probably a small stream that has recently invaded the much older postulated Twrch phreas by the present-day collapse shake-hole. Several predictions and actions follow on from the hypothesis.

1. Dig at Twyn Tal-Ddraenen. It will soon break into much bigger passage, the old underground course of the Twrch.
2. There will be an old choked swallet on the east bank of the Twrch, probably close to the prominent double bend to the north - west of Twyn Tal-Ddraenen (Figures 7 & 8)

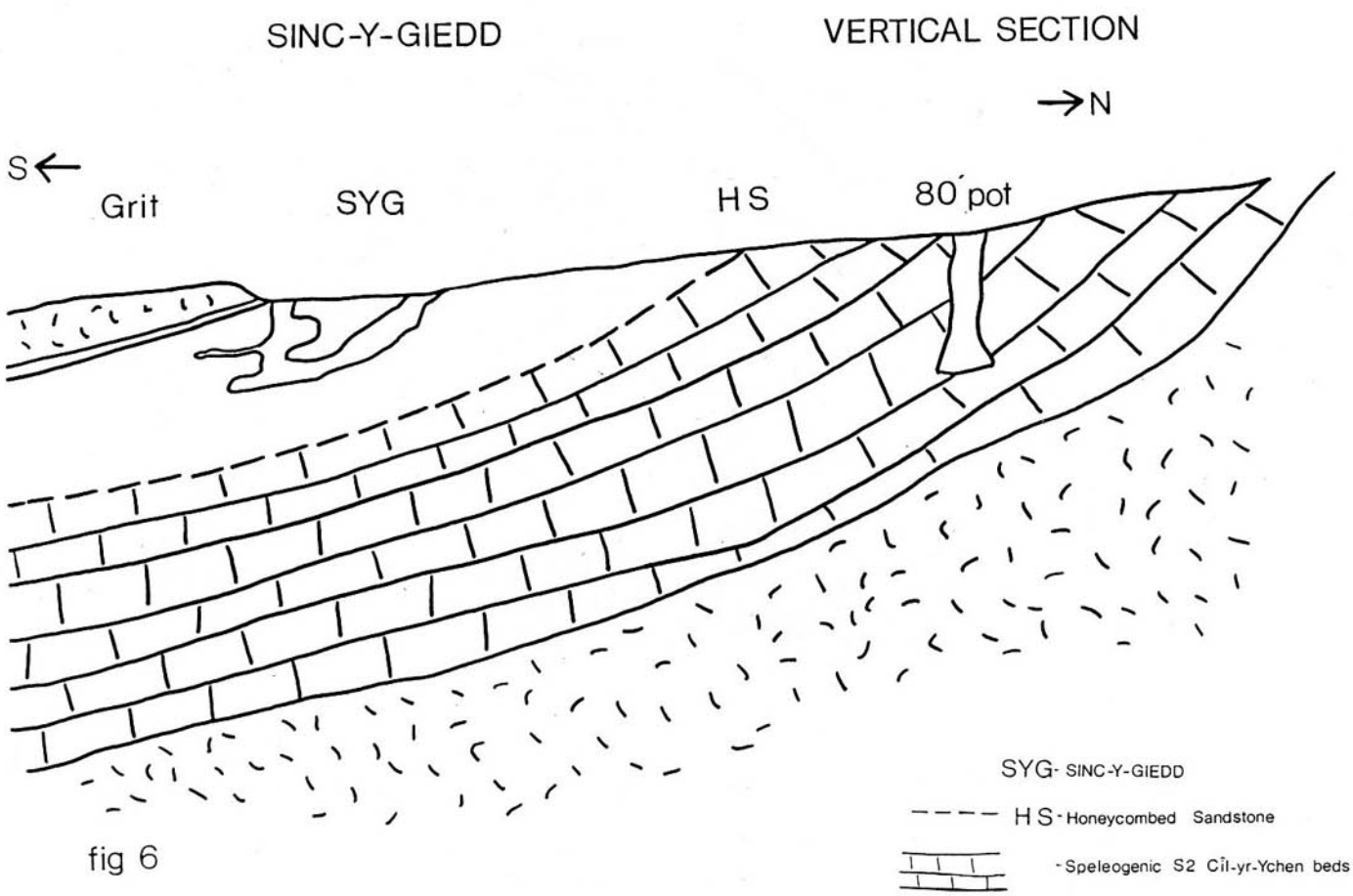


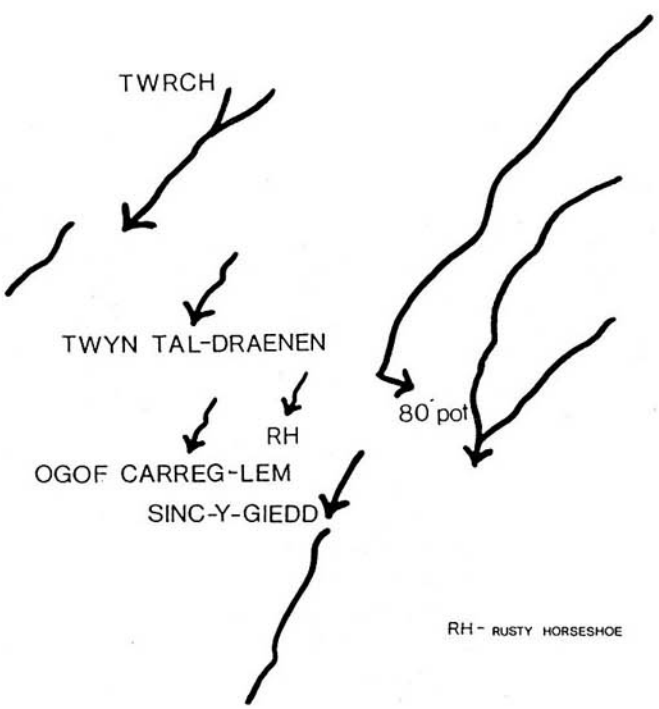
fig 6

3. The main underground passage will be old and well decorated and will extend well beyond Twyn Tal-Ddraenen to the north - west.
4. If the theory is correct, it would not be too fanciful to think of another 20 miles of passage to be discovered, in view of the great distances both horizontally and vertically between Mazeways and the river Twrch. Such passages are bound to be multiple, with long runs north - south along fault lines like the Great North Road, and also shorter east - west runs along the strike. Further vadose branches will exist from other more recent invaders such as Ogof Carreg-Lem and Rusty Horseshoe sink.
5. In order to eliminate wasted effort, the shallow underground stream which is the upstream extension of Twyn Tal-Ddraenen should be dye-tested to prove that it is all one. To me, it looks to be a straight run from the marsh to the north of Twyn Tal-Ddraenen.

The Origin of Sinc-y-Giedd

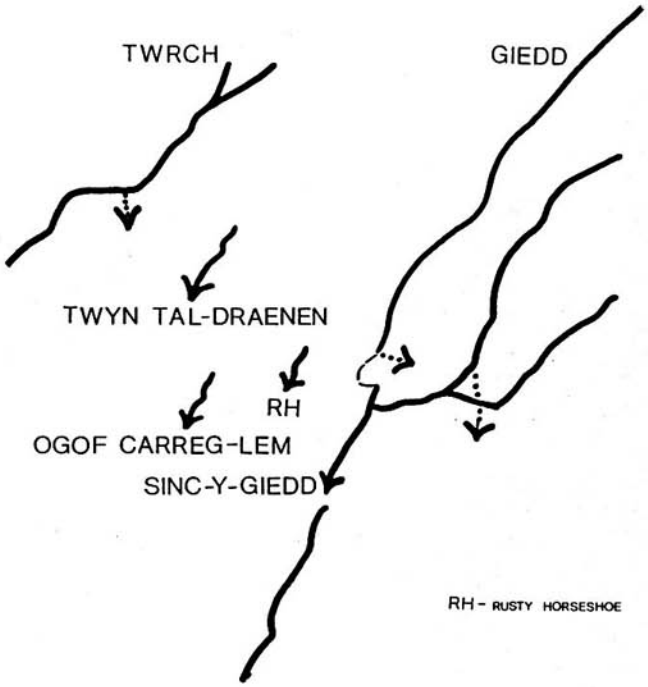
The current stream sink is an obvious anomaly, being much too far south, and at the very top of the limestone, whereas the known river cave of Dan-yr-Ogof is close to the base of the limestone, well into the Cil yr Ychen (S_2) (Dowlais Ed.) beds. The course of the Giedd just above the sink shows marked down-cutting and rejuvenation, with thousands of tonnes of boulder clay banks having disappeared down the sink, leaving prominent multiple incised meanders at different levels, especially close to the inlet from Pwll y Cig, where the honeycomb sandstone outcrops.

Figure 6. is a rough sketch of a presumed vertical section of Sinc-y-Giedd and northwards, showing the recently appeared 25m pot (Pwll Dewi Sant Ed.) . This is of particular interest as it penetrates much further down the limestone succession than does Sinc-y-Giedd, and when it was open, it took about 10% of the dry weather flow of the Giedd as an inlet about 10m down. The Giedd immediately adjacent runs on black limestone bedrock,



SINC-Y-GIEDD OLD

fig 7



SINC-Y-GIEDD NOW fig 8

and the water can be seen disappearing into its east bank. The pot was a simple fluted shaft, and there was no evidence that it had ever been roofed with rock, but only choked with a plug of boulder clay.

Figures 7 & 8 present the theory that this pot was the original sink of the river Giedd, and the river was only captured recently by water sinking at the current Sinc-y-Giedd cutting back up hill aggressively through comparatively soft boulder clay. If this theory is correct, then the Original Master Cave of the Giedd and Twrch would be virtually under the 25m pot, much further north than the widely believed course from Sinc-y-Giedd marked in question marks in Figures 1, 2 & 3.

Two possible courses of action follow on this idea. One is to dig the 25m pot itself, which would involve a coffer dam to keep the river out, a tripod over the shaft, and a winch to pull boulders out. This would be an engineering project of a much easier nature than that undertaken by Clive Jones and collegues at Waun Fignen Felin in the 1960s. Anyone digging should be on a rope as the current plug is unlikely to extend below 10m where the Giedd water originally came in.

Another possibility would be around the west side of Waun-Fignen-Felin, if the Master Cave runs fairly far north. Sinc Ddu is one such, but there are several promising shake-holes 200m to the west where there is a shallow valley along the outcrop of the honeycomb sandstone, and where there is also a north - south fault running down west of the known cave towards Mazeways extension. However, it might well be that water sinking here comes out in the Great North Road, in which case I would advise leaving the area well alone, and concentrating all our efforts on Twyn Tal-Ddraenen.

Theories are only useful if they are put to the test, in an attempt to falsify or verify them. There can only be one way forward - let's all go up there and dig.

Gareth H. Jones
May 1989

Sinc-y-Giedd : Past and Present Prospects

Introduction

It is intended to outline the history of exploration of the cave at Sinc-y-Giedd and then to describe the current status of the cave and thus what the prospects for further extensions may be.

General Background

The cave at Sinc-y-Giedd lies in the uppermost beds of the limestone. (ie. the Penwyllt Limestone or D_2 beds). The bottom of the known cave lies some 20m (ie. more or less the full thickness of the Penderyn Oolite or D_1 beds) above the 'good' Dowlais (S_2) limestone. The cave passages are all strongly directed along the line of a fault and most of the development is vertical, within the plane of the fault. The cave is an active sink after rain although in recent years one gets the impression that water enters the cave less frequently than in the past. There are two points on the surface where water sinks directly into the cave: the upstream and downstream sinks. Both have been used as entrances at one time or another.

Phases of Exploration

The greater part of the cave was entered by SWCC members in 1947 with Peter Harvey being one of the participants. A survey dating from this time was once available in the club records.

In Easter 1970 Paddy O'Reilly and crew reopened the lower sink and explored the cave down to an area where : "we found ourselves in a high rift carrying quite a stream. Downstream it disappeared in a cleft about 9" wide, but on the left there was a low bedding plane." (Paddy was there in quite wet weather, in dry conditions there is no stream at this point.) Paddy goes on to observe that : "Peter Harvey's diaries show passages beyond the bedding plane; this presents a most useful indication of where to go next." Paddy went on to dig in the bedding plane area and during his visits to the cave he noted that : "Inside the cave the effects of flooding are easily apparent - stones and boulders get washed into and out of passages, changing their aspect almost monthly." The digging proceeded however and Paddy reported progess up to October 1970 as follows : "Our early efforts were directed at the bedding plane at the end, but the draughty cleft nearby attracted our attention and it was enlarged - access was gained to a lower bedding plane - this too was filled with gravel and required clearing out. A hole was seen with a black space beyond, but our attention was again diverted to a nearby slit with a very strong draught. Blasting widened this sufficiently to pass through and we found ourselves in a

Camp at Sinc-y-Giedd

Pete Francis

new passage. It was very small and narrow and led off to the left and right. Going right we found the passage that descended got too small but another one doubled back and ran uphill through two blind avens about 20 feet high to terminate in a chamber with no very obvious way on. The strong draught appeared to be lost altogether, although there seemed to be a slight one from a very tight rift off the passage leading to the chamber. The left hand fork led shortly to an uphill sloping bedding plane beyond which a tight draughty passage led on - it was too narrow to pass through but it appeared to carry the main draught." Once this point had been reached Paddy became uncharacteristically lacking in decision and, unable to settle on the best route forward, seems to have lost interest in the cave.

During his camp at Sinc-y-Giedd at Easter 1970, when the weather was typically damp, Paddy conducted some dye-tests and it is worth repeating his report here:
"On our departure we put 3lbs of fluorescein in the sink and within 35 hours or so the Tawe from Abercrave to Dan-yr-Ogof was bright green. As far as can be ascertained the dye entered the cave in the entrance pool to Mazeways. A similar test that weekend showed dye (3lbs) in Waun Fignen Felin entered the Left Hand Series of the Far North and passed through to the cave entrance in 24 hours."

For some years the cave remained unvisited and the downstream sink once again became blocked. Then, in the late 1970s, natural changes in the area seemed to invite digging at the upstream sink and various members opened up a way in here. The results of this were both good and bad. On the positive side the digging encouraged a greater proportion of flood water to sink at the higher point which in turn caused less disturbance at the downstream sink. The negative consequence of this was the greatly increased errosion of the boulder clay banks and the stream bed adjacent to the upstream sink. These twin effects were made even more pronounced when members constructed a megalithic dam across the river bed in September 1981. During the winter floods following the construction of the dam the upstream sink migrated about 5m southwards to a point beneath the western end of the dam.

Graham Crisp **Sinc-y-Giedd**

The upstream entrance had never remained open long and the purpose of the dam building had been to allow a more permanent entrance to be established at the lower sink. This was more or less achieved and the sink has not become severely blocked since. In 1982, following this work, we were able to mount a mechanised assault on what we believed to be the "9 inch cleft" described by Paddy. (We assume that the "9 inch cleft" is the same feature as the "7 inch crack" marked on his survey). We were able to blast a level some 4 or 5 metres long following the line of the cleft until a point was reached where the course of the water seemed to be downward. The following summer (ie. 1983) we returned intending to continue the blasting work. On reaching the start of the blasted section we found that a passage had opened up to the eastern side of the cleft. Crawling into this led to a tortuous series of nasty, tight passages which we imagined to be the series described by Paddy although the description did not match our observations at all closely. However we could agree with Paddy that no way on was obvious in this direction and we returned to our blasting project. This now involved sinking a 'winze' at the end of the level : a much harder task than driving horizontally. Progress was slow and at best 2m was gained before time ran out and we had to give up. A visit the following year revealed substantial infilling of the blasted section with gravel and no enthusiasm could be found for further work here.

Future Prospects

At the time of writing (May 1989) the downstream entrance requires some minor work before safe access can be made to the cave. In view of the way in which passage comes and goes with the winter flooding the cave should certainly be inspected from time to time. It is possible that nature may do our digging for us and a spring explorer might just find an open way on! More realistically the general picture has been one of retreat : the indications are that Paddy got further than I did and that Peter got further than Paddy. All in all it is both hard to be optimistic about the problem of infilling and also hard to know what best course of action one might take if it was felt worth digging here again. I can offer no obvious leads.

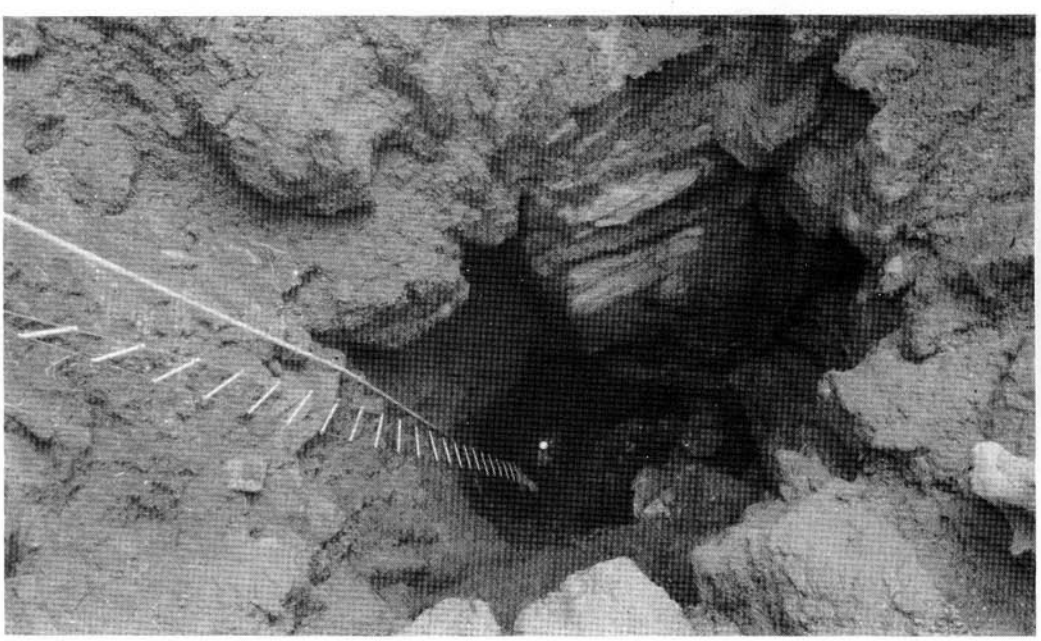
Besides these practical considerations are the theoretical points described by other authors which suggest that on the one hand Sinc-y-Giedd should be a low priority for digging effort and on the other hand that it is possible that the Giedd water flows to Mazeways via a phreatic route that would not be worth digging into anyway! Paddy thought otherwise and only digging will settle the controversy.

Bob Hall
May 1989

The Far Dan-yr-Ogof Catchment

When talking about potential extensions to Dan-yr-Ogof,it is generally agreed that the area to dig on the surface lies between Sinc-y-Giedd and Twyn Tal-Ddraenen. Examination of the 1:25000 map Sheet No. SN 81 soon shows why; the area is from three to four kilometres as the crow flies from the Dan-yr-Ogof resurgence and up to 1000' higher. In fact, from the highest point of the limestone outcrop, a few hundred metres north of Twyn Tal-Ddraenen, the potential vertical range exceeds that claimed for Ogof Ffynnon Ddu. Add that to the fact that dye transit times from Sinc-y-Giedd and Twyn Tal-Ddraenen sink are around 36 hours in high water conditions, and the potential for a very major cave system is obvious.

The area is shown on the accompanying map, with the geological information taken largely from Alan Coase's Dan-yr-Ogof publication. Unfortunately Coase did not deal with the area west of Sinc-y-Giedd, but I have sketched in



Steve West in Pwll Dewi Saint
Pete Francis

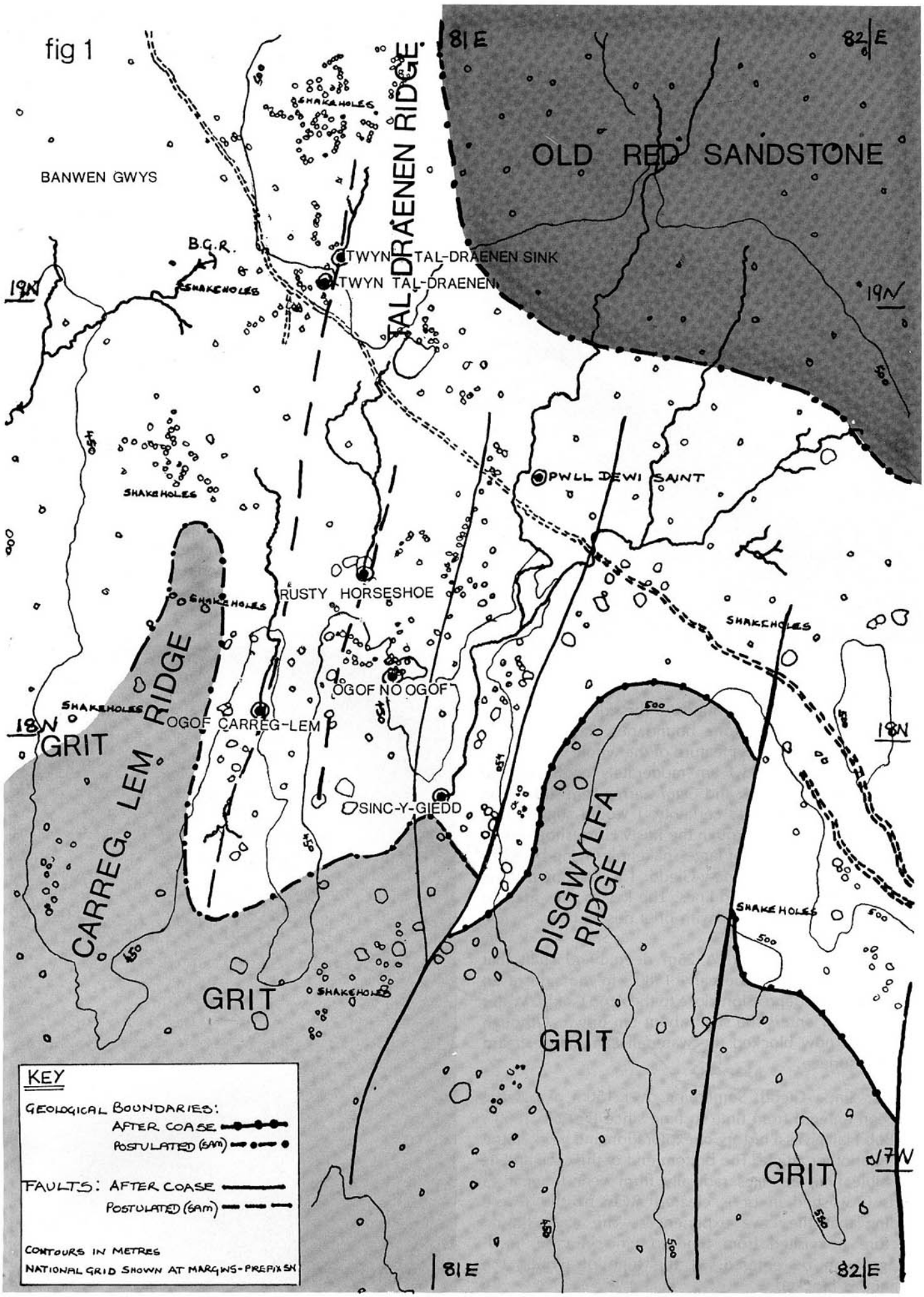


fig 1
81E
82E
OLD RED SANDSTONE
BANWEN GWYS
SHAKEHOLES
TAL-DRAENEN RIDGE
B.G.R.
TWYN TAL-DRAENEN SINK
TWYN TAL-DRAENEN
19N
PWLL DEWI SAINT
RUSTY HORSESHOE
OGOF NO OGOF
OGOF CARREG-LEM
18N
GRIT
CARREG LEM RIDGE
SINC-Y-GIEDD
DISGWYLFA RIDGE
17N
KEY
GEOLOGICAL BOUNDARIES:
AFTER COASE
POSTULATED (SAM)
FAULTS: AFTER COASE
POSTULATED (SAM)
CONTOURS IN METRES
NATIONAL GRID SHOWN AT MARGINS - PREFIX SN

Twl Tal-Ddraenen *Pete Francis*

my guesstimates of the positions of the grit/limestone and limestone/old red sandstone boundaries. Faults trending roughly north-south are a feature of the whole of the Dan-yr-Ogof catchment and I am moderately confident that Twyn Tal-Ddraenen sink and Ogof Carreg-Lem sink lie on the same fault. With less certainty, I would suggest that another fault, running through the Rusty Horseshoe sink, is responsible for the line of large shakeholes lying between Ogof Carreg Lem and Sinc-y-Giedd. I have shown these postulated faults as dashed lines. The key to sites marked on the map is given below with brief descriptions.

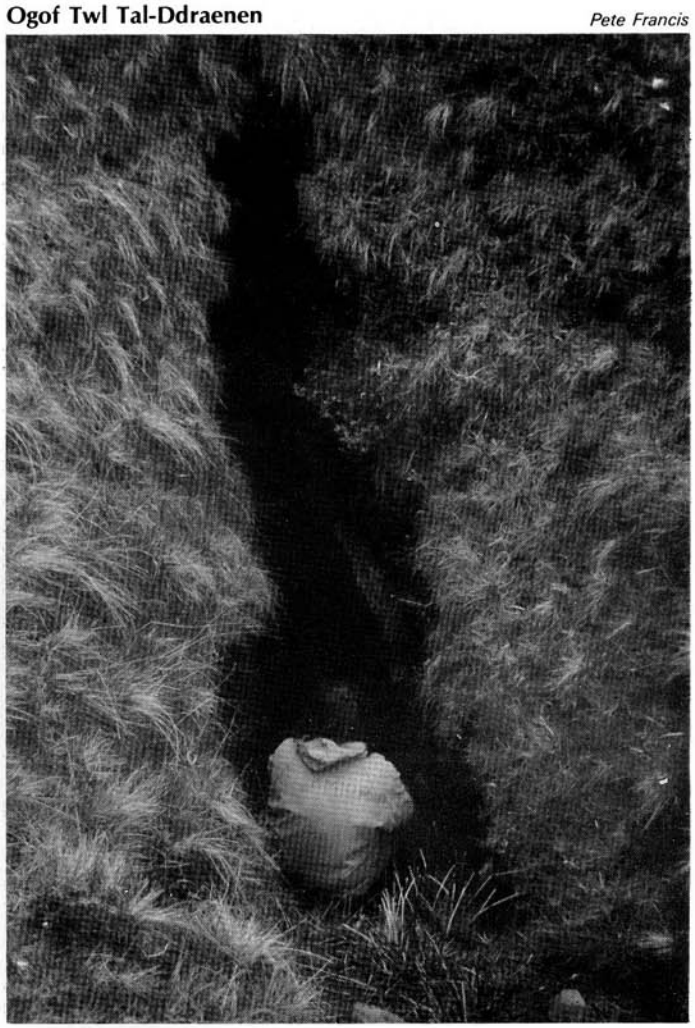
PDS : Pwll Dewi Sant. A 25m deep blind shaft that appeared suddenly in the early 1980's in the side of an undistinguished depression close to the Afon Giedd. Water from the river enters the shaft about 6m down. Although the shaft is now blocked the waterfall can still be heard from the surface.

SYG : Sinc-y-Giedd. Something over 150m of passage has been entered from time to time since the mid 1960's and Bob Hall gives a history of exploration and work in the cave in another article. The bottom end of the cave and its accessible limit changes radically from year to year as debris is washed in or is cleared away by the severe flooding that the cave experiences. The cave should therefore be visited from time to time in case 'new' passages can be entered. At the time of writing the entrance is blocked.

ONO : Ogof no Ogof. Probably shortest through trip in South Wales at around 3m in length. The twin entrances lie in an area of level ground just south of an outcrop of limestone that shows signs of lime burning. From the entrance 'pitch' one can either choose the through trip or can descend a few metres down the rubble cone to reach a passage of walking height a few metres long. This was dug briefly in about 1970/71.

OCL : Ogof Carreg-Lem. This is by far the longest cave in the area, at approximately 1500'. A plan and section are given in Figure 2. Unfortunately the entance choke has collapsed and is extemely dangerous. (It nearly killed Steve West and myself : you have been warned.) This is a pity, because the cave is well worth a visit and has fair potential for extension. The digs marked on the plan represent previous limits of exploration, but there are two sites which could repay further digging. Firstly, Sand Chamber, the northward continuation of Fault Chamber, offers some very easy digging which has not yet been attempted. Secondly, a stream crosses the passage at the end of the cave, exiting via a bedding plane which is just too tight to enter but which appears to be a little larger inside (don't they all!). With the Bosch cordless drill, the enlargement of this bedding plane would be very straightforward, since there is a free face to drill into. The particular attraction is that this part of the cave is stratigraphically a good 30m below the entrance and is therefore very nearly in the 'right beds' below the honycomb sandstone.

Ogof Twl Tal-Ddraenen *Pete Francis*



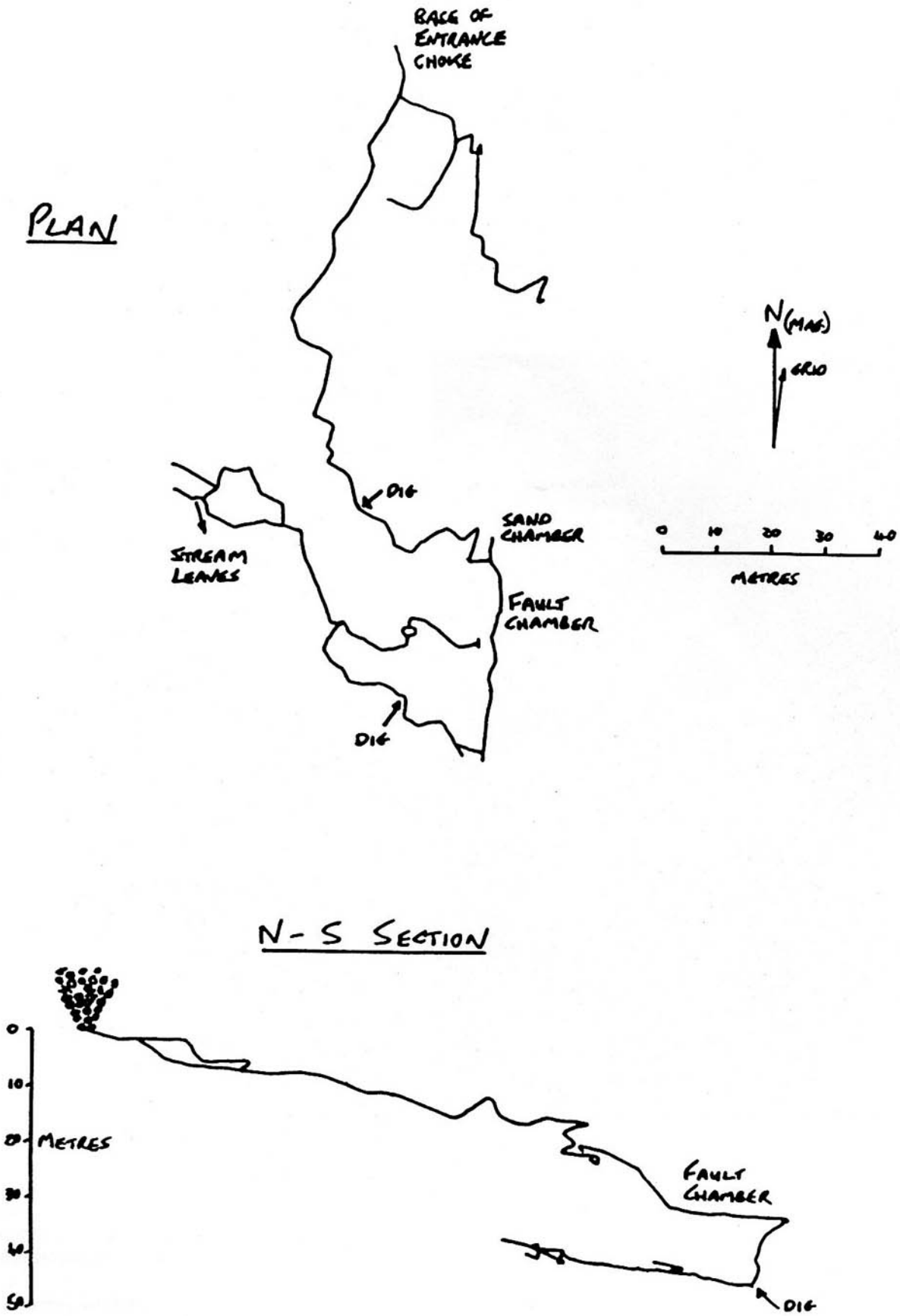


fig 2

OGOF CARREG-LEM

RH : Rusty Horseshoe Sink (or Dig). A small stream sinks in a large shakehole which has been dug with some resolve by Gareth Jones and others. A short length of passage has been opened up, but the dig has now been abandoned and has collapsed about 3m down.

TTD : Twll Tal-Ddraenen. The bottom of a small shakehole was removed by Pete Francis in the mid 1970's to reveal an open rift perhaps 8m deep. At the bottom of this shaft, one pops out into a large keyhole-shaped passage up to 4.5m wide and 6m high, which runs roughly south for about 30m before hitting a fault which runs across at a shallow angle and blocks the passage with consolidated porridge. A small side passage could by-pass this but requires digging through very sticky mud.

Ogof Ddau Gam *Pete Francis*

TTDS : Twyn Tal-Ddraenen sink. An obvious digging spot, with a reasonable little stream sinking. This is in the 'right beds' and is the best part of 300m above the Dan-yr-Ogof resurgence. The dig is presently about 6m down, but the site was largely ignored until the mid or late 1970's because the water was thought to resurge just to the west and 30m or so lower at the rising described below.

BGR : Banwen Gwys Rising. This is a respectable sized rising, with no known sinks, which comes out from scree at the western base of the Twyn Tal-Ddraenen ridge. It is unlikely to have a great deal of open cave behind it, compared with other sites in the area, because it has a limited catchment, as is discussed below.

The limestone outcrop in this area is continuous from Sinc-y-Giedd to a point perhaps 500m north of Twyn Tal-Ddraenen. The dip of the beds is such that the further north one goes, the lower in the limestone succession is the exposed outcrop. Sinc-y-Giedd is therefore in the 'wrong' (upper) beds whilst Twyn Tal-Ddraenen Sink and Twll Tal-Ddraenen are very definitely in the 'right' (lower) beds. On this basis, the best site to dig must be the Twyn Tal-Ddraenen sink. The remaining limestone to the north is unpromising, at least from the surface, since the eastern part drains as shallow sub-surface streams to Twyn Tal-Ddraenen sink while the western part must provide the water for the Banwen Gwys rising. However, I would not write off Sinc-y-Giedd and Ogof Carreg-Lem, particularly the latter which must come very close to penetrating the honeycomb sandstone, as noted previously. I am far from convinced that the the observation that caves in the upper beds are small and unpleasant and never break through into the proper cave is immutable. Perhaps we haven't looked hard enough in the right place. After all, the sample of caves on which the observation is based is rather small.

Finally I will hazard a few guesses as to what form cave development in the area takes. Any cave, taking Twyn Tal-Ddraenen sink as an example, is likely to be on, or to pick up a north-south fault and to head rapidly southward, roughly following the dip, before turning east towards the known parts of Dan-yr-Ogof. The position of the eastward turn(s) is highly speculative - there may be a whole series with the cave running overall in a south-easterly direction in a series of right-angled steps. However I would not be surprised if the water followed a single 'North Road' to a point somewhere to the south of Ogof Carreg-Lem, with the water reaching the phreas before being forced eastward and uphill by hydrostatic pressure. It is not inconceivable that such a passage could run as far south as the extrapolated continuation of the Dan-yr-Ogof syncline (at least 5km south of Sinc-y-Giedd) before heading east, although the rapid transit times to Dan-yr-Ogof suggest that this is unlikely.

Sam Moore
June 1989

Ogof Twyn Tal-Ddraenen

This cave lies at SN807191 on a magnetic bearing of 245 degrees and 90m from the Twyn Tal-Draenen sink. The sink is close to the northerly edge of the main limestone on a south westerly spur of the Bannau Brycheiniog mountain summit and some 4km from Dan-yr-Ogof (DYO) caves.

The sink nearby has been given attention at intervals over a long number of years by various individuals and groups. The most recent digging effort followed the 1989 DYO Symposium. The cave nearby has not seen much digging, and maybe none at all.

The area immediately to the south of the sink and the cave is a shallow basin where a thick layer of surface drift is clearly to be seen. Through this drift there are a number of small shakeholes. Those in an immediate southerly line from the sink suggest that the water entering there has eroded an underground course which has subsequently collapsed substantially. This is the general area into which the dig at the sink is heading. The rock face exposed at the sink is a north-south fault line which must continue under the drift along the line of the collapse. The rock inside the dig is well broken up and unstable. All this seems to be bad news.

The positive factors include: the limestone beds here are S_2, the sink has been dye tested to DYO, and there is an impressive phreatic cave fragment nearby at Ogof Twyn Tal-Draenen. This cave lies to the west of the sink. Therefore it would have to cross the fault line which runs through the sink at some stage if it is to connect to DYO. However, the cave fragment heads south and not towards the fault. The question to be asked is: why dig the sink hole that probably represents a recent stream capture when there is a large cave fragment nearby which bypasses all the surface problems and leads to large solid passage?

The entrance to the cave is a bottomless shakehole that drops vertically down a narrow rift about 50cm by 2m in cross-section. The rift ends at a small tube connecting into the cave passage proper, now some 13m below the surface. Note that all measurements in this article are approximate.

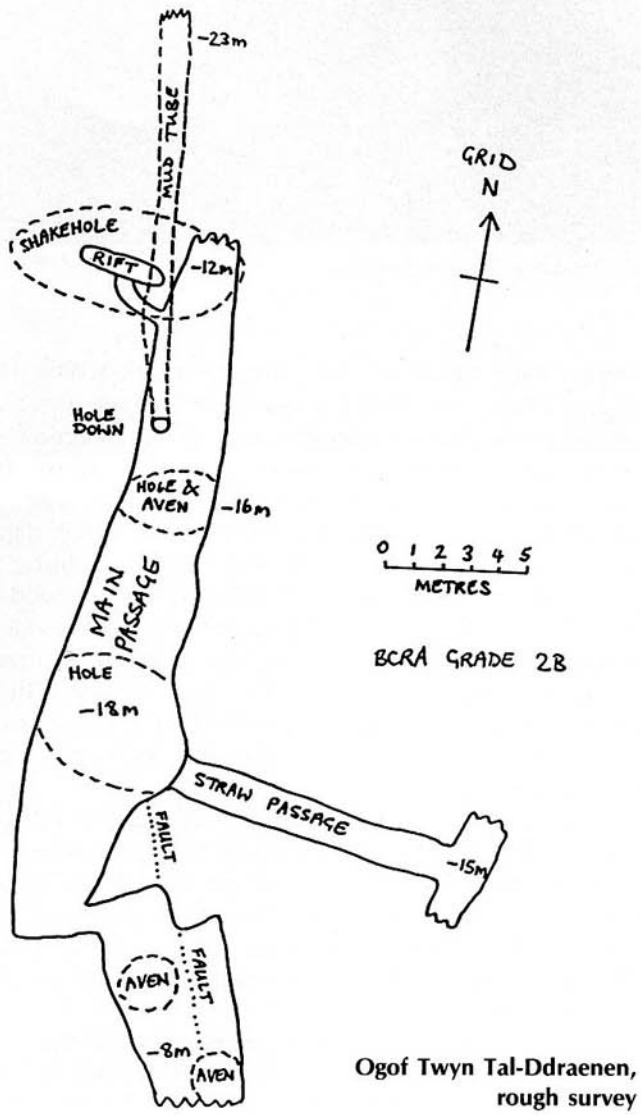
The cave passage goes north for some 3m, losing some depth, and ends in a mud boulder choke. To the south, it runs for 18m slightly downhill to where a side passage connects at a depth of -18m. At this point the cave passage is 5m wide and 3m high. The side passage is smaller, 1.5m wide by 2m high and heading east and upwards. It has some attractive straws and a thick mud floor, ends after 12m in a mud filled chamber at -15m which runs for 3m in a north-south direction again. Back in the main passage the continuation is south into an area of complex faulting and rapidly up towards the surface ending at a depth of only 8m at the bottom of an aven containing hanging boulders. The base of these boulders is probably only 3m below the grass outside.

Following the survey of the cave outside on the surface above, there is nothing obvious to suggest such a large passage is below. The surface is flat unbroken grass with only tiny random depressions in it. There are just a few small rocks exposed to the surface above the final aven, and a walking stick can be pushed in completely between them.

The lowest point of the cave is reached by climbing down a hole in the floor of the main passage some 4m south of the point connecting to the entrance shaft. This is a narrow rift with some sharp rock sides. It soon becomes a mud filled tube heading north, and going down too, to a depth of -23m at a point some 8m north of the entrance rift. A small amount of water coming from avens and the like drains through this muddy tube. There is also some water sinking at the junction of the main passage and the side passage. This ought to be dye tested in wet weather for possible connection to DYO.

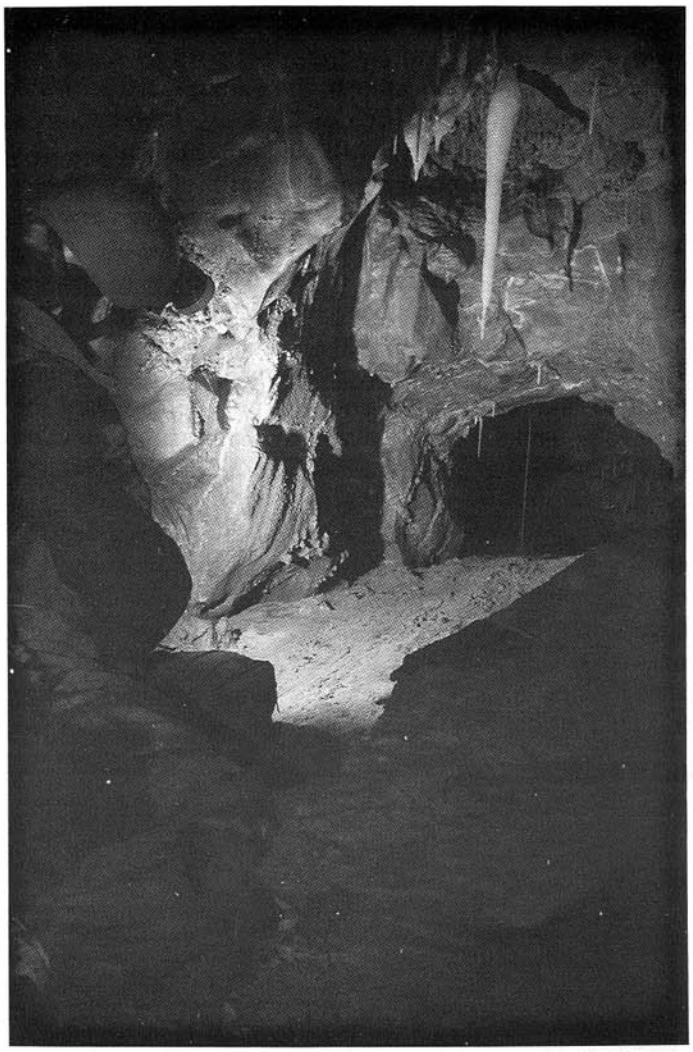
If you have not seen this cave, small though it is, you ought to take a look and you will be impressed by the obvious potential. Possible places to dig are at the junction area and the deep muddy tube. A dig here would benefit from being an extension of an existing proven cave rather than the surface probing approach of the sink dig nearby. Furthermore, the site is sheltered from the weather, and the rock fairly stable. The cave suggests that the sink diggers may have to drop 10-20m through drift and faulted rocks to reach the level of the large known phreatic passages nearby and then find there is still quite a lot of drift infill at that level.

Stuart France



Ogof Twyn Tal-Ddraenen, rough survey

Ogof Carreg-Lem



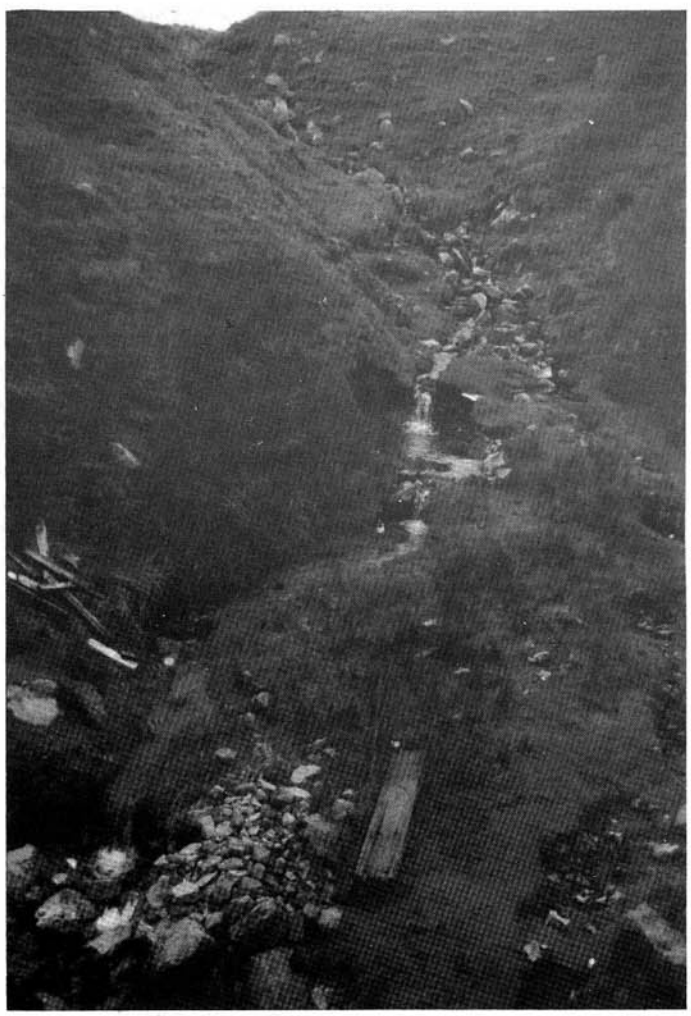
Carreg-Lem; Beyond first dig *Pete Francis*

Serious work started on the Carreg-Lem sink in May 1981. Gareth Davies and Pete Francis started digging there and progress was rapid in a downward, twisting direction with more voids being encountered which were both encouraging and intimidating. The remote, wet and intimidating nature of the dig led to many one-off diggers taking part but a keen, dedicated and masochistic few persevered. On 27th March 1982 Kev Davies removed one more boulder and to his annoyance found that big was not beautiful as Sam squeezed past him to the parts that he could not reach and into the cave beyond. Brawn persevered and soon he was joined by the more normal sized members of the human race who declared the cave formally open.

A spacious 15m long chamber was entered with two ways on at either end. The far left hand way was examined first but after a 50m or so closed down. A 4.5m tight pot gave access to a small flat wet streamway further progress needing the gravel floor removing. This has yet to be done. The surface stream is not seen again in the known cave after this point.

The right-hand route led to a passage trending down dip. Wherever it went across the strike it tended to close down and a series of U-tubes had to be dug out to give further passage. Passing the last of these by digging upward, a larger passage with a cobble floor was found. Formations were now encountered and a couple of larger (ie. walking-size) chambers.

Another mud-filled crawl hindered progress for some time and initiated a protracted dig. When finally the breakthrough came, the longest passages so far encountered were the reward. A 6m aven was climbed but found to close down. A mud filled passage at one end was inconclusively dug and needs further work but the most promising lead has yet to be attempted. Not far from the breakthrough point a new stream crossed the passage heading down dip into a narrow bedding plane. The water can be seen and heard running away but to follow it the roof must be heightened by blasting. This is the most promising site.

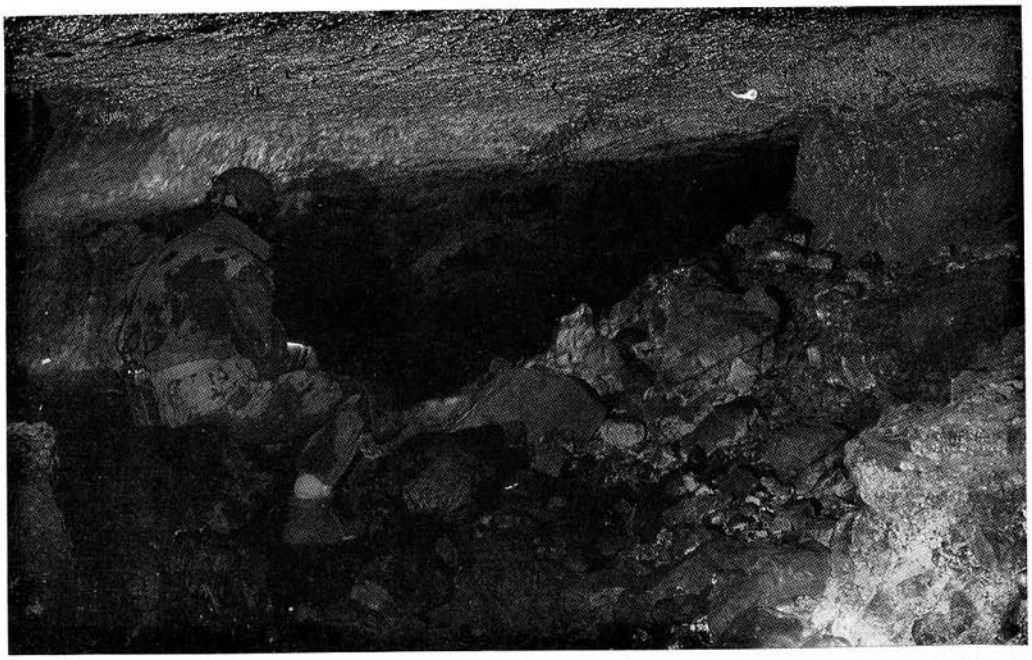


Carreg-Lem sinc *Pete Francis*

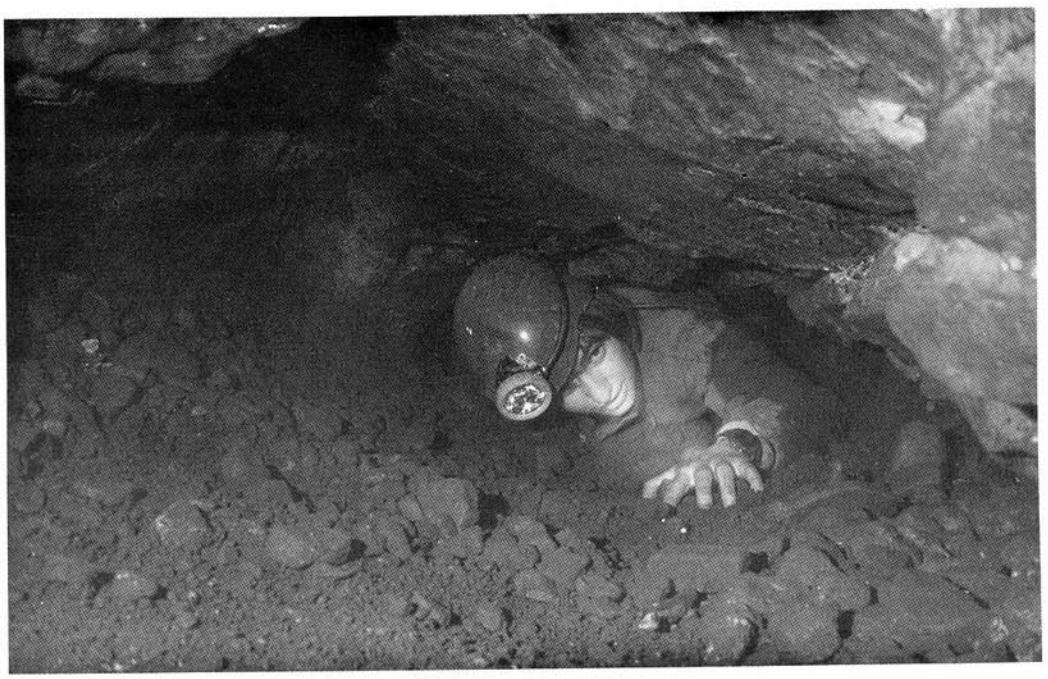
Following a near-disasterous roof fall in the entrance choke that narly put Steve West and Sam off caving for life no one has entered the cave. The entrance choke now needs re-stabilising. If this is done then further major finds could reward the diggers. The water is known to resurge in Dan-yr-Ogof. Could this be the way on to those missing miles?

Pete Francis

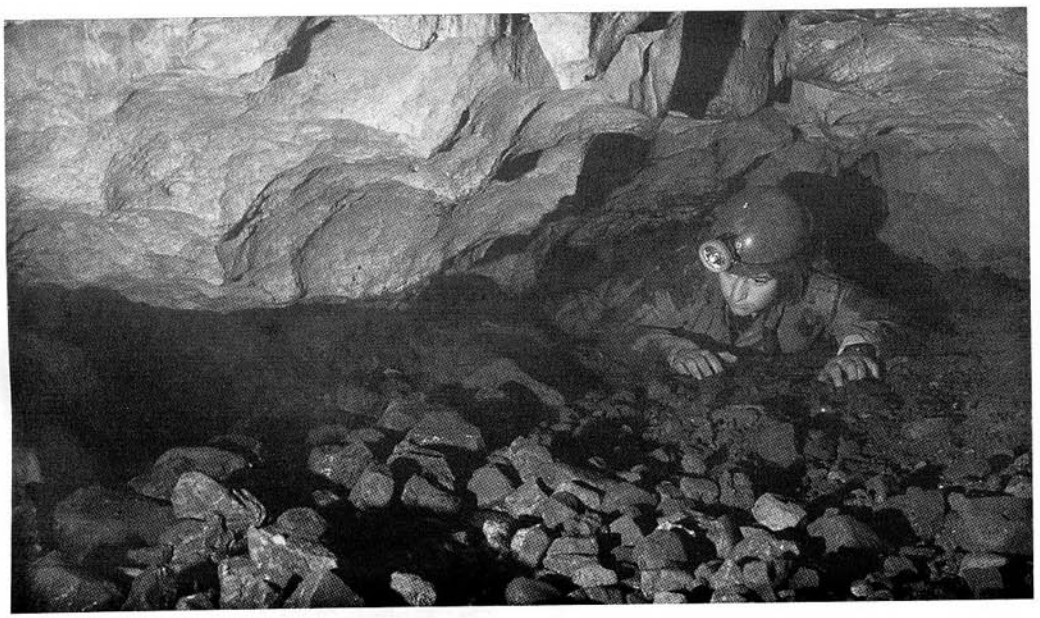
June 1989



Carreg-Lem; Entrance chamber
Pete Francis



Carreg-Lem;
Beyond Fault Chamber
Pete Francis



Carreg-Lem *Pete Francis*

Some Food for Thought

The discovery of Ffynnon Ddu II has shown us that there are many cave passages which come close to the surface. These caves have not marked the surface in any way which we currently understand. Top Entrance is a classic example. Perhaps, intead of digging at sinks, risings, collapses and other apparently obvious places, we should now look at less obvious sites. To do this we need to first decide on a limited area of search in the region of the suspected cave, then search that area using every trick in the book and a few more.

We are fortunate in the Swansea valley, because when God decided on the lay of the rocks he gave us a reasonably simple structure. On the Dan-yr-Ogof side of the valley we have strata dipping north-south at approximately 15 degrees until the Dan-yr-Ogof syncline is reached. This syncline is followed by the Cribarth anticline. Caves form in certain beds of our limestone, there is nothing of consequence above the honeycomb sandstone and many big passages are just below this bed. So we could start to reduce our area of search by concentrating on the strata underlying this sandstone.

For caves to have formed in this area,

1. There needs to have been a stream or river.
2. This water needs to have had access to the cave-forming beds.
3. The water must have had a lower exit from these beds for flow to occur.
4. There should be starter routes between access and exits to enable flow to commence. These could have been faults, joints, bedding planes or phreatic tubes.

The stream flowed down an ancestral upper Haffes, either as the the main river or as the tributary to a river flowing down the valley at a level considerably above the current valley floor. This stream probably followed a course close to the Dan-yr-Ogof dry valley but remained above ground until access to and exits from the cave-bearing beds became available. When these appeared the river cut its way down and caves formed along the starter routes. The water went underground north of what is now Waun-Fignen-Felin. The cave formed and the area was probably in the area of Pwll Dwfn. A large collapse was formed at the site of the current bog and this was filled

Waun-Fignen-Felin, 1971

Left to right: Barry Mawson, Ken Maddocks (helmet), Jem Rowlands, Keith Ball (at back), John Harvey (head only), Bob Saunders, Peter Harvey (hemet & light), Claire Jones (at back)

Bob Hall

with boulders of limestone and grit. In time the limestone was erroded away and the grit reduced to silica sand. This sand formed the basis of the plug for the lake and the bog which subsequently formed.

Glaciation sculptured the area removing the rock around the collapse, leaving the patch of silica sand and obliterating any sign of cave entrances. The main valley had now been cut down by the ice and the Haffes was flowing down its present route. The water draining to the area of the bog invaded existing cave at the level of the lower limestone shales. The lowering of the valley was not a smooth process with time, it took place in several stages as indicated by the nick points at approximately 1400', 1000' and 800'. The most likely places to find old resurgences are at these levels at the junction of the honeycomb sandstone and the S_2 (Dowlais ed.) limestone. The old sinks are probably to be found at the sides of the bog at any level up to the honecomb sandstone.

Both resurgences and risings are now plugged with glacial drift and will not show any obvious sign of their location. What is now needed are ways of locating these plugs and then some faith to dig at places which show no sign of potential cave. There are many ways to start looking for these plugs.

Eg. :

Geophysical
Biological
Chemical
Divining
Morphology

What we should now do is establish teams to investigate each of these potential methods of dig location. Anyone with ideas or who wishes to join one of these teams please get in touch with me.

Clive Jones
June 1989

SO YOU THINK YOU CAN DOWSE CAVES?

At the DYO conference, Clive Jones "ventured upon the very mildest of suggestions" (probably Clive's best cherished and most innocuous opening gambit) that substantial cave development may be not far beneath the surface where there is no obvious evidence of its presence, such as the case of the OFDII entrance area. Indeed, it has been observed that there can be numerous massive visible indicators, by way of sink holes, dry valleys and so forth, where the cave lies at a significant depth, perhaps 50m or more, Dan Yr Ogof and Pant Mawr being examples.

Clive has suggested 5 approaches to finding hidden passages close to the surface where modest excavation could be rewarded with major discoveries:

1. Botanical: look for plant life variations.
2. Geophysical: radar, seismic, gravitational variations.
3. Distance observations: infra red, visible photography.
4. Water divining and other inspired techniques.
5. Chemical.

In order to evaluate any detection hypotheses which emerge, we need test sites above known cave passage. The first of these is above Pant Mawr Pot. The chosen area benefits from being a single uncomplicated massive passage which contains an active stream, including the Fire Hydrant, albeit at some depth.

A radio-location and survey exercise was carried out here on the weekend of 26/27th August 1989 by Owain Harvey and Clare Jones, Sally and John Harvey and myself. The Jones formed the underground party, the Harveys and myself the surface party. The grid was superimposed by myself on the 27th August, and thus the precise position of the cave to the grid is in my possession alone. The grid is approximately 200yds SW of the pothole at NGR SN889159. Here is a section of heather moorland between the OFDII Reserve Gate to Pant-Mawr Farm Ruins footpath, and the wall and old vehicle track nearer the pothole. The test site encompasses a small hillock and the lower ground to the north west, being some 150yds square.

The test site is pegged out as a rectangular grid with wooden pegs tipped with red paint and numbered A1 to F6: a six-by-six grid A-F 1-6 of 30 yard squares. A1 to F1 run NW along the ruined wall: the old vehicle track is thus off the test site. A6 to F6 are on the SW side of the footpath which is included in the test site. There are 8 radiolocation points within the test site which have been surveyed but are unmarked.

All you have to do is visit the area and sketch into the grid on page 30 where you think the cave lies based upon what you observe or measure. Completed plans, together with details of your technique, should be sent to me.

Stuart France

THE GREENSITE PROJECT

This project came about as a result of the Dan-yr-Ogof conference.

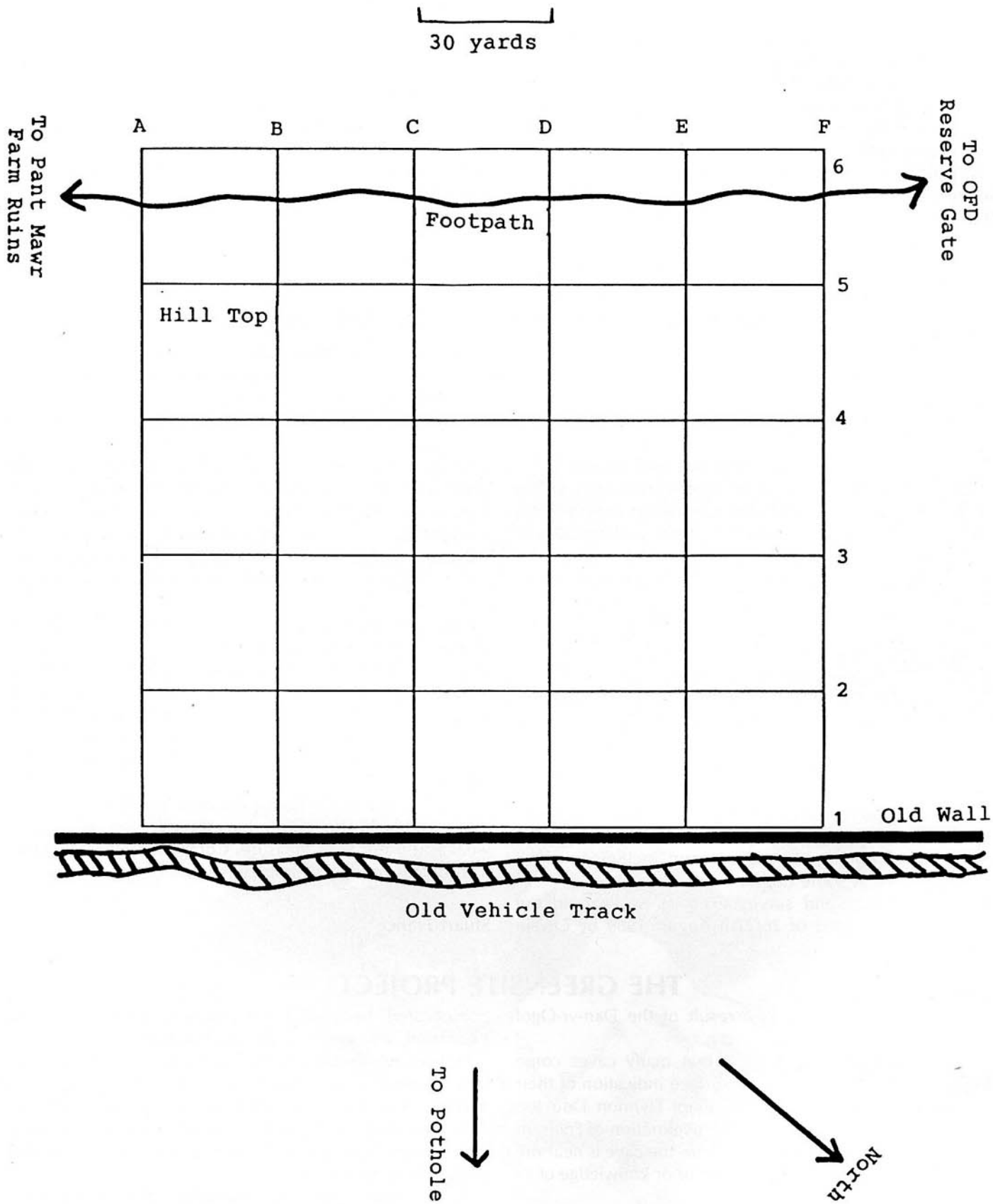
The concept of the project is that many caves come close to the surface but give no surface indication of their presence. Tunnel Cave Top and Ogof Ffynnon Ddu top entrance are two examples and the exploration of Ffynnon Ddu has revealed several places where the cave is near the surface but is not detectable without prior knowledge of its presence.

We tend to look for digs at sinks, resurgences, swallow holes and similar features. These digs are usually complicated, because of the nature of the feature being excavated, and very few get us anywhere.

Perhaps we should change our tactics and put an effort into attempting to locate these near to surface passages and then dig at what would appear to be greenfield sites. This may help us locate the ancient preglacial systems, which do not have any sinks and risings, as well as finding ways into active caves.

At a sober gathering following the Dan-yr-Ogof conference it was decided to set up the Green Sites project and to take five approaches to it.

GREENSITES PROJECT
PANT MAWR GRID



1. Geophysical. Looking for variations in physical measurements using radar, seismic, gravitational and other detectors.
2. Chemical. It is possible that a location above cave passage could be different in it's chemisty from a nearby location not sited above cave. This could be due to air flow, better drainage or other reasons. The chemistry of the soil or of the air in the region of the cave could give clues as to the whereabouts of cave passage.
3. Biological. If the chemisty of the soil and/or air is affected by the presence of a cave it is likely that the flora and fauna will differ slightly from that of adjacent soils.
4. Distance observations. Looking at infra red and other images of the surface could reveal the hidden passage.
5. Dowsing. Many are the tales of what can be done by dowsing. Let us attempt to see if the legend is fact or fiction.

The two start points to the project have been state of the art surveys and preparation of test sites above known caves.

The next stage was a workshop on 10th December. The purpose of this event was to hear the state of the art and to brainstorm to generate ideas which can be of practical use.

The project is being managed by club members as follows:

1. Geophysical. Colin Fairbairn.
2. Chemical. Keith Ball.
3. Biological. Ray Woods. Nature Conservancy Council.
4. Distance Observations. Jem Rowland.
5. Dowsing. Malcolm Herbert.

If you have any ideas or suggestions to make on this project please contact one of the people named above or me at 3 Werfa Close, Abernant, Aberdare, Mid Glam., Wales (0685 876339).

Editor's note: It is hoped that the Greensites workshop will be written up in a future newsletter.

AN ANNOTATED BIBLIOGRAPHY OF THE DAN-YR-OGOF CATCHEMENT AREA

The SWCC Newsletters

Dec 53	Dai Hunt	Tunnel Cave Note of a breakthrough in T.C. to a huge passage via boulder choke	SWCC NL No 07 Jan 54 p 7
Jan 54	Ed	Additional note that the rift passage divides into two, and extends 4000'.	SWCC NL No 07 Jan 54 p 9
Dec 53 May 54	Dai Hunt	The discovery and exploration of Tunnel Cave Account of the breakthrough into Davy Price's Hall and beyond. About a mile of passages was discovered	SWCC NL No 08 May 54 p 6 - 9
	W.H. Little	Ogof Haffes Theorises on possible geomorphology	SWCC NL No 09 July 54 p 6 - 7
Xmas 55	Dai Hunt	Tunnel Cave — The ascent of Steeple Aven Use of series of ladders to climb to the top of the Aven — a chamber found but no possible routes on — very shattered	SWCC NL No 13 Sept 55 p 6 - 8
Aug 55	J.M. Alexander	Tunnel Cave Account of digging at the top of the second cascade in Cascade Aven. Some passages found	SWCC NL No 13 Sept 55 p 11 - 12
	J.M. Alexander	Flood rising in Tunnel Cave Reports bailing exercise in sump	SWCC NL No 13 Sept 55 p 12 - 13
Aug 55	Dai Hunt	Dan-yr-Ogof Aug 1955 Account of exploration of an aven beyond the lakes using a Maypole — no likely ways on discovered. Also use of the Maypole to explore a hole in roof of Boulder Chamber leading to a psssage ending in a choke — a likely spot to look for more extensions	SWCC NL No 16 July 56 p 10 - 12
	Keith Ball	Some factors influencing cave development on the n. crop of the South Wales Coalfield. Synthesises information on geological structure and cave development, includes section on Tunnel Cave	SWCC NL No 35 Mar 61 Item 4
Dec 62	Clive Jones	The Tunnel Cave Project An account of the drilling of the top entrance shaft to Tunnel Cave	SWCC NL No 42 Dec 62 Item 1
Summer 63	'Those involved'	Waen Fignen Felen 1963 An account of the dig at the main drainage point of this peat bog	SWCC NL No 45 Nov 63
Jan 64	C. George W.E. Clarke	Divers News Pwll Dwfn — an account of the descent of the 300' pot and a dive to explore the sump — no way on discovered	SWCC NL No 46 Mar 64 Item 4
30/31 May 1964	Bill Little	Anemone Passage — An extension of Tunnel Cave An account of the discovery of 300' of passage	SWCC NL No 47 June 64
Jun/Jul 64	Charles George	Diving operations in Dan-Yr-Ogof and Tunnel Cave. Location and survey of the normal and flood exits of the waters in the two caves. Mainly concerns Tunnel Cave	SWCC NL No 49 Mar 65 p 9
Easter 65	W.H. Little	Tonight's Darkness Helping the BBC 'Tonight' team shoot sequence in DYO	SWCC NL No 50 June 65 p 18 - 19
7/6/65	W.H. Little	Dan-Yr-Ogof — Some further pottering A note concerning Pot Sump and connections to Lake 3	SWCC NL No 50 June 65 p 23
	J. Hartwell	Water tracing carried out in Wales List of tracings carried out 1948-63. Includes reference to DYO catchment area	SWCC NL No 51 Oct 65 p 9 - 12

Nov 65	J.C. Jones	Waun-Fignen-Felin Assessment of further digging possibilities	SWCC NL No 52 Jan 66	
Sum 67	Melvyn Davies	Recent discoveries in the Dan-yr-Ogof hinterland Examination of swallets in the headwaters of the Twrch and Gwys and around Sinc-y-Giedd followed by a summary of finds in the Sinc-y-Giedd area	SWCC NL No 57 Sept 67	p 1 - 2
14/1/67	A Day	Cave Rescue prachce in Dan-yr-Ogof Use of a floating strecher included	SWCC NL No 57 Sept 67	p 17 - 19
June/Aug 67		From the Log Book 1. Dan-yr-Ogof. Notes on surveying, radio location testing State of some chokes	SWCC NL No 57 Sept 67	p 23
Late 67/Early 68	David Judson	Dan-yr-Ogof — a year of steady graft Report of various explorations in the far North and on progress on the survey of DYO. Suggestion of an underground camp at Easter.	SWCC NL No 59 April 68	p 4 - 5
3/68	A. Coase	Possibilities in Dan-yr-Ogof Part I	SWCC NL No 59 April 68	p 5 - 7
	Alan Coase	Easter plans Dan-yr-Ogof Schedule of planned underground camping trip	SWCC NL No 59 April 68	p 7
Easter 68	D.M. Judson	Dan-yr-Ogof: The Easter assault Discovery of further passages and surveying progress while camping in Bat Chamber	SWCC NL No 60 July 68	p 16 - 18
1964/65	Alan Coase	Dan-yr-Ogofian Developments Summary of the previous 18 months activities in the cave	SWCC NL No 52 Jan 66	
	C.O.G Charles George	The new way on, or "digging the modern way." The use of syphoning and a reference to the possible use of this technique in the Lakes in DYO	SWCC NL No 53 May 66	p 1 - 3
31 Oct/1 Nov 65	Bryn Thomas	Report on a Rescue at Tunnel Cave 31st Oct - 1st Nov 65	SWCC NL No 53 May 66	p 12 - 15
April/May 66	Alan Coase	Success - Dan-yr-Ogof April/May '66 An account of the break through via the long crawl to Gerald Platten Hall and beyond	SWCC NL No 53 May 66	p 20 - 22
24/25 Sept 66	Alan Coase	Dan-yr-Ogof Still going Entry into a mile of new stream passage beyond 'The Rising' at the end of High Way	SWCC NL No 55 Jan 67	p 5 - 7
	E. Aslett D. Webley	A Backyard Balinka A dig in Ogof Haffes near Tunnel cave entrance shaft	SWCC NL No 55 Jan 67	p 12 - 13
19/3/67 + Easter 67 + April 67	Paddy O'Reilly	Dan-yr-Ogof again Discovery of more passages in the Hanger Passage area, Chamber pot in Dali's Delight. Widening of Long Crawl. Extensions to the Great North Road	SWCC NL No 56 May 67	p 23 - 25
4/68	N.S.J. Christopher L.G. Bray	Dan-yr-Ogof Hydrological Study: Preliminary phase Account of several dye tests and the results	SWCC NL No 60 July 68	p 18 - 20
	Alan Coase	Possibilities in Dan-yr-Ogof Part II	SWCC NL No 60 July 68	p 21 - 23
Easter/July 68	Editor	From the log book Dan-yr-Ogof Notes on various digging & diving attempts	SWCC NL No 60 July 68	p 30 - 1
Easter/Aug 68	L.G. Bray	Summer visiters, 1968 Further chemical analysis and comment on dye and water tests in DYO and surrounding area	SWCC NL No 61 Nov 68	p 1 - 3
	L.G. Bray, G.A. Swindles	The chemical investigation of cave waters. Some early attempts to analysis cave waters in DYO & OFD	SWCC NL No 61 Nov 68	p 5 - 7

July/Sept 68	T Moon, C. Fairbaim, R. Arculus	From the log book Dan-yr-Ogof Notes on work in Hanger Passage, Rottenstone Avens and Mazeways	SWCC NL No 61 Nov 68	p 32 - 3
Early 69	Editor	From the Log Book Note of diving activities in DYO — The Rising to an air bell at 80', and examination of entrance pool in Mazeways	SWCC NL No 63 May 69	p 1
Feb 69	Alan Coase	Possibilities in Dan-yr-Ogof Part III Concerns particularly the Great North Road, left hand and right hand series	SWCC NL No 63 May 69	p 4 - 5
Mid 69	Editor	From the log book Dye testing in Hanger Passage extension; Start of several digs above DYO area; dye test in Sinc-y-Giedd not successful to discover where main river enters DYO	SWCC NL No 64 Sept 69	p 1
	Anon (The Armchair cavers)	Dig these digs Includes a very brief note on DYO and refers to 60 feet separation of series	SWCC NL No 64 Sept 69	p 16 - 18
Aug 69	R.J. Arculus	Diving in Dan-yr-Ogof Summary of recent diving attempts (1968/69) in the Mazeways entrance area, Terminal pools, the Rising	SWCC NL No 64 Sept 69	p 19 - 20
	Editor	From the log book Alternative route from DYO2 to DYO 1 not via long crawl was explored but proved more difficult Radio test in Monk Hall relating it to 'the Crater' above (near Pwll y Wydden)	SWCC NL No 65 Feb 70	p 1 - 2
Easter 70	P. O'Reilly, S. O'Reilly, P.G. Ogden	Sinc-y-Giedd reopened Account of the reopening and digging reaching 100' in depth. Including plan and final dye tests linking the sink with DYO.	SWCC NL No 66 May 70	p 24 - 27
Early 70	Editor	From the log book Note of completion of surveying work in Pinnacle series and in the Long Crawl Note on the Sinc-y-Giedd work, and Waen-Fignen-Felin dye tests linking it with the L.H. series of the Far North	SWCC NL No 66 May 70	P 34
June 70	D.M. Judson	The ascent of the South Wall of the Rottenstone Avens An account of a climb to the top of South Aven and a description of the conditions; layout and geology of the top. Concludes that there are no large passages out of these avens	SWCC NL No 67 Oct 70	p 9 - 10
Aug 70	Anon & Others	Waen-Fignen-Felen 1970 Short account of further digging but with no major finds	SWCC NL No 67 Oct 70	p 16
	K. Ball	Dig This Guide to the most auspicious bands of limestone to dig for caves, worth reading for the humour alone	SWCC NL No 67 Oct 70	p 18 - 22
Mid 70	Editor	From the log book Sinc-y-Giedd - mentions re-enter after Easter collapse Dan-yr-Ogof - pushing but no significant finds Tunnel Cave 350' more passage found	SWCC NL No 67 Oct 70	p 28
Summer 70	P. O'Reilly, S.E. O'Reilly, R.P. Ogden	Sinc-y-Giedd Report on the summer digging - various small passages dug, flooding a problem.	SWCC NL No 67 Oct 70	p 29
Late 70	Ashford Price	The opening of Cathedral Cave An account of opening an entrance into Tunnel Cave and developing the cave as a show cave	SWCC NL No 69 July 1971	p 11 - 13
Early 71	Editor	From the log book Reference to closeness of Shower Aven to Gerard Platten Hall	SWCC NL No 68 March 71	p 31

Mid 71	Editor	From the log book Note on digging in the boulder choke in G.P. Hall. Stream inlet in G.P. Hall also pushed 100'. Far North pushed but no new finds. Extension of Hanger Passage further. Sinc-y-Giedd, lot of flooding but some attempts to extend.	SWCC NL No 69 July 71	p 33
Summer 70	L.G. Bray	The chemical investigation of cave waters — a progress report Results of 1970 investigations concerning the chemistry of water passing through Dan-yr-Ogof	SWCC NL No 69 July 71	p 2 - 5
Summer 70	L.G. Bray	The chemical investigations of Cave waters; a further report Results of the summer 1970 investigations, following up material in the July 71 article	SWCC NL No 70 Feb 72	p 3 -
Late 71	Editor	From the Log Book Dan-yr-Ogof. Notes a lot of diving and a significant find of 2000 ft of passage off Mazeways. Diving in Mazeways, the Rising Tunnel Cave — Sumps I & II dived	SWCC NL No 70 Feb 72	p 27
	Martyn Farr	Diving - the only answer in Dan-yr-Ogof An account of diving efforts over recent years in DYO especially 1967 and 1971 in the Mazeways area	SWCC NL No 71A April 72	p 6 - 9
	Alan Coase	Around and about the Long Crawl - Dan yr Ogof Potential alternative routes to the Long Crawl are described and efforts to push them to date explained	SWCC NL No 71A April 72	p 11 - 13
July 72/Aug 72	Martyn Farr	Mazeways II or Dan-yr-Ogof IV? Account of major diving finds — the discovery of Mazeways II	SWCC NL No 72 Feb 73	p 7 - 9
	Martyn Farr	Conservation of Resources The case for not providing additional 'dug' entrances to caves (including DYO) in order to conserve cave systems	SWCC NL No 72 Feb 73	p 12 - 13
	Bob Hall	Report on the rescue practice held in Pwll Dwfn Notes on the practice plus various recommendations	SWCC NL No 73 Aug 73	p 14
1972	Bob Hall	Report on rescue practice held in the Long Crawl, Dan-yr-Ogof Attempt to remove a victim from beyond the Long Crawl where some degree of immobilisation had occured. Concludes that for all but the least serious injuries the crawl would be a major obstacle. Some suggestions to deal with an emergency are given	SWCC NL No 73 Aug 73	p 15 - 16
18/8/73	Bob Hall	Report on the rescue practice held at Tunnel Cave top entrance 18/8/73 Successful rescue practice notes that more practice gear needed for dealing with vertical pitches	SWCC NL No 74 Nov 73	p 4
73/74	Martyn Farr	Dan-yr-Ogof - current developments A comprehensive account of diving explorations in 1973 and 1974 to try to push beyond Mazeways II. Three o'clock series found and a number of climbs attempted. But by late 74 all possible ways had been explored with no significant breakthroughs	SWCC NL No 78 Dec 74	p 1 - 4
		An Aladdin's Cave (reported from Western Mail October 1974) Brief details of the early discovery of DYO followed by the development of the commercial showcave and related activities	SWCC NL No 78 Dec 74	p 8 - 9
15/5/76	B. Jopling	Rescue practice in DYO Rescue from the Abyss beyond the Long Crawl	SWCC NL No 84 1976	p 4 - 5

March 78	M. Farr	Recent work in Dan-yr-Ogof Revitalisation of DYO IV project. Assault on Mazeways II	SWCC NL No 91 1979	p 2 - 4
Aug 82	Bill Gascolne	A hydrological study of the Dan-yr-Ogof and FFrwd Las resurgences An account of the use of Lycopodium spores to ascertain the water catchment area of DYO and determine its Western limit. Adds Twyn Tal Draenen, Carreg-Lem and the Lost Valley near Pwll-y-Wydden as positive links to DYO	SWCC NL No 97 March 83	p 8 - 11
81/82	Pete Francis	The Giedd System Account of digging at Ogof Carreg-Lem (includes sketch)	SWCC NL No 97 March 83	p 24 - 5
1981/82	Bob Hall	Sinc-y-Giedd 1982 Account of the renewed efforts to dig at the sink. Use of damming and blasting	SWCC NL No 97 March 83	p 27 - 8
	Gareth J Davies	X-Ray analysis of the Dan-yr-Ogof Galena	SWCC NL No 101 1986	p 30 - 33
3/88	Bob Hall	A preliminary investigation into radio-caesium contamination in Dan-yr-Ogof	SWCC NL No 105 1989	p 24 - 26
4/88	W.H. Little	Dan-yr-Ogof, An upper series?	SWCC NL No 105 1989	p 35 - 39

CAVE DIVING GROUP NEWSLETTERS

DAN YR OGOF, Ystradgynlais Uchaf, Powys. SN. 830.160

03.10.71	M. J. Farr. Inlet sump in D.Y.O. 2.	NL.22. 9
10.10.71	M. J. Farr. Lake 10 to Mazeways, with map.	NL.22.10
30.12.71	M. J. Farr. Mazeways sumps.	
22.01.72	M. J. Farr & T. Moon. Mazeways, Lake 10. Bakerloo.	
26.02.72	M. J. Farr. Corbel's Chamber Sump.	NL.24.21
25.03.72	M. J. Farr. Mazeways Extension.	NL.24.21
22.04.72	M. J. Farr. Mazeways Entrance Pool Rising.	NL.24.21
22.04.72	M. J. Farr. Bakerloo Sump.	NL.24.21
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24.06.72	M. J. Farr. Rising at end of D.Y.O. 2. Back door.	NL.25.13
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22.07.72	M. J. Farr. Mazeways to Bakerloo.	NL.25.14
30.07.72	M. J. Farr & R. A. Solari. Mazeways 2 to Cribarth Inlet.	NL.25.14
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07.10.72	M. J. Farr, J. Parker, J. Phillips & R. A. Solari. Mazeways t. Plan.	NL.26.15
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25.11.72	M. J. Farr. Lake 4 to Lake 7. Plan.	NL.26.17
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16.06.73	M. J. Farr & R. A. Solari. Mazeways.	NL.29.24
23.06.73	M. J. Farr & C. Fairbairn. Mazeways 2.	NL.29.25
07.07.73	M. J. Farr & R. A. Solari & C. Fairbairn. Three O'clock Series.	NL.29.25
06.10.73	M. J. Farr & R. A. Solari. Three O'clock Series	NL.30.18
27.04.73	M. J. Farr & R. F. Beaumont. Mazeways Sump to Cribarth Inlet.	NL.32.24
29.06.74	M. J. Farr. Lake 8. 91m. towards Lake 7.	NL.33.18
07.08.74	M. J. Farr. Lake 11 (Murky Sump), 76m. westwards, still going.	NL.33.18
05.10.74	M. J. Farr. Lake 11 fed by impenetrable fissures from main stream.	NL.34.17
01.03.75	C. Fairbairn, R. F. Beaumont & M. J. Farr. Digging Cribarth Inlet Choke.	
20.04.75	C. R. Edmunds, R. A. Stevenson & A. Vanderplank. Main Resurgence 49m.	
26.04.75	M. J. Farr. Mazeways 2.	NL.36.17
10.03.78	M. J. Farr. To D.Y.O. 4. Blasting near Cribarth Inlet Choke.	
23.04.78	M. J. Farr. Ditto, and digging choke.	
30.04.78	M. J. Farr. Ditto.	
27.05.78	M. J. Farr & P. J. Rust. Cribarth Aven & Choke.	
02.06.78	Same divers. Breakthrough up Cribarth Aven. 122m. passages.	NL.48.24
24.06.78	Same divers. Up Cribarth Inlet + 30m. = Mazeways 3.	
26.08.78	Same divers. Work on Cribarth Inlet Choke.	NL.49.27
02.09.78	Same divers. To Mazeways 3, 15m. into new sump. Boulder blockage.	
16.09.78	M. J. Farr, P. J. Rust & D. Morris. +1.5m. in terminal sump of Mazeways 3.	
23.09.78	M. J. Farr & D. Morris. Ditto, but no progress.	NL.50.11

26.01.80	M. J. Farr. Transporting syphon tubing to Mazeways 2.	NL.55.24
March 1980	M. J. Farr & C. P. Hurley. Ditto.	NL.56.29
March 1980	M. J. Farr, P. J. Rust & D. Morris. Digging Cribarth Aven Choke.	NL.56.29
06.04.80	M. J. Farr, P. J. Rust & D. Morris. Ditto.	NL.56.29
12.04.80	M. J. Farr & C. P. Hurley. Ditto.	NL.56.30
15.04.80	M. J. Farr & J. M. Campbell. Ditto	NL.56.30
27.04.80	M. J. Farr & P. J. Rust. Ditto.	NL.56.30
04.05.80	M. J. Farr, D. Morris & A. P. Glanville. Photography in Mazeways.	NL.56.30
31.05.80	M. J. Farr & T. E. Nixon. Photography and Digging Cribarth Aven Choke.	NL.57.27
22.08.80	M. J. Farr. Smoke Tracing and Digging Cribarth Aven Choke.	NL.57.27
27.08.80	M. J. Farr & C. P. Hurley. Transporting Syphon Tubing in Mazeways.	NL.57.28
August 1980	D. Morris, A. Boycott & M. J. Farr. Transporting Syphon Tubing to Mazeways 2 and climbing an aven.	NL.59.23
18.04.81	M. J. Farr & T. E. Nixon. Attempted syphoning of sump in Mazeways 3.	NL.60.30
12.06.82	J. Walker & R. Parker. Transporting larger syphon tubing in Mazeways 3.	NL.66.25
19.06.82	Same team. Ditto.	NL.66.25
30.10.83	R. B. Parker, C. J. Chilton. Laying telephone cable in Lake 3.	NL.70.25
31.07.84	Steve M. Jones. Transporting hose through Mazeways sump.	NL.73.17
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27.07.84	S. M. Jones & M. J. Farr. Bivouac and attempt to syphon sump in Mazeways 3.	NL.73.17
19.06.88	M. Owen, M. Paganuzzi, J. Adams & A. Ward. Pot Sump, Lakes 4, 5 & 6 dives. Report on lines.	NL.89.31

MISCELLANEOUS PUBLICATIONS

COASE, Alan Clive. The Structural Geomorphology of the Dan-yr-Ogof Caves, Tawe Valley, South Wales. Ph.D. Thesis, 1975

BCRA Transactions, Vol 4 (1 & 2). March 1977. Whole issue on Dan-yr-Ogof. Includes 3 charts (survey, longitudinal sections, geology/drainage).

SWCC Twenty-First Anniversary Publications. Includes a lengthy article entitled: Dan-yr-Ogof: The Caves Beneath the Black Mountain, pp 55-83. SWCC, 1967. The article describes the major stages of discovery of each of the following: Part 1: Dan-yr-Ogof. Part 2: Tunnel Cave. Part 3: Pwll Dwfn. Part 4: Waun-Fignen-Felin.

Bob Hall
Barbara Hall

Stop press from the Log Book

09.04.89	Surprise Chamber DYO II. The roof is very loose, but there is a cold draught coming in from the most northerly part of the passage. Following the weak bedding round to the G. North Road revealed 2 bands of multiple calcite bands 18" apart. Presumably, once the 18" beds have fallen roof will be stable as the rock looks pretty stable immediately above — Gareth Jones, Steve Kings.
09.04.89	Tal-Ddraenen Sink. Dug a lot to sink, moved spoil heap to location further back. Move away to make access entry easier. 4 hours digging, nice sunny(ish) day — Malcolm, Tony, Ian, Helen, Pete, Steve W., Emma, Ian Anderson.
28.04.89	Further work at Tal-Ddraenen Sink (see above). We have continued removing boulder from existing entrance rift, to facilitate further work — Malc, Tony, Steve W., Gavin, Helen.
27.05.89	Tal-Ddraenen. R. Rover of timber. Much shuttering and clearing. Ready for digging in earnest.
28.05.89	Good progress. Plan to continue along line of rift, generally downwards.
28.05.89	Line relaid in DYO mazeways.
31.5.89	Tal-Ddraenen. More timbering, enlarging eyehole, rigged ropeway for much clearance.
02.06.89	Tal-Ddraenen. 40 buckets removed. Large block exposed and blasted.
11.06.89	Mazeways 2 via L. H. sumps (White Line). Brief tour to deep sump and lake chamber — ropes appear sound in lake chamber.
22.07.89	Sinc Ddu — Waun-Fignen-Felin. The entire bog is now bone dry and an impressive sight. Large boulder needs vapourising at Sinc Ddu to enable better assessment of potential. Rusty Horseshoe dig revisited — mainly secure. Very loose boulders at bottom.
27.08.89	Ogof y Cyfle. Dig started app. 100m west of W-F-Felin (822 178). Couple hours pulling rocks out of small hole down which stones can be dropped a small way. Timber required. Dig started after Clive's divining rod threw a wobbly in several places nearby, possibly indicating the line of a passage? Sceptics please note.
28.08.89	Dig near W-W-Felin continued, down about 15 feet and shuttering went in like a dream (a *dry* dream). We have a solid wall on east side and large broken blocks on west side. We must now treat dig analytically (now there's a big word). We need to trace this boundary to see if we have

the top of a collapse or a fault line. If a fault line the dig is probably not worth digging. If the boundary encloses a definite area we are possibly on a collapse. If this is the case we must relate this to the passage as dowsed, i.e. plan how to dig. Going down may not be the best plan — Clive.

09.12.89 West side of Waun-Fignen-Felin. The stream sinking in the peat has carved out a cave at the peat/limestone boundary. It is possible to crawl into this cave, roofed with peat, and look down a narrow rift that could be enlarged with explosives.

Parkers Pot (North of Sinc-y-Giedd). This now takes 90% of the flow of the Giedd in dry weather, via a sink on its left bank. The stream can be heard rumbling away below the boulders in the floor of the pot, which may not be all that safe.

Sink at Twyn Tal-Ddraenen. This remains stable, and there is a promising area to the l at the bottom, with a black limestone wall running with water.

Shakehole near Disgwylfa. This is the lowest of a series of shakeholes in a dry valley. Formerly it looked hopeless as it was full of peat. Now the plug has fallen out of the bottom, and the bank, consisting of S_2 limestone and honeycomb sandstone would be dug quite easily. The area is of great interest as it is geographically the closest bit of limestone to Sinc-y-Giedd and East of the Milstone Grit Ridge.

River Twrch. There is an exposure of lower limestone shales on both sides of the river to the north west of Twyn Tal-Ddraenen. Just on the north side of the hill is a possible site of an old river sink, and digging has commenced here — Gareth Jones.

Thanks to John Lister, John Harvey and Clark Friend

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