

South Wales Caving Club

Clwb Ogofeydd Deheudir Cymru



Newsletter 137 June 2020

Front Cover Photograph
The Nave, Ogof Ffynnon Ddu
Clive Westlake

Back Cover Photograph
The Traverses, Ogof Ffynnon Ddu 3
Mark Burkey

SWCC Newsletter 137

June 2020

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Editorial

Bob writes:

These are strange times and compiling this Newsletter has been a strange experience. It has, to use a Yorkshire expression, been a bit like 'plaiting fog'. In other words, the 'shape' of the publication has swirled around, clarity has appeared and been lost, and it has been a struggle to pin down what form it would take. Hopes of including reports from the planned April trip to Cantabria evaporated as Spain declared an 'Estado de Alarma', closing hotels and so forth. But at much the same time, the idea of reporting on our members' response to the pandemic took hold – so we had potential material at least! Then, with several nudges and hints, we began to receive unexpected contributions from all manner of sources, swelling the publication unexpectedly. And, just as our self-imposed print deadline approached, I developed a painful dental infection, over a bank holiday, with the nation's dentists locked down. In a Co-Codamol and Naproxen haze, I achieved little for several vital days. Mercifully that episode is now in the past, lost ground has been regained and you have a Newsletter, more or less on schedule. We hope you enjoy it; if nothing else, it does not lack variety.

This is our fifth, and last Newsletter: phew! It has been a challenging three years and we have both developed new skills and somewhat thicker skins along the way, but for me at least it has been enormously gratifying and rewarding. Especially so when we have brought to print material from contributors who were new to the club or new to writing for publication. It has also been a wonderful experience to enjoy the cooperation and support of so many members, and indeed non-members in what, in truth, has always been a joint endeavour. I have learned a lot too, about people, places, printing, photography and Publisher! Weary as I may be, I am grateful to you all for having had the opportunity to serve the club in this way.

Elaine writes:

Strange times indeed. We hope you enjoy the wider than usual range of topics generated by the exceptional circumstances!

As many of you may know, there will be no Newsletter next spring. Instead, 2021 will see the SWCC 75th Anniversary Publication, already at the development stage under the stewardship of Tim and Andrea Lewingdon. Please give them every assistance you can.

As Bob intimates above, I am standing down as Editor, with effect from the next AGM, whenever that may happen. Thank you all for your time and thought in composing contributions, your patience with queries and your (mostly complimentary) comments on our efforts. I'm sure similar support for your new Editor, whoever that may be, will be hugely appreciated, especially as actual caving stories are likely to be in short supply! Keep the Newsletter in mind whatever you get up to, and write, photograph, video, record anything you think may be of interest to members – it is **your** Newsletter, and **any** of you can contribute.

As always, our contributors are not the only individuals who have made a Newsletter possible. We would like to record our particular appreciation of the help given to us by Jem Rowland, Ian Alderman, Tony Baker, Sue Goodhead, Toby Dryden, Hywel Jopling, Claire Vivian, John Harvey, Pete Francis and Sam Moore. Please accept our apologies if we have missed your name from this list – any omissions are very definitely not intentional, and all assistance is greatly appreciated.

Another Anniversary

The SWCC – Sixty Years at Penwyllt

Collated by Bob Hall

Whilst much attention is soon to be focussed on the SWCC's impending 75th anniversary, another significant milestone has been reached. Sixty years ago this summer, the SWCC moved into the cottages that comprise Powell Street, Penwyllt. This momentous landmark in club history was reported in Newsletter 33, August 1960, but it had been well over a year in coming to fruition. However, Powell Street, or Powell's Terrace as it was sometimes known, was not the first HQ, and the story starts many years previously.

Penybont

Soon after being founded in 1946, the SWCC established itself in its first Headquarters. With petrol rationing still in force and many members reliant on public transport or bicycles, it made sense to have a base close to the caves. The 'old HQ' was adjacent to the bridge where the A4067 crosses the Lynfell river coming down from Dan yr Ogof. The address was 6, Penybont, Llynfell. As the accompanying accounts and images make clear, Penybont was 'basic', but it clearly played a crucial role in the life of the club in those early years. The story is told in this extract from the 10th anniversary publication:

Club-building

The entry of Ogof Ffynnon Ddu could not have been more timely. It provided a wonderful playground for the new Club with plenty of scope for the pioneering types. Its character was such that it was later to receive the serious attention of that worthy student of cave-formation, Aubrey Glennie.

During this time the more serious business of club building proceeded. At the commencement a few assets had been passed on from the Group, a few pounds in cash, a fair stock of tools, also ladders and ropes from individuals.

There was an urgent need for headquarters as the Easter Meet had shown a serious deficiency of accommodation in the Valley and it was obvious that substantial support was coming from members living outside Wales. At Easter the restaurant building at Dan-yr-ogof was used for sleeping but the main burden was carried by the Gwyn Arms where resources were strained to the limit.

There was an excellent response to an appeal launched for subscriptions for a Headquarters Fund. At the time the aim was to buy a suitable hut. Most unexpectedly two generous offers of accommodation came together. Mr. Cyril Powell offered a vacant cottage near Ffynnon Ddu and Mr. T. Ashwell Morgan one at Penybont. The latter was gratefully accepted as it was more convenient to public transport and bigger. Funds received from the appeal were quickly put to use to furnish the cottage and to effect a number of repairs to make the place habitable. Much attention was given to the resetting of walls, floors, roof, replacement of broken windows and repairs to the chimney - tasks with which John Barrows helped admirably. Lady members also performed superhuman feats in white-washing walls and washing floors to make the place fairly comfortable. It is difficult to convey the transformation which was accomplished by enthusiasm and hard work of a few members. Headquarters was eventually used at Easter 1947 and has remained a most valuable dug-out for members off duty.

We are indebted to two of our most senior members, whose caving careers began in the era of Penybont, for their personal reminiscences which follow.

These are supplemented by photographs from the club photographic archive, which is lovingly curated by Jem Rowland, who has been a great help in putting this article together.



In the above photograph, the A4067 runs in front of the large detached house and across the bridge over the Llynfell, bottom right. Penybont is the smaller building in the centre of the image. Photographer unknown. Original discovered in papers of Bill Little's in the possession of Pete Cardy.

And in the photograph below, by Dai Hunt, (DHUNT1-026 in the club photo archive), Penybont is the smallest building, closest to the bridge and partly obscured by the terrace. The field across the main road now has Ashford's 'stone circle' to adorn it!



The cottage at Penybont

Noel Dilly

I started caving in 1948, as a very small Boy Scout, with a visit to Porth yr Ogof. I did not have a light but followed in the beams of the torches of others. Afterwards, I asked for a map of the cave, only to be told that there wasn't one.

I loved maps. Suddenly, here was what seemed an unbelievable opportunity to make the first map of a place on Earth! My dreaming of making a map of the moon using my tiny telescope vanished. This was a real hands-on challenge, but how was I to do it?

After a geography lesson at school, I asked the master about the problem. He soon realised that theodolites and the like were beyond my means, but he remembered an ancient book by a bloke called Agricola, "De re Metallica". It was about mining and had some descriptions of early surveying methods.

Off to the Cardiff Reference library. "Please can I borrow De re Metallica?" "No!" My disappointment was obvious, and the librarian relented when I explained the reasoning for my request. "Well", he said, "we do have access to a copy. You must turn up next week with clean clothes, scrubbed hands, and no tie"??!! Deep mysterious instructions for a 13year-old. At the appointed time I turned up at the library desk and was ushered into an inside room to meet "the" librarian. I was sat down at a large table and a box was brought in. The librarian explained that this was a rare book, almost 400 years old, and that it was a treasure that had to be treated with great respect. He put on some white gloves and revealed the volume. He told me that old books were often called 'volumes' because they consisted of several books bound together. This precious volume consisted of twelve books; nowadays, we would call them chapters. Carefully, he turned pages; I was horrified to find that it was written in Latin; however, many pages had drawings.

I became almost too eager and tried to point out something that looked useful for my quest. Horror, as the book was pulled out of reach.

Then a happy grin covered the librarian's face. They did have a 1912 translation in a mining journal, and I could have a look at that and actually turn the pages for myself. Supervised at first, I was soon left alone with the bound journal. Several visits to the library later, and a very steep learning curve on how to take notes, I had a remote idea on how I might try to survey a cave. Book Five was (excuse the pun) a mine of information.

Now all I needed was a cave near enough to Cardiff for me to reach on my eleven-plus bicycle. The scout master thought that there was a cave in the Lesser Garth Mountain but had no additional detail. Eric Inson, my classmate and best friend, was easily recruited to help with the search. Together we scoured the hill for several weekends without success, until we met a boy who knew where the entrance was. It took a bribe of a whole shilling to get him to show us.

Candles were our lighting, fear inhibited our exploration, and torches provided the reassurance, especially as we stored the spare batteries and bulbs safely inside the entrance!

Slowly we learnt something of the problems of surveying underground. The maths to reduce the measurements to Cartesian coordinates was all done using logarithm tables, until Eric learnt how to use a slide rule. Plotting was all protractor and straight edge. The results were primitive, but we were delighted with our own efforts.

A visit to the Iron Ore Mine with a bunch of our school mates was full of excitement until we heard footfall along the passage. We froze! Three real miners with proper lights appeared. They were so friendly and reassuring. It was thus we met the SWCC members Glynn Owen Thomas, John Alexander and Malcolm Hourahan. What an inspirational event for us. They invited us to join their trip.



The meeting in the Lesser Garth Iron-ore Mine with John, Malcom and Glynn. My entry to the SWCC. Dramatis personae: left to right, Back Row: 'Mazie', Malcolm Hourahan, Glynn Thomas, John Alexander . All SWCC. Front row: the schoolboys: Eric Inson ,Luff, Hughes, Davies, Radcliffe, Noel Dilly. Photographer unknown, image courtesy of the author.

Eric and I were exhausting them with questions, but they answered everything, and even lent us some real caving lamps. Helmets were more fun! They were made from WW2 air raid wardens' helmets with the brims cut away. We must have been quite a nuisance as we attached ourselves to their every trip.

Many adventures later, my mother, who was worried by this bizarre behaviour, tried to discourage me by showing me an article in the South Wales Echo about two cave surveyors, who were members of the SWCC, being trapped underground in OFD by flood waters. Cave surveyors, SWCC, Glynn. That was too good a chance to miss.

I pestered Glynn until he agreed to take me to the club at Easter.

My parents were ambivalent until Glynn brought his underground photographs to show them; they might have been otherwise disposed had they known the source of the flash. Glynn's homemade flash bombs (there really was no other description) consisted of cardboard tubes stuffed with magnesium and aluminium powder and coated in candle wax to keep the contents dry. A small hole drilled in one end of the cylinder had six inches of safety fuse protruding.

Lighting the fuse became my ambition, until the first experience. Glynn practiced the run back to his cover, then he lit the fuse as John Alexander and Malcolm cowered down behind a large boulder. After what seemed an age, there was an enormous bang; the chamber filled with a dense, white vapour and we had to wait for several minutes before we could recover the camera.

The trip to Penybont from my home in Cardiff was by train and bus. The bus progressed slowly up the valley through villages with musical sounding names. Then finally it stopped at Craig y Nos Castle. "Terminus," announced the driver. "But", said Glynn, "the next stop is Penybont". "Oh! We only go that far if we have more than six passengers. There are only three of you. However, since you have so much baggage, I will take you there this once!".

The cottage was a small whitewashed building just down a dirt track. It was a real "two up and two down", with tiny rooms. The front door opened directly into the living room and the foot of the well-worn wooden stairs. Downstairs, besides the living room, there was a minute kitchen; upstairs, reached via the staircase, were two tiny bedrooms crammed with double bunks. There was electricity and running water (**cold** water) in the kitchen. The loo was an outhouse with a mysterious bucket. At the other side of the building was a falling-down outhouse used to store a pile of genuine Welsh anthracite that was used to keep the sitting-room and the rest of the building "heated". The living room had a table and two benches suspiciously resembling pews; there were other rickety chairs, and an armchair with a distinct lack of springs.

Just inside the front door was a logbook where notes were left on projects, ideas and the like. I had a truly inspirational moment when I read Bill Little's account of his being trapped with Lewis Railton in OFD. It simply read "Ffynnon games in Ffynnon Ddu." To me, this was a magnificent understatement; then an entry made a week later in similar vein, "Undamming the damned dam dam it", cemented him as a hero.

A stream that flowed out of Dan yr Ogof ran down on the other side of the dirt track that led to the cottage and past a group of derelict terrace houses beyond. This terrace was grandly described as the annexe! The terrace ran at right angles to the long axis of the cottage.

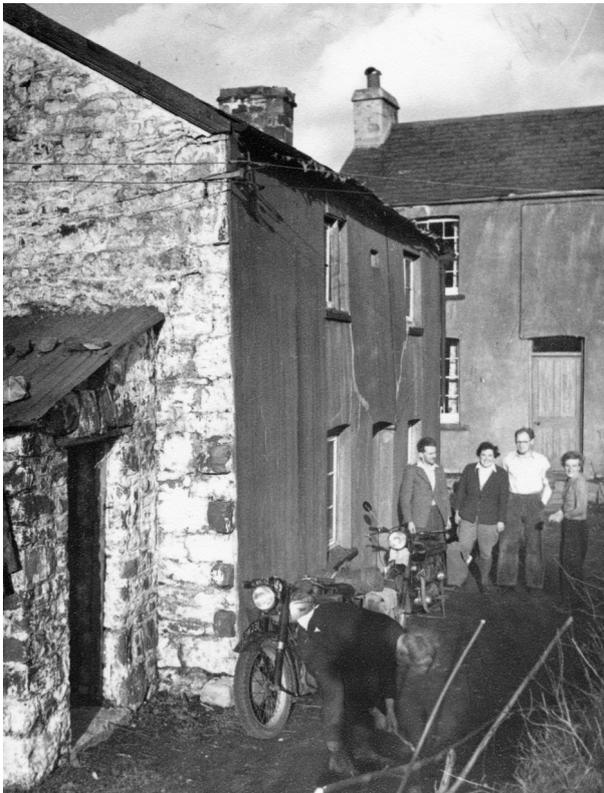
Cooking was done on Primus stoves, but there was nearly always hot water from a cauldron permanently on the open fire in the living room. Washing up was either in the kitchen stone skivvy sink or in the stream outside.



The interior, Penybont. From left, the author, Peggy Hardwidge, John Truman and Les Hawes. This image dates from a few years after the events described here. Photograph by Dai Hunt. (DHUNT1-054 in SWCC archive)

Glynn had timed our trip so that we arrived early on Friday afternoon before other members arrived. This allowed us to bag bunks upstairs in the cottage itself. Others not so fortunate, who came later, had to hazard the rickety structures of the annexe. The more elite members often stayed at the Ancient Briton.

First to arrive at the cottage was a founder member of the SWCC, Peggy Hardwidge. She came from Bristol on her motorcycle! In 1952, something of an eye opener for me. Di Hunt followed soon after, again on a motorcycle. The cottage was soon crowded. Then to my great joy the surveyors Bill Little and Lewis Railton arrived, together with Marjorie Railton and a “pack” of Dachshunds. Then appeared someone of obvious authority: Peter Harvey. Since I was just sixteen, he had to be consulted to confirm that I might stay. A quick interrogation, his severity quite ruined by the mischievous twinkle in his eye, and he agreed, and said that he would vet my abilities as a potential member on a trip next day. He was taking some novices along the OFD stream passage and I was to join them. Just like the threat of exams, tomorrow could not come fast enough for me to face the challenge.



Left: outside Penybont with the ‘Annexe’ in the background. From left : Lewis Railton, Anne Ockenden, Dai Hunt and Marjorie Railton with Bill Little in the foreground cutting firewood, but no Dachshunds! Photograph: Seaton Phillips (SP4 in SWCC archive)



Right: The author at the old entrance to OFD. Photographer unknown. Photograph courtesy of the author.

My solitary recollection of the trip was the exaltation when, halfway along the stream passage, Peter said, “Go to the back of the party and keep an eye on those three clumsy novices”.

The trip to OFD from the cottage was walked (!), crossing the river Tawe at a shallow ford in a nearby field and following a riverside path to the cave. On the way back, by the same route, we were a muddy bunch and I wondered just how were we to get clean?

At the ford, Peter solved this problem; he sat us down in a deeper bit and we washed a vast amount of mud off both our boilersuits and ourselves. There were no wetsuits, so it was a chilling experience.

Saturday evening, nearly everyone adjourned to the Gwyn Arms. I was taken along and bought a beer. It seemed quite a thrill to be contravening the age restrictions. The real pleasure of the evening was the singing, not just by club members but by other customers. Sometimes the songs were choral; however, there were some superb voices, and the cry of "one voice, boys bach", would herald delightful listening.



***The author, "at the step in the days when men were men and wetsuits had not been invented".
Photograph courtesy of the author, photographer uncertain.***

Back at the cottage that evening I was soon off to my sleeping bag, only to be awoken by Peter Harvey rummaging beneath my bunk. He apologised for waking me but said that he was collecting some of his explosives, stored under the bunk, ready for an excavation next morning! I had some difficulty getting back to sleep.

Next day, I was taken by Bill Little on a conducted tour of the pre-war but now-closed show cave, Dan yr Ogof; I was able to talk about surveying inside a cave with an expert.

I was allowed to join, and the cottage became a major, important place in my life. Schoolboy economics necessitated that I had to cycle to and from Cardiff each weekend with my gear in an army-surplus rucksack on my back.

The effort was amply rewarded by the education I received from such an inspiring membership.

Memories of Penybont, Llynfell

Keith Ball

First Impressions

In 1953 a group of us in the Lower Sixth form of the Bishop Gore Grammar School, Swansea, thought it would be a good idea to start investigating caves. I had bought the small pocketbook, "Britain Underground", and in this was described a cave near Craig Y Nos, (Ogof Pant Canol), which had a lake. I was vaguely familiar with the area from occasional trips on the 28 bus service (Swansea to Brecon) to visit relatives at the Cray Reservoir.

On a Saturday morning eight of us boarded the 28 bus in Swansea and headed north-east along the Tawe Valley. On the expectation that a pond was bigger than a pool and that a lake was likely to be bigger than a pond, we thought it a good idea to obtain a rubber dinghy. We consequently had borrowed a seven-man rubber dinghy from the Air Cadets. Descending from the bus at the turning to Penwyllt, we made our way across the Tawe and started uphill.

The rubber dinghy was a real pain, it took three or four to carry it; eventually, it dawned on us that it might be a good idea to hide the dinghy and try to find the cave first! We headed further uphill to the quarry at Pen y Pant and asked the workmen there where Ogof Pant Canol was. They, not surprisingly, did not know. We eventually found what later proved to be the Ogof Pant Canol entrance and decided that even if it was, we would be unable to get the dinghy through the entrance. Abandoning all thoughts for caving on that day, we made our way back to the main road and eventually on to Penybont, where I had seen the presence of the South Wales Caving Club from the bus. We were made very welcome and invited back the following weekend for a real caving trip.

We turned up in eager anticipation the next Saturday, with what we thought was suitable clothing: ARP boiler suits, some ARP metal helmets, others with miners' helmets, hand torches, wellies. Dai Hunt and Dick Underwood were our leaders and led us out, wading through the Tawe and into Ogof Ffynnon Ddu. The route was up Stream Passage (water level 4 inches over the step), up into the Rawl Series and out over the old Escape Route. Wonderful.



High jinks outside the Annexe! From left: the author, unidentified, John Alexander, Bill Little, Clive Jones. Jill Upton (later Birchenough) in stretcher and possibly Bill Birchenough in background. Photographer unknown, photograph courtesy of Noel Dilly.

Other Memories

One abiding memory is of floods, and the number of times I walked downstairs into a flooded common room. (It was worse in the dark!)

One August Bank Holiday weekend it was planned to have a large, combined push at Ffrydiau Twrch, led by Peter Harvey.

In those days the bank holiday was at the first weekend of the month. It was thought that it would be easier digging if there was a copious flow of water from the resurgence, as it would wash some of the lighter debris away. The Rev. Cecil Cullingford (Editor of "British Caving") turned up briefly and helpfully said a short prayer for heavy rain. The prayer was extremely successful... it rained ...and rained ...and rained. Even by local standards it was heavy. The cottage, of course, flooded and the party who had decided to camp at Ffrydiau Twrch abandoned the camp. Someone commented that it was as well that Billy Graham was not there to help as well.

In those days we used to get WINTERS, and other abiding memories remain of feeling cold at the cottage, roaring fires in the Gwyn Arms, Scwd Ddu freezing over, and hunting for hot air mines.

The cottage was a standard two-up/ two-down building, with the larger downstairs room used as a common room, the larger upstairs room as the gents' dormitory and the smaller room for ladies. Strangely (?), this room had a lock on the outside.

As a junior member of the club, it was fairly restricted as to which caves were open to you. You needed to be a leader for Ogof Ffynnon Ddu and the Dan yr Ogof cave was shut. This meant that the only large cave open to you was Tunnel Cave, which one got to know quite well.

However, in 1956 the National Eisteddfod was to be held at Ystradgynlais, and it was decided to open part of the showcave (DYO) to the public after several years of closure. During refurbishment involving removal of large deposits of silica sand, renewal of the lighting system etc., the cave was partly opened, and we youngsters were able to enter. We had a great time getting to know that part of the cave on the entrance side of the lakes.

At one weekend during this open period a small party including Peter Harvey, Lewis Railton, John Hartwell and I entered and may-poled into some high-level passages. The Long Crawl was investigated almost as an aside on the way out. The strong draught often blew out our carbide cap-lamps. We struggled on as far as the Horse Trough. Lewis and John then spent about half an hour struggling on, until they reached a point where they could actually turn around and return. Peter and I waited at the Horse Trough, getting progressively colder in the strong draught. Eventually, the others returned full of enthusiasm and we made our way out, making plans for another attack on the Long Crawl the next weekend with better clothing, especially something windproof.

Unfortunately, the cave was closed down again during the next week. If Only.



Below: More high jinks at Penybont.

From left: Edward Aslett, Dai Hunt, David Jenkins, Glyn Thomas, with Lewis Railton over the Llynfell stream.

Photographer, Brian Jones (BDJ1_001 in SWCC archive)

The Move to Powell Street

In early 1959 the SWCC was poised to take possession of Powell Street, for which they had paid £200. To put that in perspective, a new 'Mini' would have set you back about £500 at that time, so the club got a bargain!

The report in Newsletter 26 of February 1959 reports the imminent purchase as follows:

NEW H.Q.

Members will we hope be glad to hear that the Club will soon possess a row of 10 cottages at Penwylt including one occupied by a sitting tenant, and a fully equipped Mission Room. On the wall of the latter there is an excellent print showing the Broad and Narrow Pathways which the Editor hopes will be carefully preserved for future generations of cavers to read and take note of. Oddly enough, one of the last items approaching the Gates of H— is labelled "Sunday Trains", which perhaps accounts for the fact that there aren't any in Breconshire.

It is pleasing to note that the Broad and Narrow Pathways print has indeed been preserved by and for subsequent generations, but I fear few have taken note of its moral messages!

Subsequent Newsletters from 1959 and 1960 describe the mammoth task of converting cottages 6 though to 10 into the living quarters, installing a boiler, toilets, showers and laying a sewer across the carpark to the freshly excavated septic tank. Frequent appeals for both donations and labour were made, so on that front, at least, little has changed!



Constructing the septic tank, summer 1959.

Personnel being, from left: Dai Hunt (squatting), possibly Bernard Woods, John Hartwell (holding brick) Clive Jones, unknown woman, Gordon Clissold, Bill Little.

Image from SWCC Archive (PIWH3_055), photographer either Peter or Phyllis Harvey.

And, finally, in Newsletter 33, in August 1960, the following was reported:

IN RESIDENCE AT PENWYLLT.

"By the fruits of thy labours....." says the text chalked on the Common Room door in the new H.Q. Perhaps we haven't come to the end of the labours yet, but since we've moved up the hill it has made things a good deal easier, for after a hard day it is most agreeable to be able to soothe away one's aches and pains under a hot shower from our most efficient plumbing system. Any male member of the Club who has tried to sleep in the same bunk-room as the hot water cylinder will realise the truth of that statement, though, I can see that in winter beds next to the tank will be at a premium.

For the benefit of prospective visitors who may not be aware of what the new H.Q. has to offer, the row of 10 cottages is divided into 4 and 5 by the cottage occupied by a tenant, and a public right of way through an entry which bisects the block. The block of 5 has been made into living accommodation, while the block of 4 has become

drying, changing (with a cold wash sink), tackle rooms and storage space. Each cottage has 4 rooms - 2 up and 2 down, so that the ground floor of the 'living' end forms a double kitchen (wash-up and cooking), double dining room, entrance hall and small common room (with boiler), one large common room formed from two of the original rooms (and once a mission room), and a fuel store and records room. Upstairs there are 3 ladies bunk rooms and 5 men's, each group having its own showers, hand basins and W.C.'s, providing a total of some 52 beds. Full h. & c. running water is laid on and drainage is to our much celebrated septic tank down the garden.

The tenants in cottage No. 5 were the Burton family: Bill Burton, who was the manager of the quarry, his wife Betty, and their two daughters. They continued to live there well into the sixties, before eventually moving to Hillcrest, the bungalow set back from the road, on the left as you come up the hill to Penwyllt. Betty Burton still lives there.

The initial phase of the conversion had been quite limited. The front doors to cottages No.7 and No.9 had been blocked up and 'knocking through' completed where necessary. The front door to No.10 was retained to begin with, perhaps as a fire escape, but was blocked up some time in the mid-1960s. Chimney breasts were retained and, in most rooms, fireplaces were extant, or only crudely blocked up. Some of the fitted cupboards on either side of the downstairs fireplaces were used for personal storage by some members.

The source of hot water was a coal-fired 'Ideal' boiler in the Small Common Room, fuel for which was stored in one of many ramshackle tin sheds opposite the main building. This, of course, was locally sourced, as there were many working collieries just a few miles away. The hot water cylinder was situated in the alcove in the back bedroom of No. 8, and Bill Little had the bunk adjacent to it. The mythic reputation of this room must surely date from the very beginning, when it was one of the few warm rooms in the building! The boiler also fed two cast iron radiators in the dining room.

Cooking was done in the back room of No.6, with storage and sinks in the front. Certainly, by the time I first visited in 1964, cooking was on cast iron 'boiling rings' standing on a sheet-steel work-top. These were fed by tall, green, butane cylinders stored in the front room. A health and safety nightmare by today's standards!

There was one shower in the front of No. 8 and one in No. 7, the shower trays being of home-made concrete construction, masterminded by Dai Hunt, I believe. The shower 'curtain' was just a sheet of heavy-gauge polythene, which naturally became pretty ranky.

Cottage No. 4 was unaltered and was used as family quarters to begin with. It was only when the Burtons moved out, some years later, that No. 5 (having larger bedrooms extending over the alley) became family quarters, and it was later still before this was knocked through to No.6.

Cottages Nos. 1, 2 & 3 were variously used for tackle storage, workshops and changing. The HQ became a designated Mountain Rescue Post, and the equipment supplied by the Mountain Rescue Committee was stored in one of the upstairs rooms to begin with. The conversion of the ground floor of No.2 into a garage for cave rescue took place in the mid-sixties.

There can be little doubt that the move from Penybont to Powell Street had an impact on many aspects of the SWCC. Clearly there was some trade-off between the intimacy and camaraderie of the old HQ and the relative splendour of the new. Some die-hards clearly missed “the old days”. But the world at large was moving on, and such luxuries as hot running water and inside toilets were becoming commonplace. It seems quite probable that the significant influx of new, young members of my generation, which occurred in the mid-sixties, was, at least in part, a consequence of there being space to accommodate them.

I also believe that setting aside a cottage for families was exceptionally far-sighted; it did much to allow caving couples to remain involved in their sport after having children, which in turn brought about the phenomenon of second and third generation caving members!

And it should not be forgotten that the Balinka expeditions were conceived very soon after the SWCC’s move to Powell Street; arguably, the intense engineering activity that made the expeditions possible could only have happened with the workshop facilities to hand in the new HQ.



Powell Street soon after the SWCC moved in. Image from SWCC Archive DHUNT1_010.

Clearly visible in this image is the historic vehicle route to the HQ, turning left at the top of the hill, by Maes y Crug, crossing the railway bridge and coming down through the quarry buildings. At this point the railway line through to Sennybridge and Brecon was still operational or had only just closed to passenger traffic. The signal box at the station can be seen partly obscured by shrubbery. The skyline, top right, has largely gone, giving some clue as to just how much stone was removed over just a couple of decades of intense quarrying. On the left of the picture is Kershaw Terrace, which I think comprised four dwellings. Bill Burton’s mother continued to live there as the only resident until her death in the mid-1970s, after which the whole terrace was demolished. It is interesting to note that the rowan tree outside No. 10 was up to the eaves even then. It has survived well.



Powell Street in 1966, photographer Glyn Genin. From SWCC Archive (BAL 0065)

This photograph shows significant developments in the quarry over 3 or 4 years, with a lot more plant, a large working face and extensive stockyard. Associated with this is a tipper lorry parked just beyond the club carpark area. The Brecon firm of haulage contractors, Stephens and Chambers, had a fuelling point there. It is just possible to pick out their green diesel tank on top of a railway-sleeper structure close to the lorry. The 'ramshackle tin sheds' are evident in both this and the previous image.

It is also interesting to note several children playing outside Kershaw terrace, one on a swing, the other on a bike. Whether there was a family in residence I do not know – they could just be the Burton's children under the watchful eye of their grandmother!

The red and cream car that appears in both images I remember as being Gordon Clissold's Hillman Minx estate, which I believe had done sterling duty on several club trips to Yugoslavia.

Another point to note is the absence of trees. During the 1960s Bill Little made great efforts to plant trees whenever he could, protecting his plantings with all manner of improvised fences. It was only much later, after the SWCC was able to purchase the gardens, that more extensive and more formal tree planting became possible.



Photographer: John Stevens. John was a member in the late 1960s and early 1970s. Image soon to be added to the SWCC archive.

The photograph above is from about 1968. It shows that, in the eight or so years since the SWCC moved in, little had changed externally. The porches are as they had been. Kershaw Terrace is still standing, as are a good many rusting sheds. The white butler sink with standpipe outside No. 6 was a fixture that persisted for many years after this photograph was taken.

A notable feature is the pile of railway sleepers partly obscuring the rear of the Landrover. These were all that remained of a bigger pile that had been purchased to support club digging activity. (In reality they proved far too big and cumbersome to be of use in any but the most mechanised of digs.)

Epilogue

And so, over just two decades or so from the SWCC coming into being, it had occupied not one but two Headquarters buildings and along the way discovered, surveyed and conserved some of the most important cave sites in the UK, as well as undertaking a number of important expeditions to foreign parts.

There seems little doubt that having a 'club hut' not only brought a great many practical benefits but was also of incalculable value in nurturing the developing club identity over those early years.

Flooding in Ogof Ffynnon Ddu: A Supplement to NL136

Collated by Bob Hall

The assembly of material on this subject, published in Newsletter 136 last December, has generated significant interest in this topic with the result that we have had a number of new contributions of interest. Meanwhile, the early part of 2020 brought a sequence of significant storms with the associated flooding events in the Welsh Valleys and elsewhere to remind us that extreme weather may well be the future norm and flooding a topic worthy of continued study.

What is presented below commences with a brief discussion that took place regarding Claire Vivian's description of her trip in OFD 1 in the summer of 2017 and is best read in conjunction with that article. (Page 17, NL136, December 2019.)

Soon after NL136 was published in mid-December, Tim Lewingdon emailed Graham Christian and others as follows. Tim had also been leading a party in OFD 1 at the time of Claire's trip.

"Firstly a big thanks to Elaine and Bob for putting the newsletter together and especially for the themed section on flooding in OFD, both interesting and a cautionary tale for all.

For those interested in such things I have a some additional information to add to Claire's 2017 account. On our way out of the cave we went back as far as the step to check on the water level before coming out. Not sure why we did so now, perhaps things were a little louder than usual. Levels at the step were high, but it looked safe enough to dip myself and check the depth, it was just below my crotch, so perhaps 32 inches. (Using imperial units, because my trousers do)

We exited safely and mentioned this to Graham as an "unofficial " measurement, and as a possible cause for concern for Claire's party, depending on where they were. The key information I have forgotten is the time of this 'dip test' . I think this observation confirms that the high levels seen by Claire were also high at the step, so why did the gauge not see them?

- Are levels at the gauge and step different?
- Did the gauge fail under these conditions?
- Did the water rise and fall inside the gauges time period?"

Graham replied:

"Good questions, well put.

1. The gauge sits in a pot, such that even in no-flow conditions, there should be a depth of 500mm or thereabouts registered. The guide depth of 6" at the Step appears to be about 800mm registered at the gauge.
2. I do not think that the logger box (supplied by Stuart France) failed. (It appears to not be logging the levels now, although the sensor and receiver circuit seem to still work.)
3. The time period for logging is 30mins, on the hour and half-hour. It is quite possible that a level pulse with a duration of less than 30mins could go through the system and not show on the log.

In the trials that I have been doing for the new system (pending grant and purchase of higher quality kit), I have been logging at one minute intervals. I have been getting stupid readings, but they may be due to turbulence and I need to look at "stilling" the second gauge - in low water it seemed to behave itself. However, in a period of low water when the readings seemed correct and consistent, I did detect a 50mm rise and fall over 10 minutes. IIRC this was at 7:30ish in the morning and there had been no rain.

Continues on next page....

If we can spare the electricity, I hope that we will be able to continue to run the new system at 1 minute intervals and trap any relatively short pulses in level. My setup at the club is logging to two 'SQLite' tables: one for the minute readings and one for the half-hours. I intend the half-hour table to ultimately supply a live graph on the network, alongside the rainfall. (I need someone to set this up - my efforts are not satisfactory!!)

It may be useful to have a logbook and measuring stick at the step for an extended period to provide a series of comparative levels for "calibrating" the gauge depths. (Or following Andy's comments, a space on the call-out tickets for inside leg measurements.....)"

Whilst researching material for this Newsletter I came across a historical account I had overlooked when preparing NL 136. The following is taken from pages 16 and 17 of the 21st Anniversary publication and reinforces the point, already abundantly plain, that the OFD streamway is a fickle entity. Sadly the photographs alluded to have not been tracked down.

"On Sunday, November 3rd, 1952, Peter Cooke, a visiting Wessex member, Roger Smith and myself went upstream to the Railton-Wilde Series to do some photography. The water was about six inches over normal which made Stream Passage rather sporting. About an hour was spent taking pictures and then we returned to the stream to find the rising running much the same as before, but we noticed how much quieter it was. It was only after a bite to eat that we noticed that water was coming down Upper Flood Passage from the Boulder Chamber, so we hurriedly collected our gear and made for Low's Passage. The water there was already six inches deep but as this was an opportunity not to be missed we went on to Boulder Chamber, having a little difficulty in crossing the pot just beyond the waterfall. The floor of the chamber was under four feet of water which was issuing from the base of the boulders. A few minutes were spent in taking a photograph and we made a hurried retreat to Low's Passage. Arriving back at the step via the high level route we found four feet of water coming down.

"In February 1953 we again had the chance to see the flood water rising only this time we watched it from the beginning. It was raining quite heavily outside and with stream six inches over normal again. John Truman and myself went straight up Stream Passage to Boulder Chamber, hoping for a high flood. We were not to be disappointed. As has already been pointed out there are several points where the stream can be heard along the southern wall, the main one being in the floor near the boulder fall. This, however, was quiet, the passage below being already full. The other places are fissures between there and the top end of the Waterfall Traverse, but the usual drain like noise was replaced by curious bell-like noises which gave way to rumblings and bangings gradually dying down to nothing leaving just the noise of the waterfall and the distant rising downstream. This rather ominous silence found us wandering up and down the wall wondering just where the flood would break through. But no, it just crept up on us, just the smallest trickle of water at the furthest fissure downstream, gradually creeping across the chamber. Then another fissure started leaking, and the depression in the floor started to fill up. The silence was broken by the water pouring into the topmost pool and so into Upper Flood Passage. The dig of June the previous year filled up very slowly, with no visible current which shows that the passage under the floor takes but a fraction of the total flow. The noise increased to a roar and soon that water started to come straight through the boulders. As the water was approaching waist deep another picture was hurriedly taken and we made our way to the safety of Low's Passage."

(D. Hunt)

Maximum and Minimum

Clark Friend and Chris Grimmett

Following from the article on the OFD Main Streamway (NL136), there was a request for further observations. Here we offer the highest and lowest water levels observed at The Step in OFD 1. CMG and I were present at both occasions.

The maximum water level we have observed was on the 31st January 2004, when the third series of OFD radon detectors was being laid out. As the previous two experiments had been carried out with OFD 1 set out first, this was going to be no different. CMG had gone on ahead as I was setting out the detector at The Toast Rack. Approaching The Step, I enquired as to how much water was on The Step, only to receive the reply, "What Step?" On arrival, the reason for the odd response became clear, in that there was no Step, the channel was full and water was coming over the shoulder opposite. This approximates to at least six feet over the shelf at the top of The Step pothole, let alone on The Step itself. The water was relatively quiet, and not making the usual rushing noise which is a characteristic of high water levels throughout these sections of the stream passage.

As an observation, the air was rushing out of the entrance creating a massive wind. The radon experiment was terminated and we went to lay the detectors around Top Entrance. When we opened the gate here, there was also air rushing out. This suggests that the sheer volume of water in the cave was causing air to escape through all available orifices.

The minimum levels we have observed came on the Committee weekend in early July 2018. There had been a long dry spell through May and June and there had been reports of the streamway not running. Consequently, CMG and I went to observe the phenomenon of 'no water' at The Step. On arrival, this was duly the case; there was no water of any significance running in the trough underneath The Step, apart for a very small trickle. The first immediate question was 'where does the water in the streamway stop?' We duly progressed upstream to discover that the trickle in the floor was due to small drips from the roof of the passage gradually accumulating. Given the very dry conditions, why were there still drips? We arrived at 1st Pot to discover it static. The pot is roughly vertical and probably around eight feet deep. We progressed up to 2nd Pot, which was also static. This pot is far more intimidating as it is inclined into the LH wall (going up stream) and considerably deeper, probably about 15 feet deep. Worse, on the upstream side it has an undercut. If somebody were to fall in and get trapped below this undercut it would be very difficult for persons on the scaffold bar to extricate them.

By this stage we could hear water flow, and found that the Maypole Chain waterfall was still in action. On arrival, to our surprise, the chamber below the waterfall was essentially empty of water. The water coming over the waterfall appeared to be approximately half to three-quarters of what we would have expected and transformed into a stream running along the LH (upstream) side of the bottom of the chamber. The water was completely taken up by a hole in the floor directly under the lip you stand on to search for the foothold on the underwater stone in the chamber before being able to traverse the LH wall to the waterfall. This came as a big surprise; there is a phreatic system developing below the present streamway that takes a considerable portion of the water coming down the Main Streamway/Nant Newydd that consequently bypasses the next section.

This led to a second question, 'where does the water reappear?' To answer this we went downstream, passing The Step, and then on to the entry passage to Pluto's Bath - still no water in the passage other than that attributable to the accumulation of drips. We then continued down into the passages below Pluto's Bath, which normally are sumped. There was no sign of the bypass water, the passages were dry down to the sump. This means that there is an alternative route for a significant amount of water that never again appears in the known phreatic part of the system.

On return to the Club and describing what we had seen and done, Alan Richardson said "Oh, yes, that last happened in 1976."

OFD in Flood: Cwm Dwr 23/10/04

Andy Dobson

Saturday 23 October 2004 saw Brian, Dave and I on a regular surveying trip to the Big Shacks / Smithy area.

The forecast was for showers, with the possibility of some heavier rain, but as we were going in Cwm Dwr this did not concern us. Water levels were normal on our way in, though this was the period when Dim Dwr had become Grim Dwr, with a long squalid pool in the lowest part, just as it went from hands and knees to nearly flat out. The pool was fed by a tiny trickle down the wall at the elbow turn in the crawl; however, as we were to discover, this was not the only water source topping it up. John Lister and Sam Moore had dug a trench along and through the lip to the calcited down slope so as to prevent it becoming a full duck or sump.

We investigated the upper Jama choke before moving on to our main survey area. Towards the end of our session there was a noticeable increase in drips, both in number and volume. The small stream we were following was visibly rising, while significant amounts of water were falling from previously dry points. We assumed the way out through Cwm Dwr would always be safe, so continued and completed our intended surveying, then started out expecting a rather more aquatic exit than our entry had been.

Initially the way through the choke was merely rather moist; however, at the point where usually you squat down under boulders into the small stream, now a powerful torrent was resurging, with the little streamway sumped. Fortunately, we knew the bypass climb (virtually straight up, then a controlled nosedive down) to the start of the exit tunnel, which was carrying a small flow of water. Out of the choke, the normally ankle-deep streamway was thigh deep, with a fair effort needed to progress against the flow. Further on, the usually dry climb up into the Jama was carrying a strong waterfall, with a plume of water forcefully siphoning out of a previously innocuous hole on the right, making the climb quite awkward in the cascade.

After sliding down the short slot at the top end of the Jama, the low flat out stream section was thankfully perfectly navigable, though very considerably wetter than usual. On the way in I always cleared out the washed-in stones which partially block the constricted outlet, but unsurprisingly the sheer volume of water was causing this to back up. The water level here gave hope that the rest of the way out would be ok. However, standing brown water at the normally dry elbow of the solid-floored crawl belied this - the "confined space" flat out crawl was either sumped or very nearly so.

Brian, as the thinnest member of the team and with considerable Mendip experience in his early caving career (plus being hard), volunteered to try first. With helmet off and nose pressed to the ceiling, he found about two inches of airspace. Though body displacement lessened the airspace, giving nose only above water at the critical point, he held his nerve and made it through. With pioneering Brian successfully through, Dave followed next, while, as the "fat b*st*rd" of the three, I waited till last. Pushing the tackle bag through proved interesting, as the Daren drum we kept the survey kit in made it super buoyant. Then with helmet and glasses off, it was my turn to closely inspect the roof of the crawl, while trying to avoid creating too much of a bow wave. Massive relief and grins all round once we were all through.

A stream was flowing down the calcited slope and consequently filling up the crawl (the lowest point). We followed this stream all the way along Dim Dwr, then the sideways rift passage to SAS Chamber. The stream flowing down the initial calcite-floored crawl, which normally then sank into the rift opposite Charlie's Despair, had cut down along the other wall and, having sufficient height and flow carried on along the through-route into Dim Dwr, then ultimately the "confined space" crawl.

Continues on following page...

After our complete immersion, we hurried out the rest of the way to try to warm up, with no further problem. On exiting the cave, we found Cwm Dwr quarry had become a shallow lake, with a few inches of water standing across the entire quarry floor. Back at the club we were told there had been a cloudburst with considerable localised flooding as drains were blocked by fallen leaves.

Over the next few months, we made a series of trips to try to prevent future sumping of the crawls. We reverted the initial stream back to the usual course, then dug back a trench upslope in Dim Dwr, removing the squalid pool and providing reservoir space, with the spoil used to create mini dams in the sideways rift passage (these have mainly since been flattened by the tread of passing cavers). As is the way of things, a while after we completed this the tiny trickle inlet dried up and Dim Dwr lived up to its name again.

Effects of Storm Ciara

Mark Burkey

On February 9th, 2020, having had Storm Ciara batter Penwyllt overnight, members of Dudley Caving Club and I thought it prudent to change our original plans of an OFD 1 round trip in favour of a trip into Cwm Dwr.

The entrance tube had something of a waterfall running down it at 11:30, which would ensure a good soaking, as one might expect, but there were no signs of higher than normal water levels until just before the choke. Here, the puddles that are normally splashed through were knee deep and the level in the choke itself was as high as I have seen it in the past, with around 16 inches of air-space at 12:30.

The group proceeded onward until we reached the junction with Flood Bypass, passing Piccadilly inlet, which again seemed to flow with no more force than normal at 13:15.

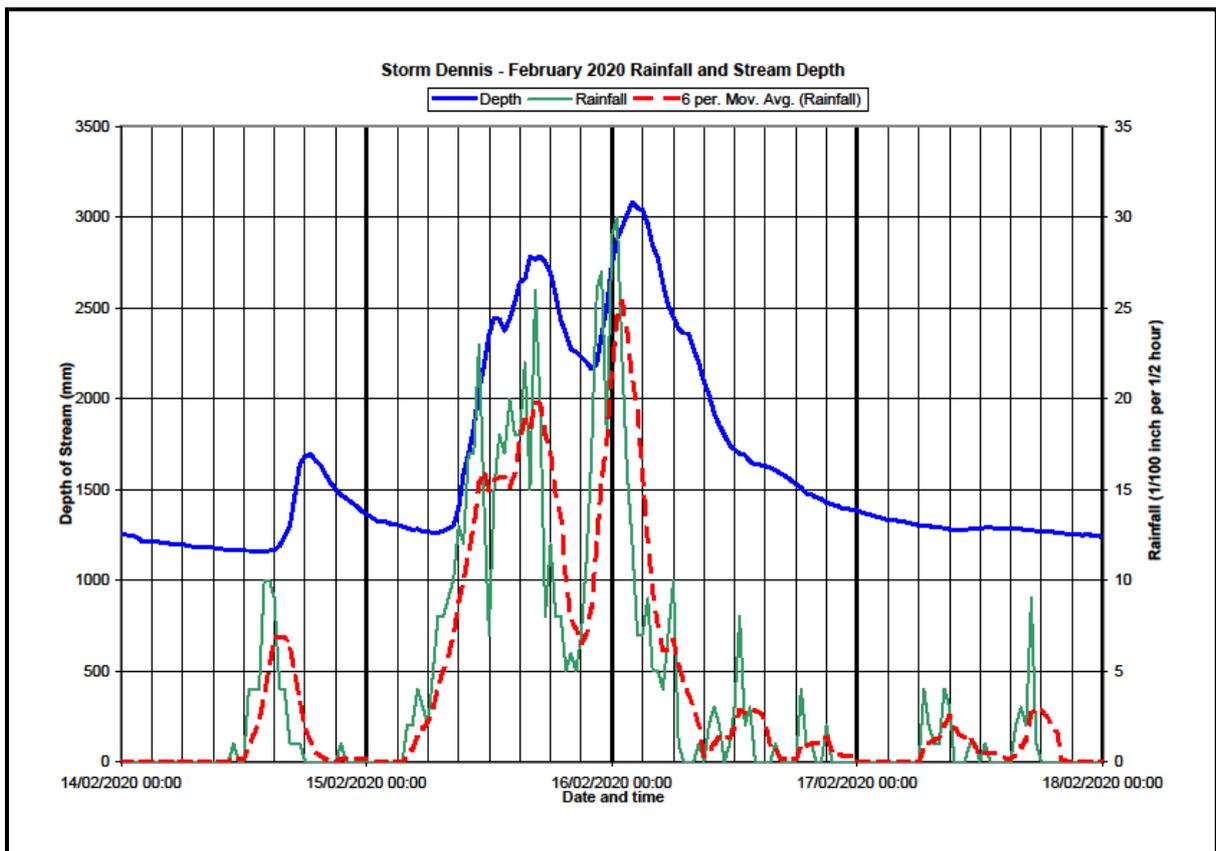
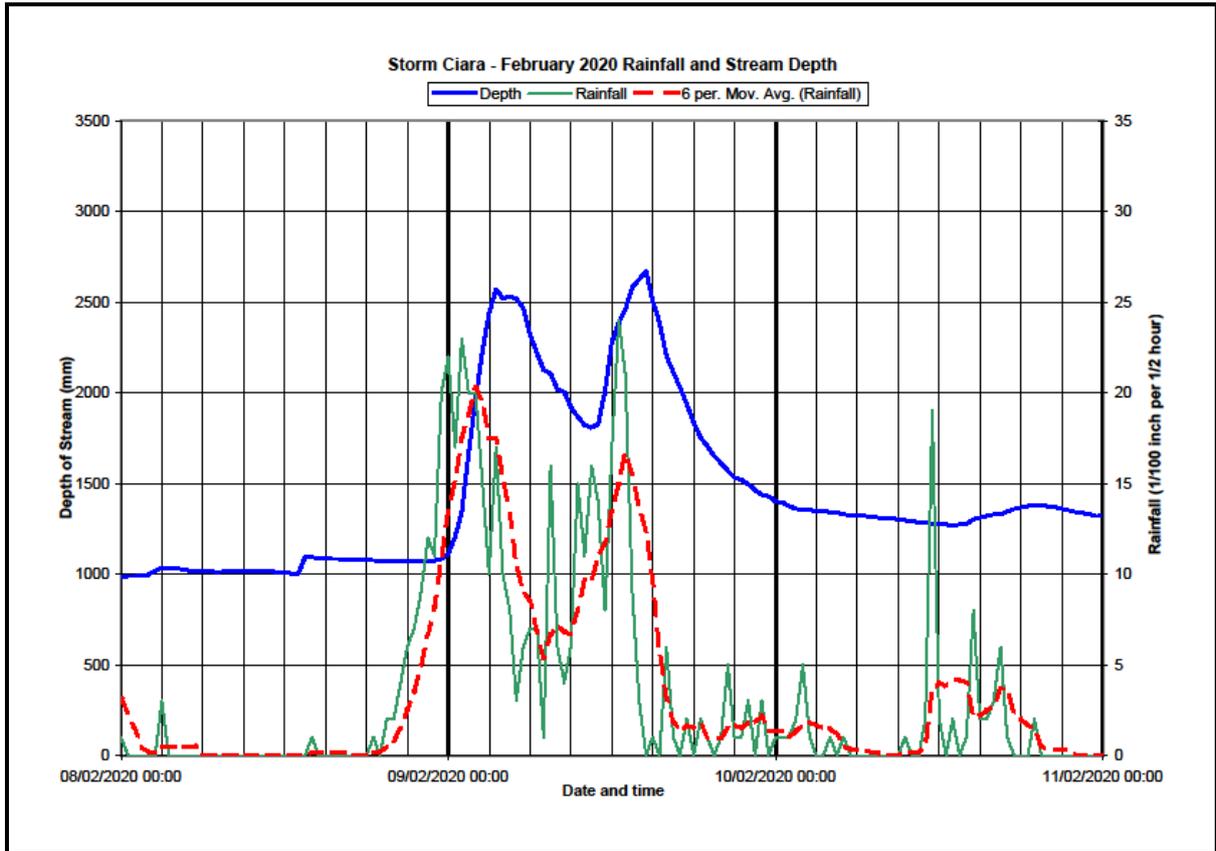
I had never seen water backed up to the junction with Flood Bypass and was surprised to find it waist deep.

The group then popped along to take a look at the Divers Pitch, once again with no more water flowing than normal at 13:40, before heading up to Heol Eira. On our return at 14:00 not only had the water at Flood Bypass risen further, but it had broken over the edge and a couple of feet of water was heading down the previously dry passage toward the Divers Pitch.

A little concerned we headed speedily back to the choke, worried that the water here may also have risen, but found fortunately it had not changed at 15:00.

Editor's Note: I asked Mark to add timings to this article so that his observations could be related to measured rainfall and other data. This would seem good practice in any future reports.

Graham Christian has kindly supplied graphical representations of data recorded for both Storm Ciara and Storm Denis. These are reproduced on the following two pages so any armchair hydrologists amongst you can study Mark's timings in relation to both the rainfall and the level at The Step, some way downstream.



A Novice's Trip in Darren Cilau

Paul Evans

Having hopefully not made too much of a fool of myself at the Clubs beginner's weekend on 2nd /3rd November and very shortly after that on an evening trip around OFD 2, I was lucky enough to be allowed to join the Llangattock weekend at CSS Whitewalls on 30th Nov / 1st Dec. Being fairly local to the area and knowing that Llangattock Mountain contained a couple of large cave systems, I've often gazed across from the top of the Black Mountains on the other side of the Usk valley, wondering what it must be like under there. Needless to say, I was very grateful for the opportunity to join the trip and see for myself those bits I'd spent so long reading about and viewed in online videos.

Saturday involved a trip with Claire, Chloe, Clive and Hywel to Helictite Passage beyond the Fourth Choke in Ogof Craig a Fynnon, a fantastic trip which very quickly gave my brand-new kit a far more 'appropriate' appearance! I always find it difficult to answer the question, "Which bit did you like the best?" That often gets asked at the end of a trip, but on this occasion it's quite an easy answer... without doubt, Helictite Passage...those incredible formations being unlike anything I had seen up until that point. The Hall of the Mountain King and the Severn Tunnel deserve to have a special mention for also being very impressive. I don't know why, but I also really enjoyed the crawl / climb through the Second Choke too!



***Below, and on previous page, two stunning photographs of exquisite formations in Ogof y Craig a Ffynnon.
Photographer: Clive Westlake***



Sunday's trip, however, was to completely eclipse Saturday's. After somehow blagging a spot on the Daren Cilau trip with Tarquin, Claire, Antonia and Sanita who, I'm sure, were all just a little bit nervous about letting someone with such paltry caving experience (of just 4 trips in under a month) tag along.... I can tell you I was far, far more nervous, not because I was worried about what lay ahead (I had a fair idea of that already), but that I might be a burden and spoil their trip by slowing them down. Ever since watching videos several years ago of the entrance crawl to Darren Cilau and what lay ahead, especially in the form of the Time Machine, I'd sort of set a goal of one day being able to visit it. I had no idea, even just a few months ago, that I would have started on the road to achieving that goal by taking up caving, let alone learning on the Friday evening that there was a possibility that I could get this experience ticked off so soon!

The short walk up to the entrance involved a brief explanation of the cave grading system and where Daren Cilau lies on that scale, just in case I wasn't aware of what I was getting myself into... I certainly was aware, though, and still really looking forward to it! As I'm sure any first timer in there must have experienced, there were a few points on the way in where I asked myself what on earth I was doing crawling all this way, but I was actually thoroughly enjoying the challenge of it! I'm sure the team ahead would have heard me laughing at myself every time my obvious lack of technique brought me to a grinding halt until I could sort out my body position to enable me to progress again. I was glad to be following Tarquin through the particularly tight Stal Squeezes section, where good technique was definitely required! Just seeing that someone of a very similar size could make it through relatively easily helped no end, and from there on things gradually got easier all the way to the end. It was a relief to finally get through to Rift Passage, and I wasn't complaining at all that there was going to be a long break whilst exploring the rest of the system before having to deal with it all again in the reverse direction!

The goal for the trip was to reach the Time Machine, which I knew was still a long way on, involving plenty more awkward crawls, squeezes and chokes before reaching the larger passages. What I had mysteriously missed in previous research was the challenge of a fixed 20m ladder, which was yet another brand new challenge for me. Luckily, it proved to look much worse than it actually was, but did make for tired arms on reaching the top... not forgetting, of course, that Tarquin's arms must have been burning with all the belaying required to get the rest of us to the top! With the roped traverse and then the climbs down completed, the way on got much easier, and much more impressive with each step. Having arrived at the Time Machine itself, the sheer scale of the passage wasn't really apparent until we spread ourselves out the full length of the passage whilst posing for Tarquin to take some photos... I hope he was able to capture what I saw, as it was, quite simply, astonishing! From there we took a brief look at Beyond Time and its almost pristine floor covered in gypsum crystals before starting our journey back.

***He did indeed! The Time Machine. Paul is nearest the camera.
Photographer: Tarquin Wilton-Jones.***



A brief lunch break at The Meeting Room and realisation of the time meant that we needed to really up the pace if Sanita was to get back to London before the last tube train for home departed. Having avoided carrying the kit bag at all so far, I took over for a while... I quickly learnt how every single obstacle becomes so much more problematic with a bag, and instantly felt very guilty for leaving the three ladies to carry it the entire way so far. Another very valuable lesson was to come shortly after... keep track of lighting burn time and swap to a spare battery if it might be at risk of dying in a particularly inconvenient spot... like part way down the fixed ladder. Descending, and especially switching, ladders by feel alone makes things much more interesting! Struggling with the tackle bag in crawls somewhere around St Valentines Chamber, (I think), I relinquished control of it back to Antonia, admitting to myself it was going to be quicker for all and time was critical. After stopping briefly at the logbook in Big Chamber Nowhere Near The Entrance, the pace steadily increased to a full on march up Jigsaw Passage, as time was pushing on. On reaching the Breakthrough Choke, Sanita had disappeared into the distance on a real mission to make it out ASAP. Tarquin followed on behind, leaving Antonia and Claire to lead me back out the entrance series.

I moved as quickly as I was able to, but in that kind of crawl it's clear size, experience and technique is key; my brute force approach, applied on the way in, was lacking the same effectiveness through fatigue and getting very hot through all the exertion... the cold water, when it appeared, was a welcome godsend! For the entire way out, I was growing ever more conscious of my resolve, made earlier that day, to try not to slow the group down, but I knew I'd be struggling until at least the Vice was passed. I'd like to think that, through sheer determination and effort, I managed to eventually catch up with Claire, but in reality I think it was her efforts to avoid disturbing a bat, halting her in the process, that had allowed me to finally catch up.

We exited the cave near enough 8 hours after entering, which just left the 10 minute walk back to Whitewalls for a well-earned shower and cup of tea! For me, at least, it was an absolutely epic trip, easily the most physically demanding thing I have ever done! I don't think there is one muscle or joint that wasn't either sore or aching afterwards, and I picked up literally dozens of bruises for my efforts, with shins, elbows and hips coming off the worst.

On reflection, I think that I probably learnt more by jumping in at the deep end for 8 hours in Daren Cilau than in the other 4 previous trips combined. I made several very rookie mistakes, amusing to myself (and the rest of the group when they noticed), that made things difficult and overly strenuous to rectify, which I hope I'd avoid next time. I learnt more about what worked, kit wise, and what didn't, and that brute force and ignorance are no substitute for good technique, though I hope that will come with time and more experience. The most important bit from my point of view is that I don't think I spoil the experience for the rest of the group by slowing them down or becoming too much of a burden!

Pre-empting what some might be wondering, having read all that... no, the Daren Cilau experience has not put me off caving (quite the opposite in fact), and yes, despite the temporary physical pain and suffering caused, I would absolutely, do Darren Cilau all over again in the future!

Clearly, I can't finish off this trip report without several 'Thank You's... Firstly, to the group as a whole, Claire, Antonia, Sanita and Tarquin, for their help and patience in putting up with a novice caver on their trip! Individual thanks must especially go to Tarquin for leading the group and sharing his seemingly encyclopaedic knowledge of the system. Most importantly of all, thank you to Claire... not only for organising the whole weekend but, from a purely personal point of view, for taking what, even to me, looks to be a bit of a risk, in allowing me to join in on this trip given my level of cave experience at the time, but I'm certainly very glad and very grateful that she did!

My First Solo Caving Trip

Kayleigh Wood

It was November 17th and I had planned a trip to Selenite Passage on my OWN, something I had never done before. I woke up and nearly didn't go, as nerves were getting the best of me, but I loaded the car and set off on the 3hr drive.

Got to South Wales Caving Club at about 10am and went in to get my key, still not convinced if I was doing the right thing or not but, having led trips to the Trident and Judge several times, I figured I knew the way, plus, I had gone on the virtual tour of OFD the day before and done the route on there as well.

So, with key in hand and a tackle bag full with kit and a camera box, I set off about 11am and went up the hill.

At the entrance, I sat there and looked out over the hills and thought, "I must be mad", but I gathered myself together and headed in. I got as far the Brickyard and thought, "crap, this is ~~scary~~". It was deadly quiet, other than the sound of drops of water nearby.

My mind started playing tricks on me and I was convinced I could hear people, but I knew it was a quiet weekend at the club, so there weren't many people underground. The quicker I got there, the quicker I could get out, so off I went, down to the Wedding Cake, then the Streamway, a familiar sight, and on to the Mini Traverse, and before I knew it I was at the junction for the Trident and Judge, so, "Good, nearly there", I thought.

I kept going to the Crossroads, went the right way, and got to Selenite Passage. Phew! Now to take the picture. After 20 minutes I was happy with what my screen was showing, so I packed my kit up and away I went, going through the route in my head as I passed each landmark: Crossroads, Trident, Judge, Mini Traverse, what we call the Busman's Stop, up to the Wedding Cake, Gnome Passage, and finally back to the Brickyard and out.

Yay! I had done a solo trip and got a really nice photo out of it.

As, indeed Kayleigh has:



Musings on a Croesor—Rhosydd Through Trip

Words to accompany untitled photographs

Sanita Lustika

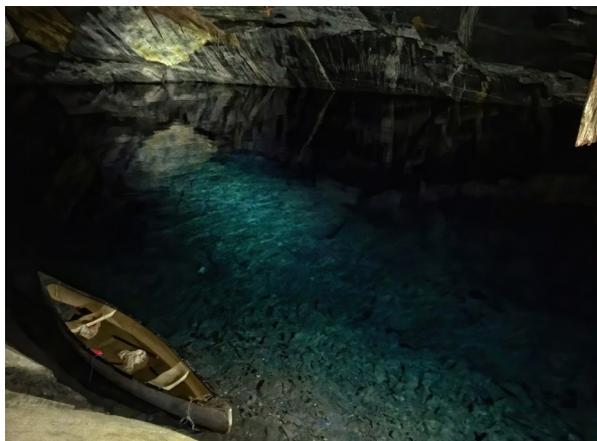
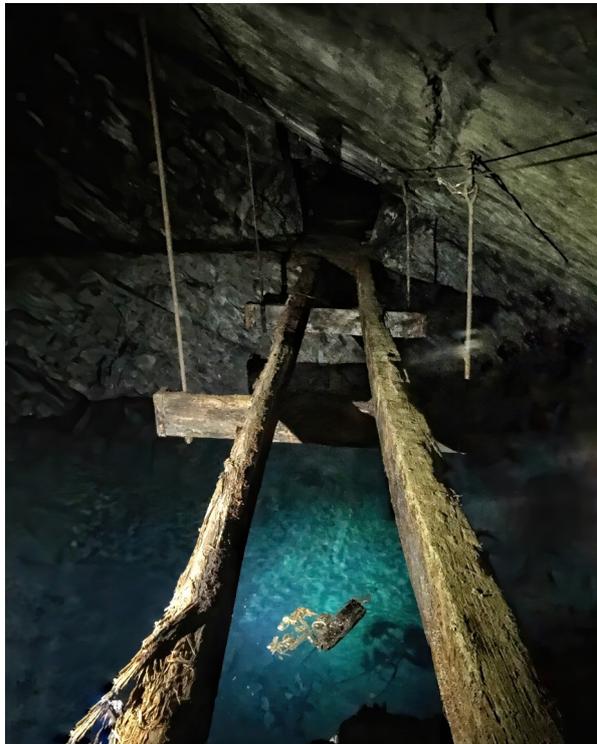
"Mesmerising turquoise water and old relics. There is a charm to mines, with huge lakes and vast, echoey chambers where the light struggles to cut through the dark to reach the other wall. A maze-like playground with crystal clear water to cross, and bridges that do not instil much confidence; however, this somehow only adds to the thrill of crossing them. The relics, especially the large ones, feel almost majestic. And the crumbly texture of rust creates a child-like joy to study them up-close. Maze with collapsed passages followed by a scramble back to the daylight and a sketchy "chimney wiggle" out of the quarry. A proper Sunday trip with excellent Welsh hill views weaving the brown and green tones into beautiful patterns on the hillside.

The only part of the trip that makes the little voice in my head uneasy is the lake crossing. I set up my Stop and descend over the edge a few meters above the canoe. All the time I'm thinking how it will rock over and I'll end up in the freezing cold water (yes, I know, but fear eats logic for breakfast).

I'm almost there, and that's when the descender gets stuck on the stiff rope, just as I'm juggling with one foot in the canoe and the other one on the wall trying to feed the rope through. Those are slow and frustrating few minutes, fed by the fear of suddenly giving too much slack and losing balance. At this point, the little voice in my head has gone a few pitches higher, repeating "why did you do this to yourself, why?!".

The rope finally gives, and I can release the descender. I crouch down and stay dead still during the journey across, with every rocky movement making me grip even tighter to the sides of the canoe. On the other side of the lake, all of this suddenly feels very silly. Funny how I can dangle on the rope looking into dark nothingness and feel excited, but a simple ride across a lake can turn into an emotional rollercoaster."





Photographer: Sanita Lustika

Caving in the Haute Maurienne

Pete Hobson

Once upon a time, about 41 years ago, a Welsh family decided to go on a summer alpine road trip, looking for a couple of ski resorts that would suit their needs over the coming years. They travelled from one village or resort to another, looking for a place that was north facing, had good facilities and, somehow, just felt right. They wanted one to be a village and one to be a resort; in the end they settled on La Plagne and Val Cenise and, in the case of the latter, the town of Lanslebourg. Lanslebourg, although full of hotels like any other town in the Alps, is an industrial town catering to the local farming community, where, if you visit a pub, you're more likely to meet locals than tourists. While staying in the hotel closest to the ski lifts, they soon made arrangements for the children from both their and the hotel's families to do exchange trips, and soon a close friendship developed.

Move on nineteen years; I got involved with the daughter of that Welsh family and, several months later, I found myself in Lanslebourg. Now as you'd expect, I naturally keep my eyes open for anything that looks karst-like, but sadly there was nothing obvious. A few years later still, while Lisa and I were doing a road trip of France involving Brittany, the Pyrenees (the PSM area) and the Alps, Lisa and I decided to do a walk around one of the local mountains, incorporating the 'Signal du Petit Mont Cenise' (3162m). While crossing the Col de Sollières (2639m) in a whiteout, I became aware that we were surrounded by what appeared to be sink holes. I say 'appeared to be'. Why? Because back in 1944, having fought the Germans all the way up through Italy, we, the Allies, bombed the bejesus out of the area so that we could use the Col du Mont Cenise to cross into France (Incidentally, there was only one building left standing in Lanslebourg). I was intrigued and asked my local friends questions but got no answers. The funny thing is, as children, the local kids hadn't been taken up into the hills because their parents were too busy running the family owned hotel.

Over the years we talked about buying a place in the Alps and, because we live on a farm, we thought that we would go for a place in a village rather than a resort, as it would make a change from our usual isolation and, of course, Lanslebourg is the home of many of our friends. So, suddenly the location of our summer holidays became fixed, and soon I was exploring the local mountains (it also meant the end of our participation in club summer (Un)expeditions).

About four years ago, we went for a drive up to a pair of hydro dams above the Aussois ski resort and, while looking across the lower of the two lakes, I spotted what appeared to be a massive rift-like entrance; although I didn't have time to investigate, I knew I would have to do some research. Sadly, searching the Interweb didn't help, but then one evening when looking through the Club's library, I found a book about the caves in the Maurienne/Vanoise area.

I don't speak French, but I was able to discover that there were some caves formed in metamorphic rock in our commune; one of them, the Voragine del Giusalet, looked interesting. Along with a grid reference, the cave's depth was also listed at 232m. I now struck a problem; French topo maps have a range of coordinate systems printed on them. The map I had at the time didn't have a grid printed on it, and the sides were marked in both degrees and grads, and which meridian was being used? Eventually, I got a newer map and it had coordinates in degrees and grads, a grid marked in blue, and figures for an older grid system. So now I had to work out which system the grid reference correlated to.



Everything I tried put the cave in northern Germany, but then I discovered that the first figure in grid references was once left off and this explained why it was a seven-digit number. I also, now having a name for a cave, managed to find some information online; sadly, this information was in Italian. No worries, I thought, just copy the text from the PDF into Google translate but, for some reason, some letters in the text were converted into weird symbols, so I had to create a corrected text in Italian before I could get it translated, and then work out what the untranslatable words meant. Eventually, after many hours of work, I had a picture of the entrance, a description and the location. I also knew that it had a depth potential of around 1000m below the entrance.

It was now time to find the cave. It was going to be a bit of a stomp; about 6 or 7 kilometres up the old World War One military road, with a climb of about 790m. That doesn't sound like much to those of you used to carrying kit up and down the hills of Old Blighty, but the altitude there makes a difference. The first time I ever noticed altitude was about twenty years ago when caution took over from valour and I backed out of a back-country descent off a glacier at 3000m ASL and was forced to walk back up the hill to reach a piste; talk about burning lungs and lack of energy. These days I happily walk and climb at altitudes over 3000m but when you put at least fifty kilograms on your back, the thin air bites back. Next question: would anyone go with me? No; well, not on a first investigation trip. So, one Tuesday morning, nice and early, because Lisa and Arwen were driving over the col to Italy for market day in Suza, I was dropped off with a pack full of gear and strict instructions as to how far in I could investigate.



Arrow indicates the location of the cave.

After hauling my arse up the hill and passing several shafts and entrances, which as far as I know have never been investigated, I found the Voragine del Giaset exactly where I expected it to be. It sits at the bottom of a shallow valley with a small tongue of snow and ice semi-blocking the entrance. In winter, this entrance will be buried under several metres of snow and it only opens in July, when enough snow has melted. Well, it didn't take me long to stomp across the snow and carefully climb down into the entrance, kicking steps into the snow as I descended. Soon I was standing at the top of an awkward climb on a pile of platy slabs of marble. Looking at the climb, I decided that it would probably be impossible to ascend without a handline, and I also noticed a few old spits in poorly placed positions. I tied my old trusty red 1" tube tape and carefully descended in my very unsuitable mountaineering boots. At the bottom of a short slope I found myself at the top of a nice wee pitch with some nice spits. That was it for the day due to instructions from the boss; you don't argue with Lisa, and you don't want to be in a position requiring rescue from a cave that the local French mountain rescue team doesn't even know exists, and when the nearest cave rescue team is two hours drive away near the Gouffre Berger. It was time to take some piccies and go home. I had arranged to be collected from the Col de Petit Mont Cenis, which required me to follow one of the old derelict roads up over a pass and onto another karst plateau, but eventually I found myself, (having explored some military tunnels en route), standing under a pylon looking down a cliff face, and realised that I'd have to retrace my steps and traverse the Pointe Droset, at nearly 3000m, via Fort Malamot, snow drifts and a mid-summer blizzard and near zero visibility; my NZ alpine caving experience was really handy.



Fort Malamot with Mont Giusalet beyond. Vallon de Savine is down to the right

As an aside: the area has been fought over relentlessly for millennia. If you carry on past the cave and drop into the Vallon de Savine, you'll find yourself on the route believed, until recently, to have been taken by Hannibal and his elephants to invade Rome in the second Punic War in Italy (218–204 BC), and until relatively recently, one of the traditional passes between Northern and Southern Europe. High above, overlooking the entrance, you'll find the Fort Malamot (constructed by the Italians in 1889) at 2850m, on the end of a ridge going up to Pointe Droset at 2917m (Monte Malamot in Italian, hence the name). In, around and underneath these fortifications, you'll find tunnels and gun emplacements built by the Italians around WW1, later adopted by the French when the area became French after that war, and then co-opted by the Germans during WWII and, everywhere you go, you'll find hillsides covered with barbed wire and craters. The final thing to add is that there is a line of electricity pylons crossing the mountain. These make a continuous buzzing noise which you can hear down to the second pitch; when the entrance is buried in mist, the pops and crackles make the air feel electric; it also makes your hair feel as if it's standing on end.

Pointe Droset (Monte Malamot) 2917m



Two days later it was time to return, but this time with the family in tow and a pile of rope. Having assumed that I would find the cave, we had packed caving kit for everyone before leaving Wales and given Arwen (aged 11 at the time) some training in the barn. After a two to three hour hike up the hill, I set about rigging the first two pitches before collecting Lisa and Arwen from their exploration of the nearby World War One and Two gun emplacements and, having got them down the two pitches, we headed off down a wee passage. Soon we arrived at a third

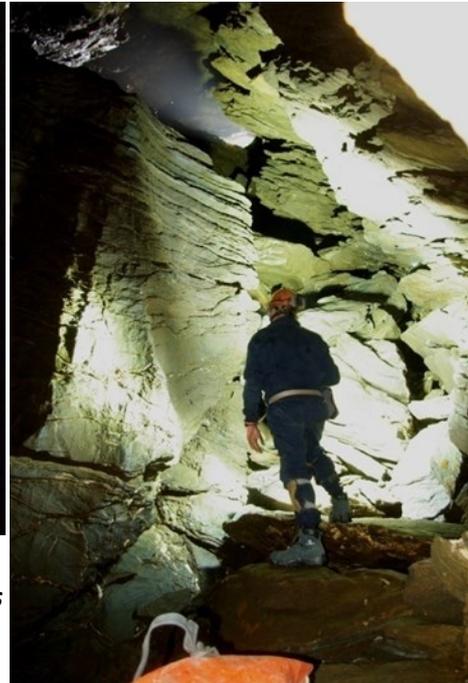
pitch (6m) and, not spotting the spits above my head, I rigged it, in true kiwi style, off some dodgy looking but safe natural stuff. The pitch dropped into a small passage which, in one direction, went up hill and around a corner and, the other way, down into a small sharp crawl.

At this point I should really describe the nature of the place. The cave is formed in black marble and feels exactly like the marble caves of NZ; cold, clean, black, grippy under foot, (like walking on sandpaper), and sharp. The cave has been known for over a hundred years, having been surrounded by barracks and fortifications and, as such, contains all sorts of interesting rubbish: olive oil tins, old boots, the bones of various dead animals etc.



Above: Arwen on first pitch, on her first ever SRT trip.

Right: Looking up the first pitch which on the first trip was climbed with a handline.



Heading down the nasty sharp crawl, which soon ducked under itself, brought us to a thrutchy entry onto a descent, requiring a handline, into bigger passage. Just beyond the climb we arrived at a fairly big chamber, 15mx30m and over 20m high. In the lower right hand corner I found a slot in the floor and kind of worked my way down through some large boulders until I decided, with time limited, that I'd had enough, and so, with the cave wide open, we headed out.

It was to be two years until I returned. One thing had become clear: I wasn't going to have company and two: I was going to have to find out if rescue was available. Eventually I asked on Cavers of Facebook and received a reply from a caver/geologist from Chambéry, who confirmed that cave rescue is available throughout France. Furthermore, through our discussions, I discovered that, although the cave hadn't been pushed, because of the perceived wisdom that major caves don't form in marble, that this had now changed due to what has been found in NZ and that they'd be heading up to push the cave at the end of summer 2018 and that I'd be very welcome to join them. Sadly, my summer trip to the area had to end before they were due to go. There were a few other things to sort first as well: I needed more rope, maillions, hangers, and through-bolts, and this also meant that I needed to construct a new Li-ion power supply for my old 24V NiCd SDS hammer drill; the drill was an interesting project and I obtained a pile of unused, ex-rescue rope, which unfortunately was 12mm, but beggars can't be choosers.



Left: 'Nice and early and feeling fresh'.

Below: 'A pile of gear to haul'.



So once again, in August 2018, I was dropped on the side of the road, but sadly where the public road becomes very rough and therefore a few kilometres further from my usual start point and quite a bit lower. Off I went, kilometre after kilometre up the mountain, lungs burning and back and shoulders aching. After three hours, double the time I expected, I eventually arrived at my destination. Luckily it was a nice day; fellow walkers must have thought I was insane in my wellies and with a massive rucksack. I was also in luck with the entrance: it was open, although clogged with a lot more snow than two years previously. The other cool thing that day was finding that the entrance had been re-bolted, this time with through-bolts, not the nice double-sleeved stainless bolts most of us would use for permanent rigging but rather something from a DIY builders' merchant. However, I knew they were new, there were enough of them for plenty of backup and they were in better locations than the old spits, so happy days. There was one issue though: all my hangers were fitted with 8mm bolts which required some fettling with cold fingers before they could be used. Very quickly I was standing at the bottom of the third pitch, and it was now time to check my first lead. Two years previously, I had wandered a wee way up the passage at the bottom of the pitch and looked through a hole at the top of a small thutch, into what appeared to be a chamber and continuation. Sadly, having passed this obstacle, I discovered that the chamber was a lot smaller than it appeared and that there was no way on. I had hoped that it might lead to a passage bypassing the small, sharp, thutchy passage below.

At this point I made a decision; I emptied my tackle sack of some of my heavier rigging gear and headed into the sharp crawl. I did this because, quite frankly, I was knackered! The crawl was not as bad as I remembered it and soon I was in the big chamber and then into the boulder pile below. At this point I discovered loads of red painted arrows pointing towards the way out and discovered that there was a much easier way down, but soon I came to a boulder squeeze and I was stopped, probably less than five metres deeper than where I had stopped two years earlier.



I suspect I could have forced my way through this gap but I don't think I could have returned. If I hadn't left my hammer at pitch three, I could have continued but, with limited time, I couldn't retrieve it and get back down for a push so, had to head out, with a bit of photography on the way. Again, I can't explain how exhausting I found caving at that altitude. Having exited, I decided that my back and shoulders hurt too much to carry everything back down the hill on my back, so down I went fully kitted, in suit, helmet and SRT kit, with as much slung off my harness as possible. That day I truly discovered what it feels like to be old, with hips, knees, back and shoulders all screaming out in agony, but then again, having had a knee reconstruction a few years earlier, I considered myself privileged just to be up there in the first place. I could barely walk the next day.

Above: The bottom of the second pitch.

Right: End of the day and feeling F-F-F-Knackered!





The Chamber.

It's hard to get any sense of scale: the ceiling is 20m above me and that small, bright object to the left of my head is a large tackle sac on a large boulder.

So, what next? I will return in 2021 and this time I intend to take my time and camp up there. Luckily, although I don't think I'll be joined underground, I'll at least have help getting some kit up, won't be time limited, and so will be able to investigate many of the other entrances in the area. I've also been investigating some of the karst at lower altitude within the commune and, hopefully, having pushed one cave to its limit, will manage a small through-trip of one of the other local caves. This particular cave has stopped me so far by putting a sump in my way when heading downstream from the submergence and by a waterfall when heading in from the resurgence. Hopefully, now that I know I can free-climb the waterfall, I'll be able to dig out the sump from its downstream end. There are also other caves I have yet to investigate; there are the original holes I spotted at Aussois, and there is also the cave used in a film called *'Belle & Sebastian: The Adventure Continues'*. I also have it on good authority that there's a cave near the Col de l'Iseran. With there being no local cavers, there must be more to find; where there are some caves, there will be others.

La Palma February 2020

Alan Richardson

What to do in a damp February in the UK? Head to sunnier climes was the answer. The usual suspects were approached for their interest and ideas of where to go; various feeble excuses were made and, in the end, there were only three of us: Jill Brunsdon, Margaret Richardson and myself.

As to where to go, the easy answer was somewhere where it was sunny, warm, booze was cheap and there were caves. After much Googling, La Palma was chosen. This choice nearly caused a problem, as there are two La Palmas in Europe, so one had to be careful when booking flights and accommodation; one person nearly ended up booking a flight to the wrong La Palma, which would have been embarrassing. Which La Palma? you are asking, as they both have caves associated with them; well, the one in the Canaries, of course.

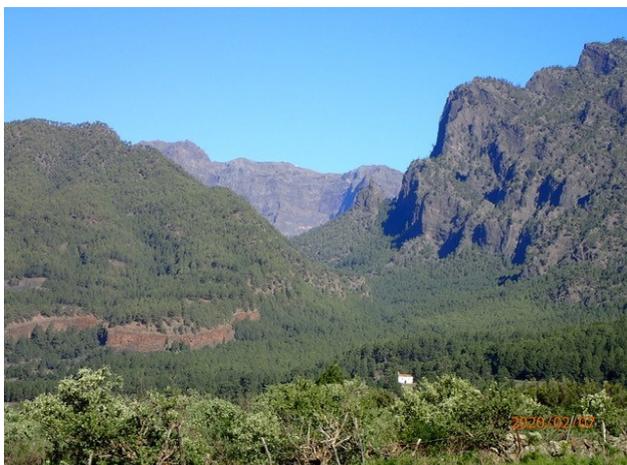
Why La Palma? Well, why not? I hadn't been there, there were lava caves, the weather was sunny, there was some very interesting Geology, and of course the booze was cheap. Having booked the accommodation and flights, the research on the caves started. This is where it got interesting, as everyone agreed there were lots of lava caves on La Palma, but the difficulty was a lack of information about them, including details of their location. My usual contact for the Canaries initially was very helpful, then communication stopped; it transpired that there had been a bereavement.

Contact was re-established a few days before we left, which gave us cave locations and a contact on the island, who, in true Spanish style, didn't reply but when we caught up with him was expecting us.

The show cave, "Cueva de Las Palomas", is part of the "Tube Volcanico de Todoque" near the centre of the west coast. It is situated in the lava field created by the eruption of the volcano "San Juan" in 1949, which increased the size of the island as it flowed into the sea. The volcano is situated on the 25 km long Cumbre Vieja ridge which extends to the southern tip of the island. It has been postulated that, should the western side of the ridge collapse, then the resulting tsunami will possibly destroy much of the eastern seaboard of the USA, as well as affecting southern Britain. We went round the display area, then asked if anyone knew our contact; yes, was the reply; he was on site, taking some German tourists from a cruise ship on a guided tour of the lava field; this would also include a trip into the cave. We rushed off to find him. When we caught up with him, he had been expecting to meet us at some stage but was too busy to show us any other caves; we were welcome to come on the show cave trip. He spent the trip talking to the tourists and separately to us. The cave was essentially one long tube, which exhibited many of the features associated with lava caves; as it was a very young lava cave, many of the features had not yet been destroyed by erosion (lava caves are, by their nature, often close to the surface). He was keen to describe the features and how they were formed, which made the trip interesting and informative.



Above: Cueva de Las Palomas, Todoque



Looking into the Caldera from near El Paso

La Palma is famous for the Caldera "Taburiente". The crater lake itself has long gone; a huge gash where one side of the caldera collapsed is partly filled by a younger volcanic cone. There are a number of waymarked paths inside the Caldera, the lower section of which is covered in pine forest. Looking upwards the rim of the Caldera appears very jagged, though there is a path around part of it. Parking in the Caldera is very limited, and you have to book your time slot in advance. The parking area in the caldera has a number of ravens which will try and steal your food; they are also very bold, and Jill ended up with one stood on her lap uninvited!

There is a road up to the rim of the Caldera which also serves the various observatories based there. We drove up to the car park at Roque Muchachos on the rim, and did one of the walks around part of the rim; the colours of the rock and the rock structures themselves are very impressive, as are the views across the Caldera.

Right: Looking down into the Caldera from the rim near Roque Muchachos



**Left:
Jill Brunsdon at the
Cueva del Infierno**

Near the southern end of the island, and part of the Cumbre Vieja ridge, is the “Volcan San Antonio”, another fairly recent crater. There is a line of them stretching out to the southern tip of the island, which demonstrates very clearly how the “hot spot” has moved under the island, creating a new cone and crater every so often. The most recent eruption, in 1971, was the closest to the coast and stopped at the boundary of a sea salt producer’s facility, so you have salt pans surrounded by lava flows, and a wall of tumbled lava blocks and ash.

Finding caves proved very difficult. The staff in the geology section of the museum in El Paso weren’t very helpful, muttering about, “there are no caves, permissions needed”, etc. The GPS coordinates we had didn’t help, as among other things, many of the caves were in deep, narrow ravines, so you lost the signal. As the ravines were full of trees and thorny scrub, as well as jagged blocks of lava, we found a few small caves, but none of great interest. Another time we ended up in a banana plantation and just couldn’t get to where the cave was.

One of the caves we had been told about was on the north east coast. There were details on Google, it was on the map we had and, as it was en-route to a beach, there was a car park and a path running past it. “Cueva del Infierno” proved to have a large entrance at sea level, partially blocked with a cliff collapse. We were able to get down to water level within the cave but, due to a strong onshore wind, the water in the cave was rushing in and out as the waves came in so access wasn’t possible, which was a pity as it looked interesting.

There are a number of archaeological sites on the island, at least one of which is sited in a rock shelter/cave; the “Belmaco” rock engravings are to be found in the Cuevas de Belmaco. Many of the sites had geometric designs carved into the rock; some resembled the “cup and ring” markings you can find on rocks in the UK, others were more complex and reminded me of the designs I have seen in Central Asia.

La Palma is not any easy place to go caving. There are a lot of caves, some quite impressive, but you need detailed information on how to find them or a local guide. It is a nice place to visit, though; much of the island is unspoilt, the scenery is spectacular in places and it is very green. Walking is very popular and there are lots of waymarked paths, though access to the coast is difficult, as much of the island is bounded by cliffs; you don’t go there for the beaches.

An overall map of La Palma.
Photographed from the editor's copy of the 'Sunflower Guide'.
Distances are deceptive, altitudes considerable and the roads wiggly!



High Woods Dig Update

Andrew Ward

*Then will we will strip our sleeves and show the scars,
And say "These wounds I had on High Woods days
Old men forget; yet all shall be forgot,
But we will remember, with advantages,
What feats we did those days.*

(Apologies to WS)



The dig continues, as muddy, loose and wet as always. Having dug through the bedding streamway, (snug in places), we reached a chamber we could sit up and even turn around in, although more scaffolding was needed to hold up bits of the roof! The next problem was reached. This was, yes, you guessed, a tight bedding passage with more mud and rocks blocking the way. The main issue, (as always), was moving this spoil; we had to put it into sandbags, then into a trug on a rope, to pull it through the bedding streamway, and then up through the cave to a chamber we could stack it in. Once this chamber was full, the spoil was hauled up the entrance shaft for surface disposal.

With the way on blocked, it was a case of digging out the loose stuff and using the Hitachi hammer drill on chisel mode to remove the floor and walls to make forward progress.

The dig is hard on gear, so we are on the second Hitachi drill; for larger boulders we have used plug and feather with reasonable success. We do have the ability to use rapid rock removal, but the cave is fairly loose even with the amount of scaffolding we have used, so not advisable. The gravel and mud is removed with a small shovel, bar and grunt.



From using the RVIS "Remote Viewing Investigation System" (Go pro on a stick), we can see that things may get a bit bigger, at least crawling size (after a lot more work). This work will need dry weather as the digging face fills with water, leaving limited airspace and ability to see what you are trying to dig out; lying flat out, it is wet and unpleasant digging. We now use wetsuits under the oversuits (on my second oversuit). It has taken a lot of trips to reach the present end, but the potential keeps us coming back.

***The Team, (right)
Jerry, Rob, Andrew and Phil.***

All Photographs: the author.

With thanks to Tim (Chase Farm) for continuing easy access to the cave.



Measuring Cave Air Quality

David Eason

Possibly the most 'exciting' caving trip I ever went on (and perhaps the near-deadliest) was back in 2014. I had experienced 'bad air' mildly in the same year at the bottom of Hunters Lodge Inn Sink on Mendip, but it was in Manor Farm Swallet later that year that we felt lucky to get out. Since then, I have been on trips and noted varying mild effects from changes in air quality, perhaps being more sensitive to these effects since that trip. I had often considered getting hold of, or perhaps even building a data logger of some sorts to leave in a cave to get some definitive data on the subject. This short article describes my experiences on Mendip, as well as what spurred me on to have a go at building my own cave air quality data logger. It has kept me busy during this strange time we live in, too.

Looking back, the air quality in Manor Farm Swallet was possibly not quite as bad as we had supposed whilst actually underground, but it was certainly not a place to linger and prolonged time in the cave would certainly have proved fatal. Although often experienced in Mendip caves, bad air, or more precisely some increase in atmospheric carbon dioxide and/or drop in oxygen is, as far as we know, more of a rarity in South Wales Caves, although perhaps it has never been measured (we've generally only got radon to consider!).

My caving friends on Mendip had described a previous close escape they'd had in Cuckoo Cleaves in the past. Despite knowing what to look out for, the effects of bad air can creep up on you without you even realising it. In the UK it is generally considered to be a build-up of CO₂ in a confined and poorly ventilated place, and usually measured in 'parts per million' as a gas concentration value and expressed as a percentage (i.e. 1 % equates to 10,000 parts per million). CO₂ in itself is a poisonous gas above a certain concentration to respiring animals. The Council of Southern Caving Clubs state on their website the following exposure limits, the associated symptoms and effects:

1%	Comfortable Slight increase in rate & depth of respiration.
2%	Respiration x 1, headache after several hours exposure.
3%	Respiration x 2, panting after exertion, slight headache.
4%	Respiration x 3, throbbing headache, face flushed, nausea, sweating.
5%	General arousal Respiration more than x 3. "Off effects" on removal from atmosphere (headache, nausea, vomiting).
6%	Respiration x 6, can be tolerated for several hours
7-10%	Mental deterioration. Intolerable for more than a few minutes, progressive dyspnoea, violent respiratory distress.
10-15%	Intolerable panting & exhaustion, unconsciousness within minutes, spasmodic neuromuscular twitching & convulsions.
25-30%	Unconscious after 8 - 12 breaths, convulsions & death

Table 1: Summary of CO₂ concentration exposure and the expected side effects.
From CSCC website: <http://csc.org.uk/wiki/doku.php?id=information:co2>

I would guess in Manor farm it was somewhere between 3 and 4 % but seemed to vary around the cave. The effects are certainly very subjective too. The best way I can recall it would be that initially you just get tired, perhaps confused and irrational, unable to do simple tasks like tie knots, read surveys, or you underestimate climbs (or overestimate your abilities!). I recall being out of breath climbing down the ladder in the entrance shaft, which was perhaps a big giveaway that something wasn't quite right. It is common to experience a feeling of anxiety to get out of the cave that creeps over you, but you can't quite put your finger on why. Depending on the concentration it can

..... become difficult to move, as you are out of breath but cannot recover easily, no matter how hard you breathe. Not panicking is key. This is particularly troublesome in caves on Mendip, with steep, down-dip bedding-plane passages; it's easy on the way in and difficult on the way out, especially with rift climbs and the like. We were sitting there staring into space for some time before we realised what was going on! But the caves are still great, so don't be put off. It's generally a seasonal phenomenon and most experienced cavers know the troublesome places and the levels to expect.

The situation has got worse on Mendip in recent years, but the exact causes for this are largely unknown. There are several theories talked about, and individuals have devised methods to measure air quality and propose potential causes. The rise in CO₂ may also be accompanied by a drop in O₂ levels. Bad air is, of course, a well-known problem in some mines and caves both at home and abroad.

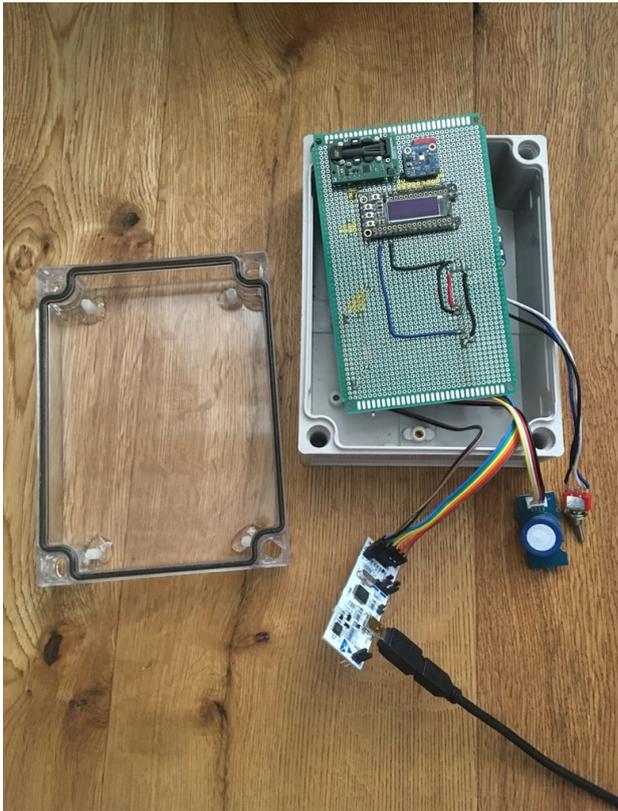
I ventured into Pant Mawr Pot on a very cold day back in December with another SWCC member and, having not been there before, found this cave to be particularly ominous, mysterious and fascinating. Not only is it relatively big, it is beautifully decorated in places, with a large stream running all the way down it (it certainly did that day!); it is potentially a fragment of some larger system of caves under the Reserve. At the very end, the stream eventually becomes a fast-flowing deep channel, leading to a foamy, confined and rather uninviting sump. The sump obviously backs up by a significant amount as the muddy and foamy tide lines on the walls in the large passage approaching the sump showed. Both of us were reasonably out of breath and sweating on the way in. Based on the previous experience, I had made a minor observation that there was potentially a slightly elevated CO₂ level (but nowhere near problematic), and this is something the SWCC diggers certainly found back in the day, when they used pumps to provide fresh air at the dig face (still a worthy dig to pursue of course). It makes sense, as the cave is essentially a streamway down to a sump and so is sealed at one end, with no obvious draught.

Being an electronics engineer by trade, with an interest in data and signal processing, I thought it might be useful to build a small, battery-powered data logger capable of recording, for some period of time, air quality information that could be analysed at a later date, much akin to the OFD 1 streamway-level logging project. This would give us some definitive and interesting data to review. This seemed largely feasible, cobbling something together using off-the-shelf modules and components to build a proof of principle demonstrator. If successful it could be re-engineered into a more robust and manufacturable solution for larger projects perhaps.

I had started this project back in January, with the hope of deploying it sometime in March/April, but then 'lockdown' happened and allowed me to further refine the prototype (by refine I mean unintentionally break it and then spend time trying to debug and fix it!). And a prototype it is, at this moment in time.

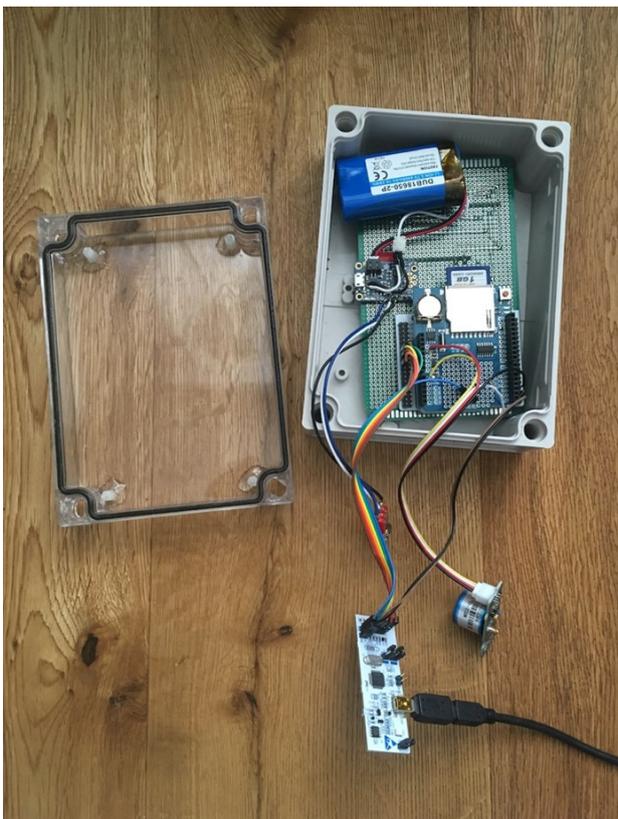
Without going into too many technical details (so I apologise if this is all meaningless!), the whole thing is based around a low-cost ST microelectronics 'Nucleo' prototyping microcontroller board. Connected to this board are an SD card socket, real time clock module (with the time set when the board is programmed, and maintained by a small coin cell), CO₂, temperature, humidity and barometric pressure sensors and an O₂ sensor. The sensors are factory calibrated, although this can be adjusted in the software. The O₂ sensor is not calibrated. 20.95 % O₂ is set as the 'nominal' level for calibration, although this can also be adjusted. I do not anticipate a large accuracy error, but it is noted this is not a fully calibrated test instrument. It is initially intended to provide some insight and a comparison from normal outdoor atmosphere to the underground environment. A small white OLED display provides a real time measurement mode for when you deploy the sensor, to get a snapshot of the cave environment when you're in there. This 'meter' mode is turned on and off with a small pushbutton without interrupting the data logging. A pair of 18650 Lithium Ion cells power the system, and there is a built in USB charger. The whole thing is intended to be mounted in an IP68 box, although holes must be created to allow the sensors to work and also stop drips and moisture destroying the sensors. A Stevenson Screen is probably too big to carry for an hour then lug down the cave.

Software is 'cobbled' together using the open source 'mbed' platform and written mainly in the C++ language. All of these things are easily searchable and easy to get hold of. The image below shows a view of the main components, with a view of the front of the main board:



View of the front side of the main board, showing the main components

The SD card data logging can be set to sample at any arbitrary time interval configured in the software; the shorter the sample time is set, the shorter the battery life. A 30minute sample interval provides something in the order of a month's worth of data with a pair of 18650 cells, although it's still in development and there is loads of room for improvement. A larger 4 cell battery would be easy to add to increase logging time. The image on the next page shows a view of the rear side of the main board and the remaining components:



Layout of main components, with a rear view of the main board

The small graphical OLED display provides 128 x 32 (pixel) resolution and provides a quick 'real time' metering mode, giving a snapshot of what is going on. When this is enabled, a 5 second sample interval is set for a faster update time. The display output is shown below (where '823 ppm' equates to 0.0882 %):



Figure 3: Screen grab of the OLED display

The data is output to a serial terminal connected to the main board for debugging and testing, via the ST link debugger USB interface, and it's also written to a .csv text file on the SD card, along with a time stamp from the real time clock module. An example output file is shown below:

sensor_log_1588532539

Time:	Pressure (hPa):	VOC sensor resistance (ohms):	CO2 (ppm):	O2 (percent):	Temp (deg C):	Relative Humidity (percent):
5/3/2020 19:02:26	1011.26	328629	657.450	20.78	18.594	62.36
5/3/2020 19:02:27	1011.26	64721	656.897	20.78	18.551	62.36
5/3/2020 19:02:32	1011.28	74661	655.856	20.78	18.565	62.39
5/3/2020 19:02:37	1011.28	77372	655.801	20.80	18.565	62.37
5/3/2020 19:02:42	1011.28	78467	656.427	20.79	18.551	62.36
5/3/2020 19:02:47	1011.24	79977	655.175	20.79	18.578	62.37
5/3/2020 19:02:52	1011.26	81466	655.939	20.78	18.565	62.36
5/3/2020 19:02:57	1011.24	82436	654.958	20.79	18.551	62.33
5/3/2020 19:03:02	1011.24	83849	653.259	20.79	18.621	62.40
5/3/2020 19:03:08	1011.26	84104	0.000	20.79	18.663	64.55
5/3/2020 19:03:13	1011.26	82929	627.255	20.79	18.607	63.56
5/3/2020 19:03:18	1011.24	84360	578.611	20.78	18.621	62.94
5/3/2020 19:03:23	1011.24	85576	627.750	20.79	18.621	62.63
5/3/2020 19:03:28	1011.28	85930	647.059	20.79	18.607	62.46
5/3/2020 19:03:33	1011.28	86108	652.015	20.79	18.621	62.37
5/3/2020 19:03:43	1011.28	86918	0.000	20.80	18.650	63.64
5/3/2020 19:03:48	1011.28	81707	593.893	20.80	18.607	62.88
5/3/2020 19:03:58	1011.28	83095	0.000	20.79	18.690	63.75
5/3/2020 19:04:03	1011.28	78914	568.284	20.80	18.663	63.10
5/3/2020 19:04:08	1011.30	80676	582.068	20.79	18.621	62.69
5/3/2020 19:04:13	1011.30	82273	641.567	20.80	18.650	62.50

There it is folks. I might get this into a cave at some point this year, but I thought it would be nice to share with you all, and perhaps some of you will be interested in this little project. It will certainly be good to see some detailed data of the cave atmosphere over a period of time in the South Wales caves.

Suspension Trauma: An Awareness-Raising Presentation

Bob Hall

Prologue

Imagine. You are on a trip in Pwll Dwfn with two or three mates. You've done the trip before, they haven't. All has gone well on the way down, although you have noticed some fumbling and lack of confidence on the part of one or two people, Gethin in particular. The fact that he is a bit porky and is using borrowed kit is probably not helping. You rigged on the way in, but others will de-rig as you come out. You lead up the fifth and then fourth pitches and then pause for a rest. You can see Gethin's light on the rope below as he approaches the rebelay, about 15m below you, and he calls out, "I'm knackered, hang on to take this sack from me." (He's got the rope and other bits from the fifth pitch.) You reply positively and carry on waiting. And waiting. You can see your companion thrashing about at the bolt below and eventually call to him, "What's up mate, what's the problem?". He replies, with rising panic in his voice, "I can't get my Croll off the rope". OK, you think, 'been there, had that, know the problem', and proceed to try to talk him through it. He is willing to try things at first but each idea you present fails and he gets increasingly tetchy and uncooperative. It is obvious that a combination of exhaustion, obesity, unfamiliar kit and growing terror have rendered him incapable. What do you do? What are the implications of the situation? How can you help?

I have presented this fictional tale to remind you, dear reader, that 'join-the-dots' SRT trips can unravel all too easily in the most straightforward of circumstances. Injury, exhaustion, illness, equipment failure... there is plenty that can go wrong.

Over many years the SWCC has been pretty good at getting members trained in the basics of SRT and getting at least some members proficient in rigging. However, I suspect that relatively few of our 'SRT capable' caving members would be confident in resolving the scenario I have presented. That worries me. The truth is that 'Gethin' is in a life-threatening situation and the purpose of this article is to raise awareness of why he may die without immediate help.

I am most grateful to Brendan Sloan for his support in preparing this article and for permission to quote from a training document he wrote for SMWCRT. These quotations are in italics.

Historical Background

Back in the 1970s there was some suspicion that being hung in a harness for an extended period was life-threatening, and certainly by the time I began to practise modern SRT in the 1980s it was being talked about in training sessions. However, the development of a sound evidence base took some time to come about and it was the growth in industrial rope access activities that drove the process. In 2002 the UK Health and Safety Executive (HSE) published a review entitled 'Harness Suspension: Review and Evaluation of Existing Information' (Contract Research Report 451/2002). This document was produced by Lyon Equipment and Tony Seddon of Troll was the lead author. This report shaped both industrial and caving thinking and is still highly relevant. A later report, 'Evidence-based Review of the Current Guidance on First Aid Measures for Suspension Trauma' (HSE 2009 RR708) adds significantly to the available evidence. I commend both of these documents to you; they are readily available as pdf files online.

Suspension trauma

This remains a poorly understood condition. Essentially, there are case reports of previously fit and healthy people dying suddenly when suspended in a harness with no obvious cause found at post mortem. The common factor is that the victims had all been passively hanging in their harnesses, either from exhaustion or unconsciousness. In experiments, collapse has occurred after as little as 6 minutes, sometimes with little warning.

Although research is limited, the mechanism is believed to be due to blood pooling in the legs. Normally, muscle movements push venous blood towards the heart, but without active movement this does not occur. Eventually, the blood pooling in the legs causes a decreased supply to the brain and the patient faints. This is fairly well recognised, of particular note in soldiers standing static on

ceremonial guard duty. In a normal faint the person collapses on the floor, blood equalises across the body as there is no longer a gravitational difference, and blood flow to the brain is restored. However, if the victim is in a harness they are held upright, blood flow to the brain remains low, and death can occur as a result. Additionally, the pressure exerted by the leg straps of a harness bearing a casualty's weight can further impair the return of blood to the body.

The need for urgent action in the pothole

Brendan goes on to state:

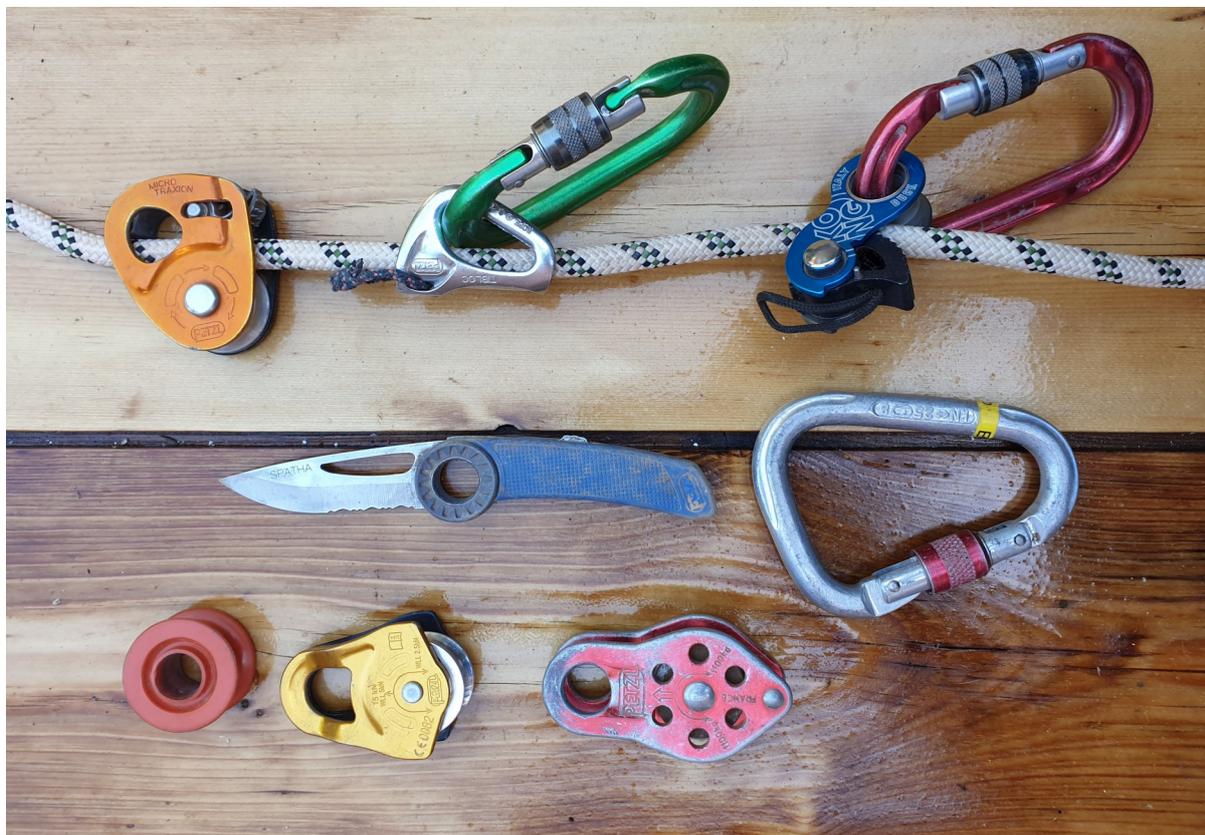
All casualties hanging passively in a harness are in a life-threatening situation. The casualty must be retrieved as soon as safely possible. If it is not possible to bring them to the ground immediately, the advice is to pull the casualty's legs up into a sitting position to reduce the effects of venous pooling.

Given the critical urgency of such a situation, I believe that those of us who undertake SRT trips have a duty to ourselves and our comrades to develop the skills needed to get ourselves out of trouble and to deal with the kind of scenario I described in my prologue. This can only be done in a practical training environment.

The need for urgent action within the SWCC

Note my words: 'within SWCC' does not mean 'by the committee', it means by us all, individually, but also implies the need for centrally managed training initiatives. We SRT cavers should all ask ourselves the question, "could we save Gethin's life?" and then come up with some honest answers! Answers will probably range from, "Almost certainly" from people with Cave Instructor-level skills to, "Wouldn't have a clue" from people new to SRT with no aptitude for practical improvisation under pressure. Whatever the truth, I am certain that there is a clear case for some very focussed training and practice, with the purpose of raising the skill level across the club's SRT community to a significantly higher, and safer, level.

We could ALL be in Gethin's position – you could be the shit-hottest SRTer in the country and still have your wrist broken by a falling rock – try getting your Croll off one-handed – and then putting it on again!



My 'Get Out of Jail' kit. This type of equipment could be a life-saver. An SRT party should carry some kit of this sort between them.

Epilogue

Gethin survived. Your party had some useful equipment with them of the sort illustrated. One of the guys below Gethin was able to prussik up and get past him. The rope Gethin was carrying would prove invaluable. Two people, working together, using half-remembered skills, some improvisation and the spare rope and extra kit were able to extricate Gethin in time. Once off the rope, he could be kept warm until a rescue team arrived. Gethin was lucky; he was fortunate that his mates appreciated the need for immediate action. **But he should not have had to depend on 'half-remembered skills' or 'improvisation'.**

References

Besides the two HSE publications referred to, several modern books contain descriptions and illustrations of relevant techniques. These include:

Caving Technical Guide,

Ecole Française de Spéléologie, (English Edition), 2013, ISBN 9-782900-894262

(In my view much the most up to date and best illustrated book available.)

Alpine Caving Techniques,

Marbach and Tourte, 3rd Ed. (in English), Speleo Projects, 2002, ISBN 3-908495-10-5.

(Now available as a pdf online if you hunt for it!)

Cave Rescuer's Manual, Spéléo Secours Français, (English Edition), 2006, ISBN 2-7372-0123-3



*A fine view of Bridge Passage , Rawl Series, Ogof Ffynnon
Photograph: Clive Westlake*

Branched, spelaethems from Foxhole Cave, Penwyllt, Brecknockshire, Wales: Biologically-induced Cave Stromatolites

Clark Friend and Graham Christian

The purpose of this article is to draw attention to the unusual spelaethem formations that are found in Foxhole Cave, a cave owned and controlled by the Club. A few years ago now GJC showed me a photograph (Fig. 1) he had taken of some formations in Foxhole Cave, and asked me if I knew where these might be found and what they might be, as they did not appear to be 'ordinary' helictites.



Figure 1. Photograph of a cluster of branched spelaethems approximately 5-10mm high growing on the floor of Foxhole Cave.

The initial response was, I did not know where they came from, but they were interesting. This then precipitated a visit to Foxhole Cave, and the answer to the second question was then "yes", it was indeed something to get excited about. The structures were found some 25m into the cave, growing on the floor and the walls, all essentially at right angles to the substrate. They were certainly not helictites and, whilst they are in a dampish part of the cave, they were not in any way related to water flow.

As far as is known, this occurrence in the non-photoc (dark) zone of Foxhole Cave of branched, columnar stromatolites is the first to be documented in the United Kingdom, and it extends the international range of known cave occurrences. Further scientific work on these unusual spelaethems is forthcoming.

Foxhole Cave, SN 85241452, is located on the eastern side of the upper River Tawe valley (Fig 2) at an altitude of 337m in a long-disused quarry to the northwest of the Penwyllt Inn (part of 'The Stump') at the western end of the Brecon Beacons National Park. Foxhole Cave was first encountered by the opening of the former quarry, as part of the extensive lime burning activities that took place in the area, viz. the old lime kiln in front of The Stump. The cave is a remnant of the fossil, high-level passages that lie far above the Ogof Ffynnon Ddu (OFD) system (O'Reilly et al., 1969; SWCC, 2014). Presently, these passages are undated.

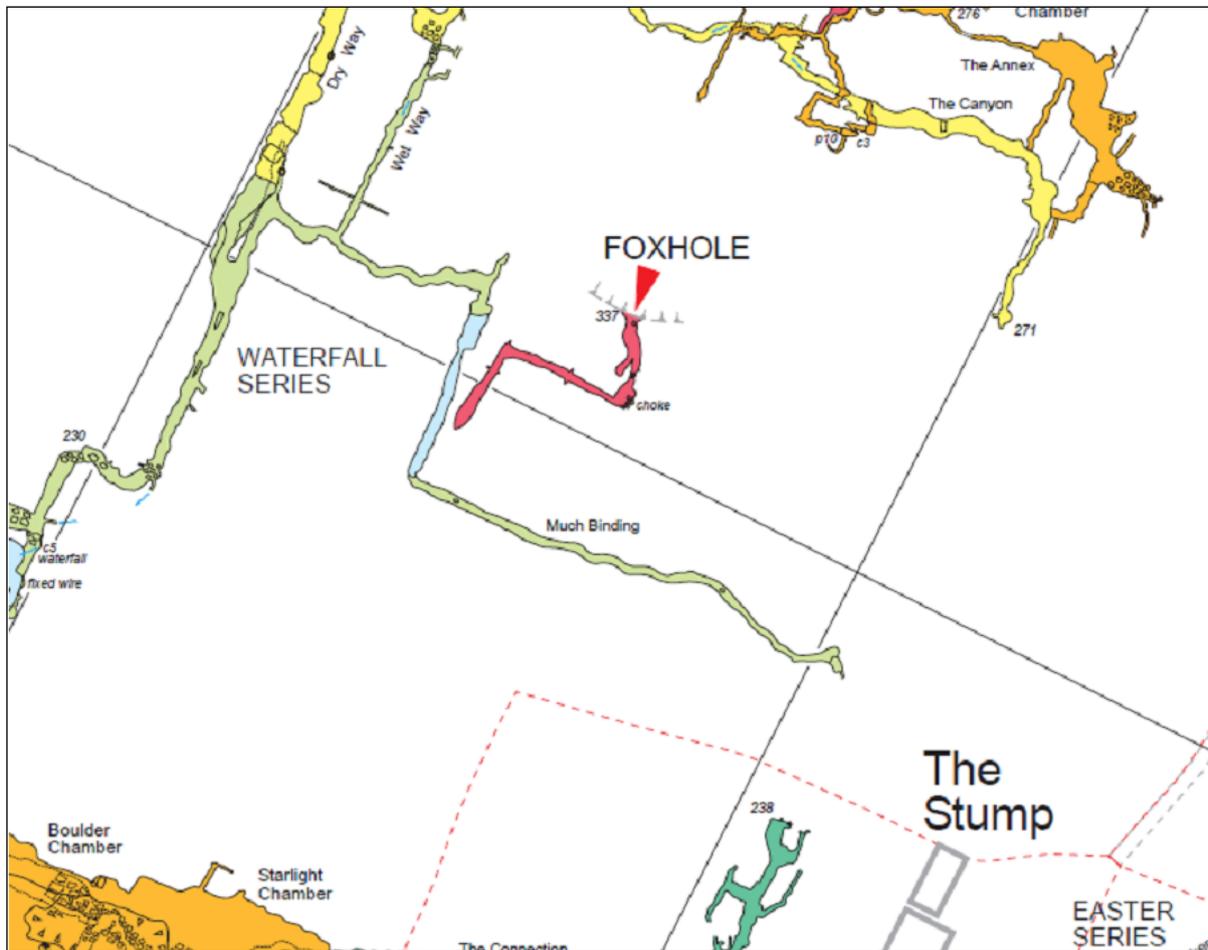


Figure 2. Extract from the Ogof Ffynnon Ddu Survey showing the position of Foxhole Cave. The passage colours represent relative height within the system, red is the highest, then orange, yellow, light green and dark green the lowest. Blue represents open water.

The OFD system comprises both fossil and active phreatic and vadose passages, which have had a complex development that started prior to the Pleistocene (which commenced about 2.6 million years ago). It is known that during the Permian and Triassic eras (299-201 million years ago) the Carboniferous Limestone of the south crop, for example in the Gower, was exposed and there were Permian-aged karstic features developed. It is uncertain whether the north crop, where Pen-wyllt is, was also exposed, but it is possible that cave development may have commenced that far back.

Large parts of the OFD system were developed at different times in the Pleistocene but were extended and seriously modified by the many changes in base level that were caused by the melting of the ice sheet during the last glacial retreat, *circa* 12,000 year BP), see Glasser et al. (2018). Some of these developments were probably controlled by the way permafrost remained in the ground, particularly as the OFD area faces roughly northwest. The fossil, near-surface passages were dissected by a lobe of ice that during the last glacial event (the Devensian, Isotope Stages 2-5) broadly moved down the Tawe valley from the Black Mountains and the Brecon Beacons (Fig. 3). Many parts of the high-level passages have been removed, for example the truncation of the passages at Top Entrance (Ogof y nos Hir) and Foxhole Cave. There is copious evidence of ice movement around Pen-wyllt, for example on Garreg Llwyd, above the Club, and on the ridge between The Stump and Pen-y-Foel, with polished and striated surfaces in the quartz arenites and quartz pebble conglomerates of the Namurian Twrch Sandstone. The Ogof Ffynnon Ddu system has been developed in the Carboniferous, Visean (between 345 and 335 million years ago) Dowlais Limestone Formation of the Pembroke Limestone Group. The Dowlais Limestone Formation comprises thick-bedded, bituminous packstone and wackestone limestones together with units of ooidal limestone (Waters et al., 2009).

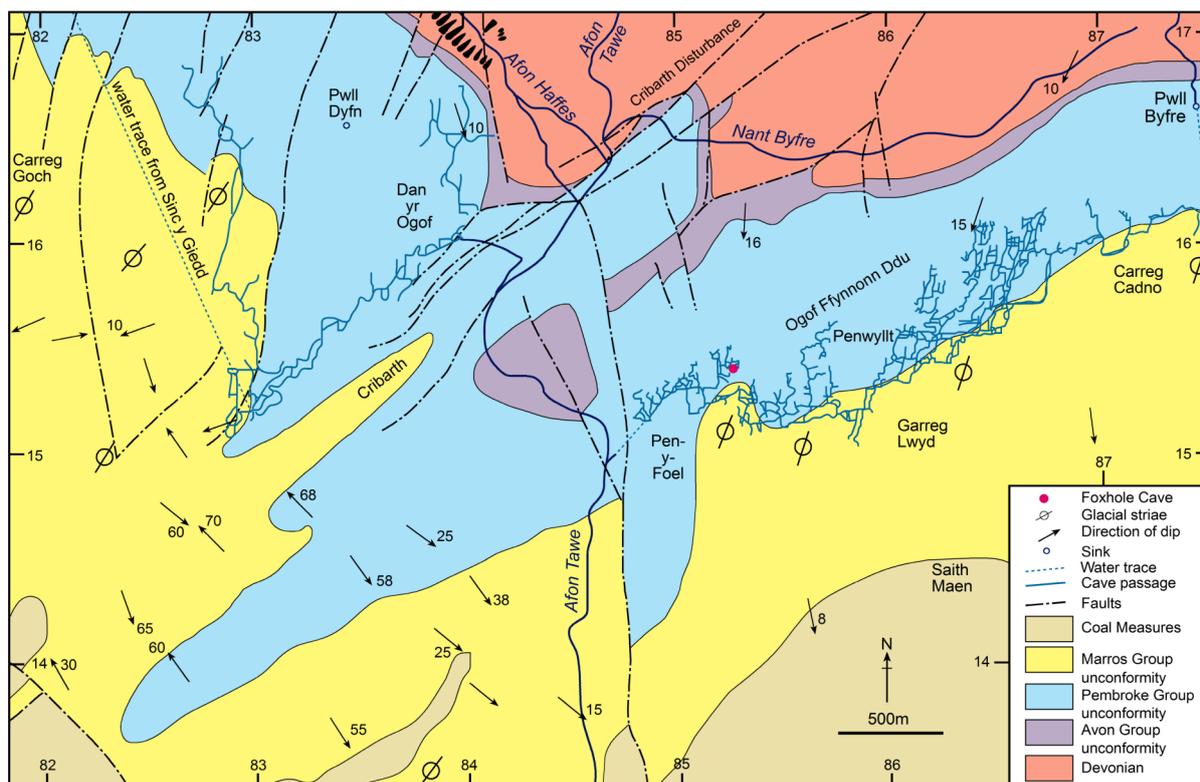


Figure 3. Simplified geological sketch map of the Tawe valley in the vicinity of Penwyllt.

The rocks here are on the north side of a Carboniferous basin, the South Wales Coalfield, which was formed during the late Carboniferous - early Permian Hercynian mountain-building event (orogeny), that took place approximately 300 million years ago. The main event was preceded by several episodes of sea level change, which affected the northern side of the basin more significantly than the southern crop, as there are major sections of the Pembroke Limestone Group missing. These movements are exemplified in the main Penwyllt Quarry, where some dolomite units and emergent beds are exposed. This orogenic event caused the limestones to dip southwards at approximately 16° and they are on the southeast side of the Cribarth, or Swansea Valley Disturbance, a major northeast-trending fault and fold complex (Fig. 4). The cave passage development is strongly fault- and joint-controlled with a broadly reticulate pattern of passages aligned between 0° - 10° and 080° - 110° (O'Reilly et al., 1969) that are arranged on four main levels as shown on the survey (SWCC, 2017). The fossil OFD system was subsequently invaded by a more recent, post-glaciation stream entering through the sink at Pwll Byfre (O'Reilly et al., 1969; Fig. 3). The accessible part of Foxhole Cave is relatively short and is joint-controlled, descending roughly down dip. It comprises a single phreatic tube that later in its history became vadose and has a typical keyhole shape. Some of the walls and floor were decorated with flowstone prior to the blocking of the down-dip (southern) end of the cave by silt and clay, which has been the site of a former dig.

Macroscopic form and internal structure of the spelaethems

The spelaethems are found to be abundant across the floor and on the walls of the passage (Figs. 1 and 4) and are obviously still developing. They are mostly approximately the same size, with a maximum height around 10mm. There are some smaller examples that are often on walls or steep surfaces that may be more mound-like (*e.g.* top centre of Fig. 4). They are obviously all colour-banded with brownish gelatinous tips and have approximately the same general form that commences with a narrow base on the substrate that thickens upwards before most commence branching, when the details become individual (Figs. 1 and 4). Given the limited water supply, seemingly largely atmospheric, the question arises as to where the carbonate forming the structures originates from. This is a similar problem regarding the development of helictites, particularly those that are growing upwards. Several examples have fallen over and all of the collected samples were derived from these.



Figure 4. Photograph of further branched speleothems, approximately 5-10mm high, in Foxhole Cave. Note that some have toppled (e.g. on LHS of photograph) and those growing from vertical faces are less regular and less developed (centre).

These speleothems have been referred to above as stromatolites. The term stromatolite is accepted to be hard to define, for a variety of reasons (Awramik, 2005). However, it generally applies to organo-sedimentary, laminated, irregularly-shaped, often domical, columnar or branched columns, that have formed through the activity of micro-organisms such as cyano-bacteria and blue-green algae at the sediment-water interface (see Riding, 1999, 2000 and refs therein). The majority of stromatolites are produced in aqueous surface and near-surface environments through trapping and binding sediment, together with precipitation of sediment. These include restricted, near-marine environments. Stromatolites are best known from the hyper-saline marine occurrence discovered in the 1950s from the tidal flat environments in Hamelin Pool at the head of Shark Bay, Western Australia (see Collins and Jahnert, 2014 and refs. therein). However, they are also more widespread, but far less frequent, from other environments such as freshwater (Sommers et al., 2002) and hydrothermal springs (Berelson et al., 2011). More importantly for us, they have also been described from modern karstic environments. Stromatolites of various forms have been found in South Africa (Gomes, 1985), in Hidden cave in Mexico (Melim et al., 2001), in the El Soplao cave, Sierra de Arnero, Cantabria, Spain (Rossi et al., 2010) and in Deer Cave, Sarawak (Lundberg and McFarlane, 2011) where unusually they are phosphatic. Geologically, the structures known as stromatolites are known from the Eoarchaeon, approximately 3700 Ma ago (Nutman et al., 2016), to the present day and so provide one of the longest records of life on the planet.

The majority of described modern stromatolites are produced via photosynthesis, with the resulting precipitation of insoluble products, most frequently calcium carbonate (CaCO_3). However, there are clear examples that are produced in the non-photoc zone of caves and mines where the structures must originate from organisms that metabolise different materials. These organisms produce manganese-rich (e.g. Neelson, 2006), phosphatic (e.g. Lundberg and McFarlane, 2011) or silica types (e.g. Sanz-Montero et al., 2008). It has long been known that frequently the non-photoc zone of old mines, in areas of extreme chemistry, is colonised by a number of different micro-organisms. These include those that produce gelatinous curtains, mats and strings- colloquially known as 'snottites' (e.g. *Acidithiobacillus ferro-oxidans* or *A. thio-oxidans*) that then are then transformed into a mixture of iron oxides and hydroxides into thin stalactite straws, for example as seen in Parys Mountain, Anglesey (SH 442903) and the Cae Coch mine (SH 775656) above the Conway valley in North Wales that extracted pyrites for sulphur (Johnson, 2012). It is now also recognised that rare examples of stromatolites exist in the non-photoc zone of some caves (Melim et al., 2001; Rossi et al., 2010). In these examples photosynthesis is absent, and the precipitation of sediment is related to chemo-lithotrophic activities, as in the case of the formation of the gelatinous features.

Laminated stromatolites are considered to grow via a model called diffusion-limited aggregation (Witten and Sander, 1983). This was utilised by Grotzinger and Knoll (1999) who produced a model for branching stromatolites (Fig. 5A). This model was developed to account for simultaneous sedimentation and growth, with sediment gradually infilling the white areas. If the rate of sedimentation is too high, build-up overtakes the stromatolites and they are extinguished. If the rate of sedimentation is low the stromatolites grow and stand proud. This latter analogy is the one we can adopt for the Foxhole Cave examples, where, whilst growth appears to be slow the sedimentation is effectively zero. Sample 02FH4, a multi-branched stromatolite illustrated in Figure 5B, shows a common laminated base from which the branches originate. This can be compared directly to the branched features modelled in Figure 5A.

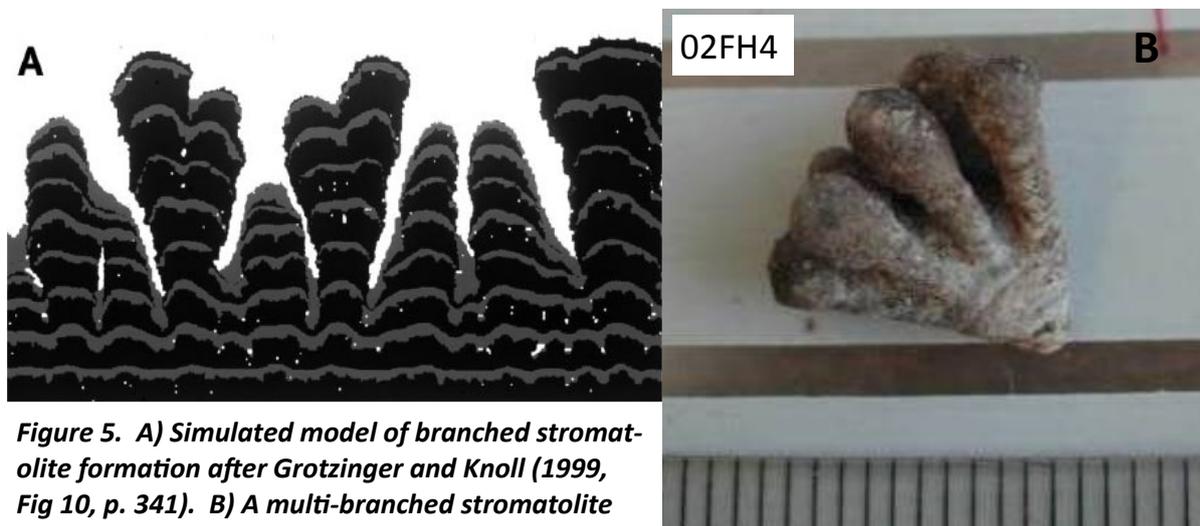


Figure 5. A) Simulated model of branched stromatolite formation after Grotzinger and Knoll (1999, Fig 10, p. 341). B) A multi-branched stromatolite example 02FH4 from Foxhole Cave, scale in mm.

A polished section through one of the spelaethems 02FH1 (Figure 6) shows the internal detail of the stromatolite. Again, this type of formation can be directly compared to the model in Figure 5A. laminae and the branching nature of the structure. In this section the point of first branching can be seen to have taken place at a depression where the structure had thickened (yellow arrow). At the tip of the lower branch (red arrow) a similar thickening and depression can be seen and is interpreted as an incipient branch. A second example, 02FH2 is shown in Figure 7A. The similarity of the overall shape, the configuration of the laminae and the method of branching as shown in Figure 6 are clearly the same. These forms bear a striking similarity to those described by Rossi et al. (2010; Fig. 7B). There is clearly a similarity in the manner of their growth off the substrate and there is an obvious thickening over the apex of the fingers.



Figure 6. Polished section through a branched stromatolite 02FH1 from Foxhole Cave, scale in mm.

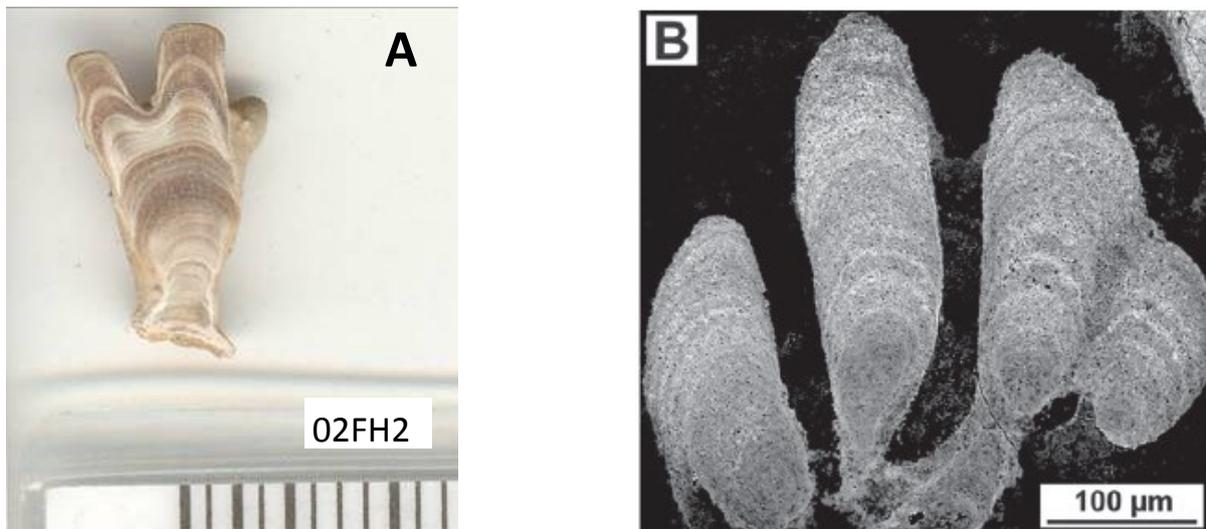


Figure 7. Sections through a branched stromatolite.

- A)** Polished section through a branched stromatolite 02FH2 from Foxhole Cave, scale in mm.
B) from El Soplao Cave, Spain (Rossi et al. 2010, Fig. B, p. 1121).

One of the paradoxes of stromatolites is that because most are fossilised there is usually no evidence of any organism trapped within the sediment, which was a requirement for the original definition (see summary of Grotzinger and Knoll, 1999). In the case of modern stromatolites, the organic material is normally still present and there is less ambiguity. In the Foxhole Cave examples, the tips of the fingers can be seen to be covered in a gelatinous film (Figs. 1 and 3) and, without further testing to identify the beast involved, provide direct evidence of biological involvement.

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3D scanning in OFD

Roo Walters

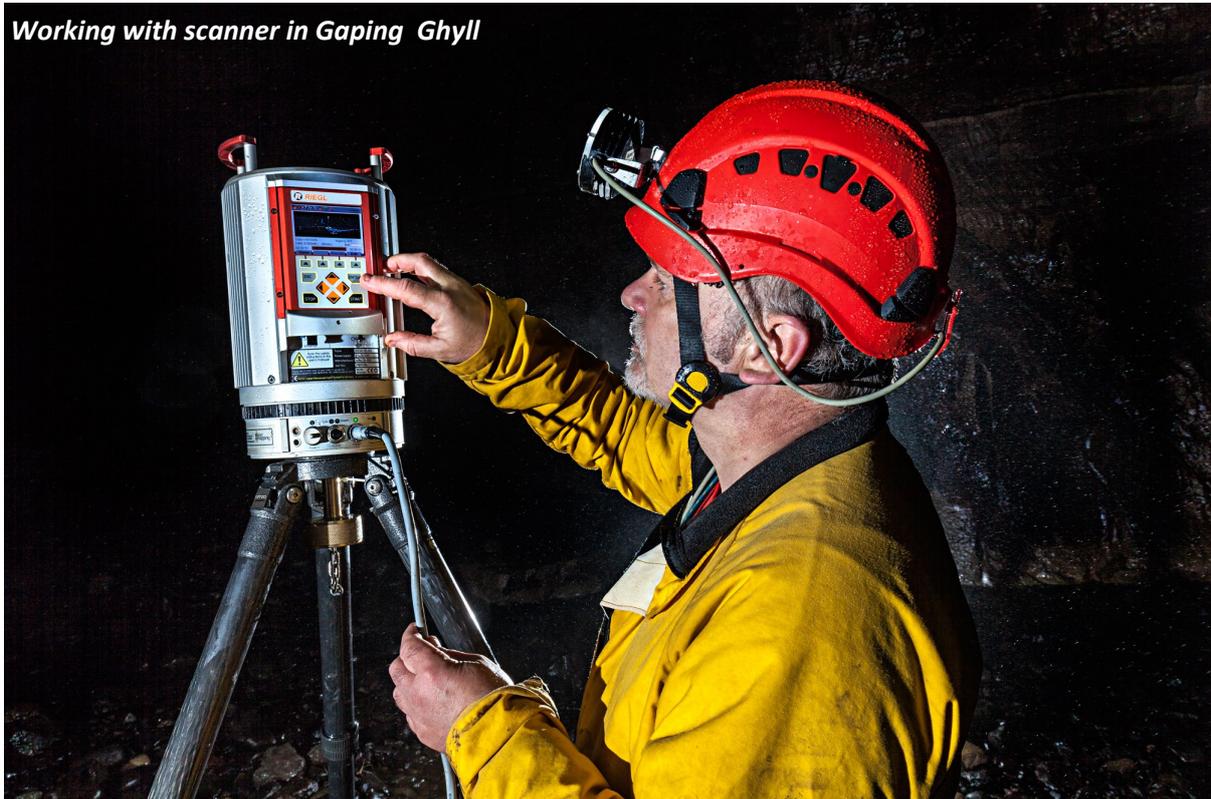
Some of you may have seen a strange machine both within the hut and indeed underground in OFD over the last couple of years. It's a terrestrial laser scanner, which allows us to scan and capture the features of objects, landscapes and caves in incredible detail. A few of us have been running a project to scan and document the world's largest caves, but as the field work for that is nearing completion, we have begun to use the machine for other caving purposes. In Wales, so far, we have scanned the Big Chamber in OFD2, cryogenetic and paragenetic features in the passages leading from the Big Chamber and have just been granted permission to scan the Columns.

The system, known as LiDAR (Light Detection and Ranging), works by sending out a laser pulse and measuring the time it takes for the reflection to be detected and thereby calculating the target distance. Our model, a Riegl VZ-400, does this 300,000 times a second, allowing for complete coverage of everything that is around the scanner, except for small areas immediately above and below the scanner itself. By moving the scanner to new places, called stations, all of the subject can be scanned. Back in comfort, the data can be downloaded to specialist software to allow the scanned data to be stitched together to create a complete model of the subject. At this time what exists is a point cloud, billions of discrete points in space. With appropriate software this cloud can be used to measure features, changes, and also delineate characteristics. If scanned from the surface or some pre-measured point, the entire cloud can be georeferenced and aligned with surface features.

Colour can also be captured by attaching a camera to the scanner and calibrating alignment between the two devices, with the colouration of the point data taking place during post-processing using the aligned photos. In caves, colour is of limited value due to the difficulty of illuminating the images evenly and consistently and in modest passages the results can be very good, but nothing beats good, bright, overcast conditions above ground.

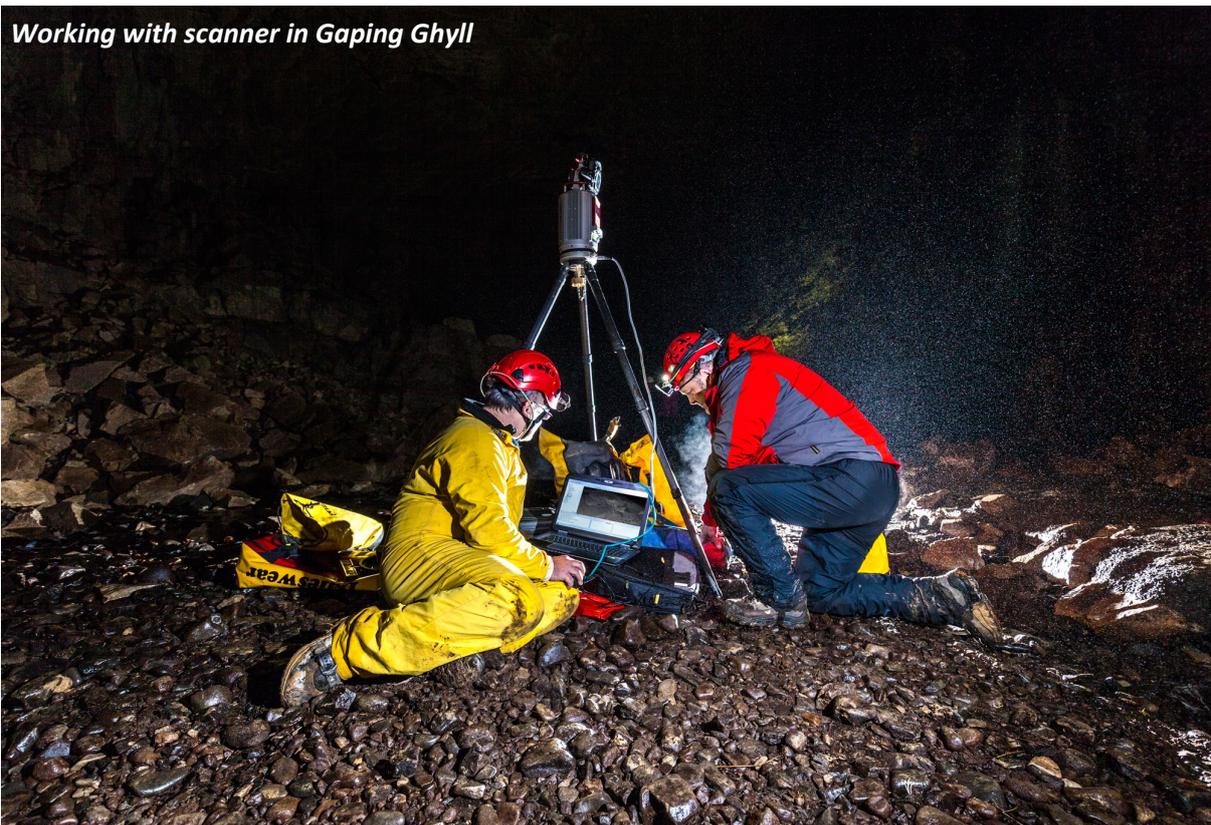
The first issue that always comes up in conversation is where 3D scanning sits in the portfolio of tools which we have to survey a cave. There is a perpetuating myth about 3D scanning, that it will replace conventional surveying; it does not. The practical issue is that the models obtained capture every detail, and if these are conveyed to a 2D map, then there is simply too much detail and it is difficult to pick out details that are required to be included for the purposes of navigating a cave.

Working with scanner in Gaping Ghyll



There is also no 'press a button' tool to translate 3D cave data into a meaningful 2D survey; a lot of tools to help, yes, but nothing to make this really easy. It remains more effective to capture this data via conventional surveying methods where the surveyor will, hopefully, capture those essential navigational details by default and ignore everything else. So, the two systems are complementary: one for navigational maps and the vast majority of the cave, the second because there is a special, usually scientific, reason that requires 3D. Indeed, no one map is ever perfect for every eventuality. The second big issue is that you will also need a deep pocket to acquire the 3D systems required – at least £75,000 by the time you have all you need. This is reducing, but it is unlikely to drop too much for a decent system.

Working with scanner in Gaping Ghyll



So, what about the hand-held scanners that are arriving on the market. Considering what they do, they are stunning. Whilst they are nowhere near as accurate as systems that scan from a fixed stable platform, there is a place for these devices, and they are improving. They are, at this time, expensive and the ones I have seen are just not rugged enough for use in a cave. However, in my view, there will be a day soon when these become a realistic and viable tool for caving.

Then there is photogrammetrics, using just photos and clever software to build a 3D model. This is really coming on fast – the visual results some have achieved are excellent. The issue is that the models do not have an inherent size; the dimensional data must be introduced at a later stage with alternative software. An issue that photographers seem to struggle with is that the images taken are not pretty cave photos; the ideal photogrammetric image is evenly illuminated, flat, with no shadows, the complete antithesis of a quality cave photo.

Acknowledgements: Mark Burkey, Jess Burkey, Joe Daniels, Andy Eavis, Andy Freem, Antonia Freem, Jane Sarginson, Chris Howes, Judith Howes, Claire Vivian, Joe Watkis.

Editor's note: An example of Roo's scanning in OFD can be seen on YouTube by following this link:

https://www.youtube.com/watch?v=Twxe_DR7tqs&t=6s

“Bumbling in the Dark” : Bryan Schofield

A Book Review

Clive Westlake

Bryan Schofield, better known as Scoff, was an active caver and cave diver for many years, mostly with the Bradford Pothole Club and Cave Diving Group. In the last year of his life he wrote "Bumbling in the Dark", his caving and cave diving reminiscences. His friend Dave Ryall put a few finishing touches to the book, which the Bradford Pothole Club have published, with the proceeds going to the Wheatfields Hospice in Leeds.

Scoff did some caving with the Westminster Speleological Group but, upon returning to his native Yorkshire, he joined the Bradford Pothole Club. About a third of the book is about caving with the Bradford, down Gaping Gill, Ingleborough Cave, Gavel Rigg and many other potholes, then further afield in Yugoslavia, France and Norway. The remaining chapters are about cave diving, again beginning in Yorkshire at sites such as Hurtle Pot, Brants Gill and Dub Cote Cave, and continuing abroad in France, Iceland, Slovenia, Tasmania, Spain and, most exotic, the Cook Islands.

So much for the substance, what about the style? The title gives rather more than a hint: this book was never intended to be a serious read!

Here are a couple of examples:

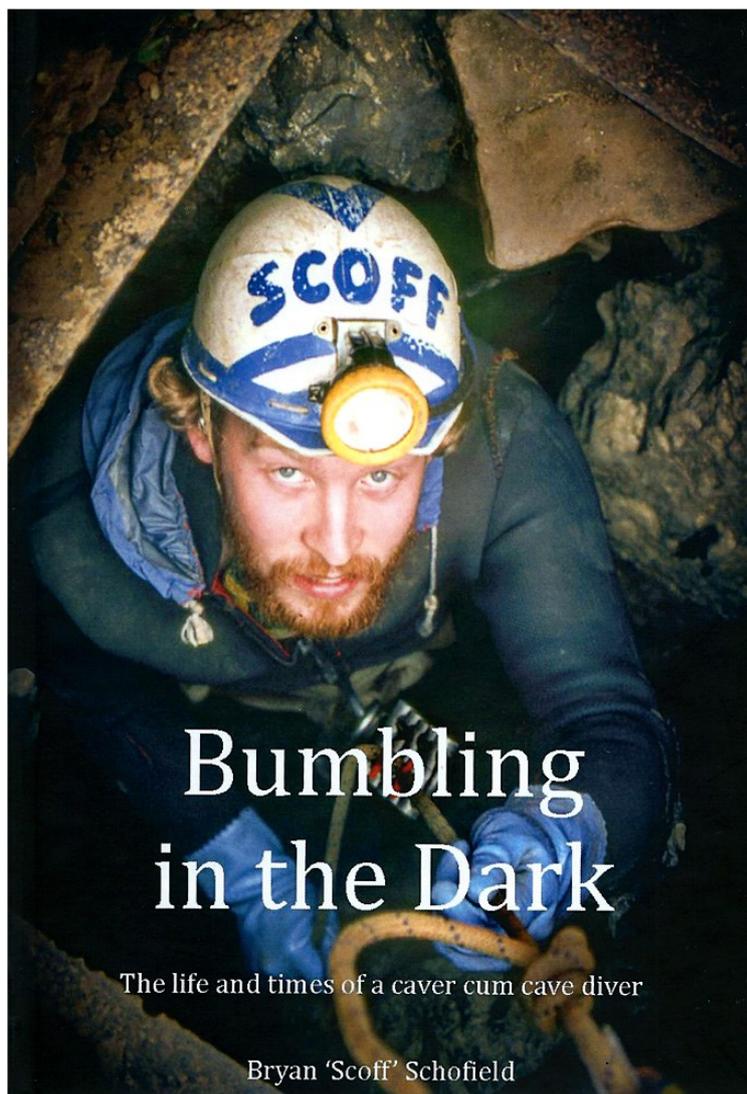
“Jimmy Ratbag was found on the moortop one morning looking a bit the worse for wear. When I enquired what was wrong, he replied that he thought he had broken some ribs. When asked how he had done this, he answered “Doing the conga in the Ale Tent and falling over onto some barrels”. Of course, I started laughing, and he joined in, wincing with pain. I’m afraid I laughed at him even more and, as he laughed, he winced even more.”

“The only exit I could find from this chamber was a very low bedding in one corner. I forced my way along this for about 7 metres until I realised I was on the point of getting stuck, and then only managed to turn round after a delicate 7-point turn! With the previous chamber named the Alhambra, after the theatre in Bradford, it seemed entirely appropriate that this section of cave should be known as Pantomime Passage”.

Though much of the caving and cave-diving described was demanding of skill, nerve and experience, and often led to original exploration, the description is light-hearted and self-deprecating, full of the eccentric characters and hilarious anecdotes that make up the caving scene. In his editorial note, Dave Ryall says the book is “written in the style of a caving club article which assumed everyone knew all those involved”, and indeed it reads like a selection from a newsletter or blog. It can be compared with two other recent books, Duncan Price’s “Underwater Potholer” and “Adventures Underground” by Dave Haigh and John Cordingley. All three books give space to people as much as to caves and thus are of particular interest to those who “knew all those involved”. Nevertheless, to that circle, charmed or otherwise and numbered in little more than hundreds, who take an interest in caves and cave-diving beyond their own experiences in one United Kingdom caving area, such books are really worth reading. Digging unstable boulder chokes, sorting out tangled lines in foul visibility, and being first into new cave passage are experiences which defy analysis, yet these three books all go some way to conveying what they are about.

It’s hard to judge how “Bumblng in the Dark” will strike readers with no experience of the caving scene which we’ve chosen and value. Maybe they’ll try to understand, only to be confounded by the lack of maps and surveys, or maybe they’ll look at the photographs of cavers, who could hardly be accused of appearing conventional, or maybe they’ll even look a bit further and turn up at Pen-yllt to try caving?

Bumblng in the Dark by Bryan Schofield, published by the Bradford Pothole Club 2019. 232pp, £15.



Confessions of a Cave Videographer (or 'How to be a YouTube Success'!)

Keith Edwards: a.k.a. 'Caver Keith'

2018 was an amazing year for my YouTube channel. The view rate took off exponentially, helped just a little bit by the Wild Boars cave rescue in Thailand which led to 637,144 video views on just a single day, 10th July. By the end of the year my caving videos had been watched almost 10 million times! I didn't think it would be possible to repeat this success but last year the view count was 10.4 million. Furthermore, over the last couple of years my videos, more often than not, have occupied at least half of the top ten positions in the YouTube Caving Topic.

Due to the rapid advances in camera technology (particularly the appearance of action cameras such as the GoPro) and LED lighting, it appears that more cavers than ever are producing cave related videos. However, the quality of the videos uploaded to YouTube often leaves a lot to be desired. In this article I will outline my journey in this field, as well as reflecting on what might lie behind my success, and sharing what has worked for me. I hope that it will encourage even more people to get involved in making underground videos.



Above: Photo: 1a. Caver Keith Promo 1: Keith filming in Selenite Tunnel, Ogof Ffynnon Ddu,

Right, 1b. Keith filming in Cross Rift, Ogof Ffynnon Ddu.

Both photographs by Mark Burkey.



I've been a caver for over thirty years. My first club was the West Midlands Cave Exploration Group, now sadly disbanded. In WMCEG everyone was given a nickname. The norm was to make the nickname as embarrassing or abusive as possible. I shall leave to your imagination why Colin became Colon and Paul became Swallow. My epithet was a rare exception to the rule, it was Sid, after Sid Perou, and that was because from time to time I took subterranean video using a VHS C camcorder.

My first videos were made using a couple of car headlamps secured to a plank of wood for lighting, powered by a car battery. Recruiting sherpas wasn't easy and we didn't get very far underground before they started complaining. Very few volunteered a second time. Eventually I progressed to video8 and then DV tape. Lighting was provided by some 100W halogen video lights. . The batteries for these weren't quite as bulky as car batteries but they were still lead/acid cells and so quite heavy, and they lasted less than 20 minutes on a charge. They were the brightest lights anyone had ever seen underground and the sherpas couldn't resist turning them on to light up very big passages and chambers, so by the time I was ready to take video they were already fading.

Having experimented throughout the 90s, with varying results, I took a break from filming until October 2008. After finding myself standing around for hours on end holding flashguns for the club photographer Brendan Marris, I decided to get my own back and packed a camcorder on a trip to Ogof Pasg/Ogof Foel Fawr. In the early days home editing wasn't feasible, but by now Moviemaker was part of the Windows software bundle. My early videos could only be shared by copying tapes, but in 2005 the video sharing platform YouTube was launched in the UK. So, I learned to use Movie-Maker and uploaded the edited video. It consisted mainly of Brendan's excellent photos, but with some embarrassing video of Brendan and others taken in the infamously tight connecting squeeze.

I bought my first digital camera in 2009. It was a Panasonic 640p camcorder. The video quality wasn't much better than its analogue precursor, but it was waterproof, small, light-weight and lasted a very long time on a single charge. I upgraded to a HD 720p model at the end of that year. I managed to trash this camera in Cwm Dwr 2011 whilst making Tight Cave - Large Caver. By the end of the trip it had stopped recording sound so the sounds of Mark Burkey struggling to get through the infamous gravel crawl were all stolen from other parts of the video, and no one has ever noticed that it doesn't always match up perfectly to the action - or lack of action you might say, if you've seen the video. I replaced this camera with a Panasonic HX-WA10 camcorder which recorded in full HD. It still works and I still use it occasionally today. In 2013 I acquired my first GoPro camera, a Hero 3 Black Edition which I swapped for a Hero 6 in 2018. In 2015, after attending a lecture by Gavin Newman at Hidden Earth and learning about micro 4/3 cameras, I purchased a Panasonic Lumix GX7. The quality of the footage I have obtained with this camera has far surpassed anything I had managed to record previously.



**Above: Photo: 2. Cameras. The cameras I use in the production of my videos.
Below: Photo: 3. Packed Camera Box. My specially fitted out camera box - a Pelicase 1400.**



Good video lighting, however, is much more important than having a really good camera. In 2010 both Brendan and I purchased 1300 lumen Scurion helmet lamps. These have proved to be excellent for video lighting. The illumination is very even and much of my close-up stuff is lit just using my cap lamp. Something to be aware of if you own a Scurion is that if either LED is set to the super low power level of 1 the lamps appears to flicker.

A couple of years ago I purchased two Fenix FD40 1000 lumen rotary focusing torches and these are in my opinion exceptionally good video lights. The illumination is very even with no hot spots whatsoever and, having five light output settings, they allow me to control the illumination of scenes very precisely. They are also waterproof. These torches, whilst being excellent, didn't give out enough light for the bigger passages. In 2018 My Fenix/The Photon Shop was kind enough to loan me three Fenix FD65 3800 lumen rotary focusing torches. These bad boys are the big brothers to the FD40s, having all of their advantages coupled with an amazing amount of light. I was so impressed I've just purchased a fourth one. Unfortunately, it appears that these flashlights have now been discontinued. I've recently complimented my lighting kit with a Fenix LR40R 12000 lumen flashlight which really comes into its own in very large chambers such as Big Chamber in OFD and the Hall of the Mountain King in Craig a Ffynnon.



Photo: 4. Fenix FD65 and FD40. Video lighting by Fenix - the FD40 and its big brother the FD65.



Photo: 5. Packed Lighting Box.

Editing, Editing, Editing

Whilst Windows MovieMaker initially served me well, in 2010 I was seduced by a 27inch Apple iMac and changed to iMovie for editing. I eventually outgrew this and in 2015 I bought Final Cut Pro X which I've been using ever since. Editing video is of massive importance. There are now loads of people taking caving footage and uploading the results to YouTube but, because their editing sucks big-time, the resulting film(s) aren't watchable. In the early days I was so pleased with anything that came out half decent I would include it all in the final edit. I never had any sense of audience. I assumed my audience would just be the people who had appeared in front of the camera and so I would include them all, even if it was the same scene but with just a second or third or fourth person in it. I edited out the rubbish - the bits where I was waving the camera around or shouting "Action", but there was a lot of repetition, no attempt to create pace and no proper beginning or end to the films.

My first attempt to create a properly edited video was my film of Craig A Ffynnon which I made in November 2010. It was also my first attempt at adding narration, and I suddenly realised I had a wider audience than just my caving chums. The number of people watching now numbered in their hundreds, not in the tens that had watched my previous efforts, and people started leaving comments too.

I now have a small group of critical friends who watch my videos and comment on them before they are made public. They tend to spot the errors I've missed by being too close to a project and they also make suggestions for improvements. I don't implement every suggestion they make but there is no doubt that this process has improved the end product enormously. Sometimes a video will go through several iterations before the final edit is uploaded.



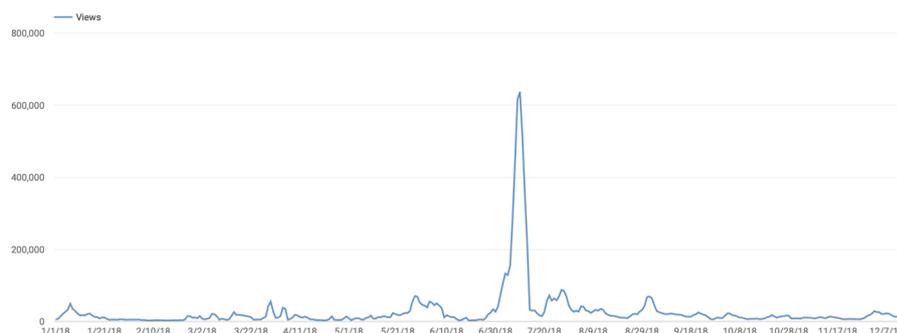
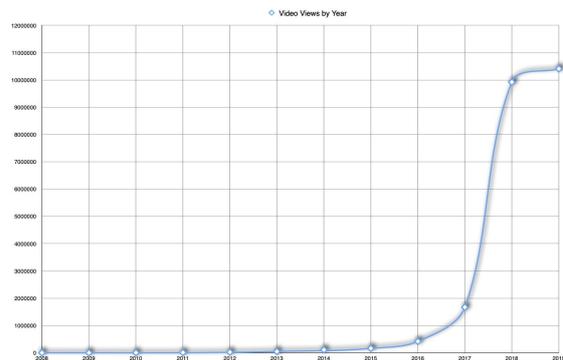
Photo: 6. Cover Keith Film Studio. Where the magic is created.

The Secrets of My Success

I celebrated the tenth anniversary of my first upload on 9th October 2018 and there's no doubt that after a shaky start I'm now enjoying some modest success. In terms of views my channel is the most popular caving channel on YouTube. Over 50,000 people have subscribed to my caving videos and recently I clocked up my 24 millionth caving video view, but the icing on the cake for me was being approached by the BBC. Some clips from my videos were featured on the One Show in February 2018 to illustrate the caving part of The Mother of all Challenges. The researcher who contacted me said, "Hi Keith, I work on The One Show and we are working on a Sport Relief challenge for the show. We'd love to use some of your amazing caving footage," and they did, about 4 seconds worth.

Right: Graph: 7. Cover Keith Channel Growth

Below: Graph: 8. The Thai Effect. In incident that occurred in Thailand in July boosted my viewing figures somewhat.



So how have I achieved this runaway success? I now use strong branding in my videos. My channel logo was designed by Brendan Marris and it is based on the famous MGM Leo the Lion logo. As I've always been a fan of Bart Simpson, Brendan came up with my Latin motto too, "Vescere Bracis Meis (Vish-her-ray, Bra-chiz, May-is)." If you're not a Latin scholar then try putting it into Google Translate.

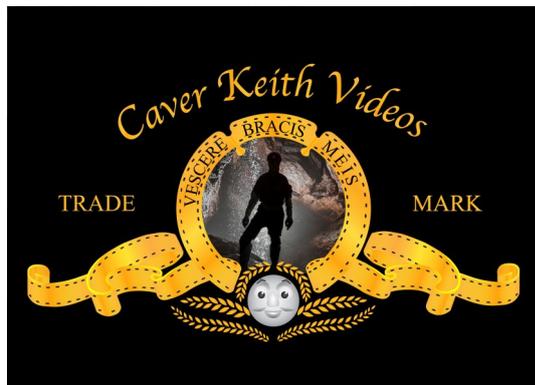


Image: 9. Caver Keith Logo and Motto

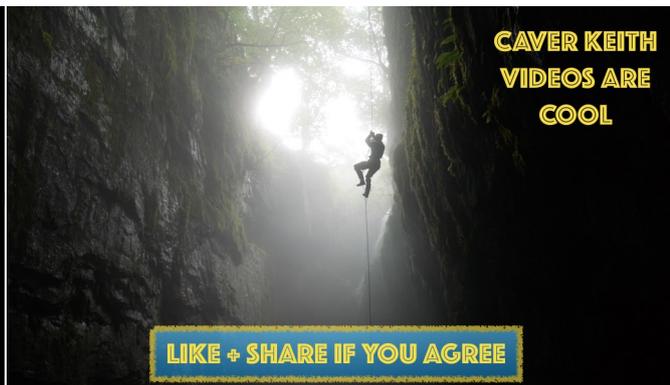


Image: 10. Caver Keith Videos Are Cool. Self-aggrandisement!

My videos have featured a fairly strong cast of individuals and I do think that this has helped over the years as my regular viewers/fans seem to eagerly await the next video to see what buffoonery the Dudley chumps have been getting up to.

My videos are often humorous but my sense of humour isn't to everyone's taste! It has been variously described as puerile, childish and downright embarrassing, along with other less favourable descriptions.

But the biggest influence on my success is that I go in for unashamed self-promotion and self-aggrandisement. It has to be said that, since the advent of the GoPro, there's a load of absolutely crap caving videos on YouTube, so most people won't bother to click on a video and watch it. Photos offer instant gratification. Videos require an investment of time. How do you get people clicking on your videos? Ensure that the title is intriguing enough to rouse curiosity and carefully choose a thumbnail image that generates some excitement.

Once you have started to build an online audience the next challenge is to keep them. It's just as easy to click dislike as it is to click like, although I would argue that any publicity is better than no publicity. My record for dislikes for one of my caving videos is over 2,800 and the record for a video on my channel is 4,811. More importantly it is just as easy to unsubscribe as to subscribe and members of my audience are very quick to respond negatively when I upload anything they do not like. A well-managed channel will mitigate this to a large extent, so I try to keep the quality of my videos consistently high, and I upload videos regularly to maintain interest. I like to think that my channel has a strong identity and I engage with my audience, always replying to serious comments. Finally, I endeavour to constantly improve on my previous best.

Some Top Tips for Budding Cave Videographers

Beware of shadows. On a lot of caving videos you will see the shadow of the camera. This never used to happen before the viewfinder gave way to LED screens, but holding the camera in front so that you can see the screen means that your lamp will cast a shadow. Simply remove your helmet and hold it to one side. It's a better lighting effect anyway and it will eliminate those pesky shadows.

Avoid a shaky camera. Jerky footage is very distracting to watch. I hate, loathe and detest videos taken entirely with head-mounted cameras. I'm not saying that there isn't a role for some shots taken with a moving camera, but the technique should be used sparingly. My preference is for a tripod mounted camera wherever possible. I don't often take a full-size tripod underground, but I do take a monopod and I have a number of gorillapods.

Spend some time setting up the lighting. Avoid direct front lighting if possible and position some back lights. The technique loved by photographers of positioning a flashgun directly behind the subject is difficult to achieve with video, as when the model moves the backlight will be revealed, but I've achieved good results by positioning the backlight behind boulders or round a corner or getting the back-lighter to walk along immediately behind the model.

Edit your videos. Add suitable mood music and/or a narration. Think about pace and audience retention and remember that often less is more. The first edit of my Ogor Rhyd Sych video was over 11 minutes long. The final edit is 7 minutes and 13 seconds. The more I chopped out, the better and more watchable the video became. No matter how brilliant your camerawork is, your audience will eventually lose interest if your video is too long. On the National Speleological Society web page for their video salon it says, 'Please keep in mind that a program that has a story, or includes a narration of some kind, or has an interesting theme is more likely to be accepted into the salon,' and that says it all really.

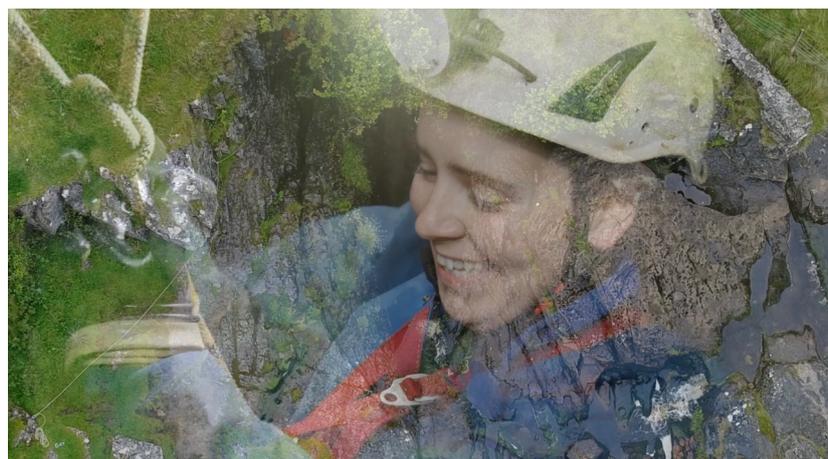
Be a little unpredictable to keep your audience interested and engaged. Try to produce a variety of different video styles. I've tried out a range of disparate genres - documentaries, music videos, promotional videos, pastiches, drama, comedy, factual, spoofs and even a five-part, mini cliff-hanger series. I've also incorporated special effects in my videos, including green-screening and animation.

Think about your audience. Who are you making your videos for - cavers or non-cavers? What emotion are you attempting to convey? Are you recording the environment for future generations to see what it used to be like? Is your video telling a story? I'm often asked who I make my videos for and the answer is I make them for me. I make the sort of videos I would like to watch, and if anyone else likes them it's a bonus. Thanks to YouTube analytics I know exactly the type of person most likely to watch my videos. They will be male, in the age range 25-34, from either India (29%) or the United States (11%) and 82% of them will watch the videos on a mobile phone.

Although I have achieved some modest success, my career as a cave videographer hasn't all been plain sailing. It took several years to get any recognition for my work and over 6 years to get my first half a million views. By and large, the videos I'm least proud of are being watched more than those where I think I've really produced something special. I'm under no illusion that my videos are universally liked. People do not hold back when commenting online, but I've had some amazingly supportive and positive comments too and generally viewers love my videos more than they hate them. A recent comment by Rich Warman, when he was asked what he thought of them, succinctly sums up my achievements as a cave videographer. He replied, "Well, they're okay, but he's no Sid Perou, is he?"

I've never had any formal training in film making. I've muddled my way through, stealing ideas from other people as I've gone along, but it has all been fantastic fun. For those who want to learn how to do it properly, best ask a professional videographer. On the other hand, if anyone does feel that I have anything to offer then I'm always happy to discuss any aspect of my work. My contact details can be found below.

Photo: 11.
The World of Caving. The thumbnail image for the RGS opening video.



Accolades for My Work

In 2015 I was awarded first prize in the video competition at Hidden Earth and in the previous two years my videos were awarded certificates of merit. Also, my video 'UK Caving Video Best Bits 2014' was selected to be shown at the prestigious Kendal Mountain Festival in 2015. It was short-listed from over 200 entries, most of them by professional film makers. I was asked to produce the opening/welcoming video for Hidden Earth in 2017. This was also judged best entry in the video salon. This video was so well received that I was asked to produce the opening video for 'A Golden Age of Cave Exploration' at the Royal Geographical Society in London in December 2017. This video went on to win the Tom Zanes Award (Best of Show!) in the 2018 National Speleological Society Video Salon. I also produced the opening videos for Hidden Earth 2018 and 2019.

Conclusion

According to MoneySavingExpert's Martin Lewis, to be successful involves four things:

It's necessary to have talent.

Hard work is vital.

Have focus. Zone in on what you are good at.

Most important of all is luck. Accept that failure is part of the journey and don't take it to heart.

Keith's Cavers is the video that took me the most time to film and edit. It is also one of the films I'm most proud of. After its showing at Hidden Earth 2018, it attracted the following comments:

"To use this as the opening AV for Hidden Earth was in my opinion an extremely poor choice."

"Quite a number of people commented most strongly and said that it left them completed uninspired."

"At the end you could have almost heard a pin drop such was, in my opinion, the lack of WOW Factor."

I guess it's true, you can't please all of the people all of the time.

Credit Where credit's Due

Of course, I couldn't have done it all by myself. Countless members of the West Midlands Cave Exploration Group and Dudley Caving Club have supported my efforts over the years, and I give every one of them my grateful and heartfelt thanks. However, I must give special mention to the following amazing bunch of friends:

Brendan Marris, who has starred in many of my videos, contributed remarkable photographs and produced some amazing graphics.

Ian Millward, aka Bosley, another of my stars and a very supportive critical friend.

I mustn't forget to also mention my Angels.

Mark Burkey, who is my biggest star,(get it?). He has also allowed me to use his fantastic photographs, is a brilliant actor and has a wicked sense of humour.

Jess Burkey, my most supportive critic.

Kayleigh Wood who is a recent member of the crew but has wholeheartedly supported me in all of my efforts.

Contact information

YouTube Channel: [youtube.com/keithedwardscaver](https://www.youtube.com/keithedwardscaver)

Facebook: @caverkeith

Twitter: @CavingKeith

Email: thecaverkeith@gmail.com

The Penwyllt Waterworks

Graham Christian

Many new club members do not appreciate that the water at SWCC headquarters is not on a public mains water supply. The water at the club actually comes fresh from a stream. This stream, the Nant Bwfre, drains out of the same marshy area as the water that flows into Ogof Ffynnon Ddu. This article will hopefully explain why the club has a great interest in maintaining its supply of water.

Throughout the 1970s, (Bob Hall reports), the old steel pipes were given to springing leaks. We would employ all manner of bodge techniques to deal with these. The simplest being to whittle a bit of hawthorn and knock it into any small rust hole. Scraps of wetsuit neoprene and a jubilee clip served a similar purpose. More serious leaks, such as those caused by frost splitting the pipes, were tackled with two-part resin kits of GPO origin. Blockages were also an issue and I remember one instance of a sheep's vertebra jamming in the pipe and grass building up behind that. This gave some pause for thought regarding water quality! By the late 70s the supply was becoming increasingly unreliable. After negotiations with other villagers and Hobbs Quarries, a contractor was engaged to lay a new pipe. This work was masterminded by Bruce Foster and Roger Smith, very largely funded by Hobbs, and completed in early 1982. The cost to the SWCC was £2402.

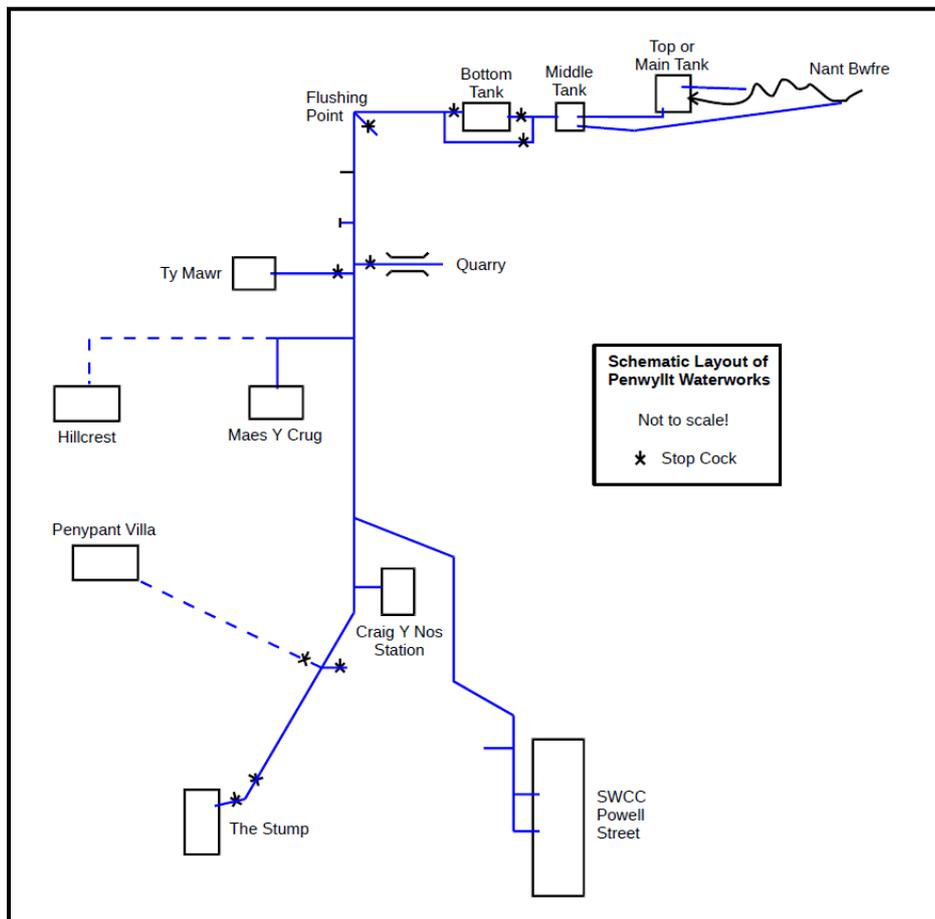
A new settling tank was constructed at the same time and a variety of tee-points and stop cocks were put in on the route to the various properties. The club is a member of the "Penwyllt Water Users Association" that is responsible for its maintenance and upkeep.

First, a description of the water system. The highest point of the system is an inlet pipe that lays in a pool in the stream. A chromed brass filter is fitted over the end of the pipe to prevent stones and vegetation entering the system. Further down the stream is another inlet pipe that has an aluminium mesh filter over the end. Downstream of these two inlets is the main catchment tank that is constructed of brick and has a steel grill on the upstream side. To the sides of the tank are gabion dams that prevent the Stream cutting down and flowing around the tank, not into it. (For those that do not know what a gabion is, it is a galvanised steel mesh cage one metre cubed that is filled with rocks.) This tank, while filling from the main stream flow, also takes water from the second pipe in the stream – the one with the aluminium filter.

Next downstream is a brick-built settling tank, that takes water from both the main tank and the first pipe upstream. From here, a pipe feeds to another, larger concrete settling tank. Between these two tanks are two valves and a tee-off, so the bottom tank can be bypassed while it is, for example, cleaned. From here the main water pipe crosses the stream behind a line of gabions and runs down the north side of the Nant Bwfre valley until it reaches the old railway track. After a flushing point on the corner, the pipe then runs over the embankment towards Penwyllt, up onto the top of the ridge on the west side of the cutting, down along the railway track again then up the vehicle track to the field opposite the quarry and down towards the road. There are tee-points with pipes going to the old quarry, Ty Mawr and Maes Y Crug.

After crossing the road, the pipe further divides, and a branch goes to the Stump with tee-offs to the old station building and down to Penypant Villa. The pipe to SWCC crosses the old railway line again, follows alongside the vehicle track before going diagonally from the track corner straight to Powell Street. There are other features along the route such as stop cocks, air bleed points and drain down points.

On the next page is a schematic diagram of the waterworks. It is not to scale but shows a number of parts that need to be checked.



On the whole, the system works well, but there are occasions when the water can cease to flow:

- During a long freeze when water is not flowing in the exposed pipework. This is typically at night when there is no demand for water from the users. When the quarry was working, they would fill their storage tank overnight, thus keeping the flow going day and night.
- During a long dry spell. During a drought the stream reduces to a trickle that is very difficult to capture.
- During flood conditions when grass and shifting sand, gravel and stones can block all the inlet points. This last seems to be not so much of a problem now we have three inlet points giving a chance that not all three will block at the same time.
- Natural erosion by the stream, normally doing its worst in flood conditions.
- Interference with the system by people who do not know what they are doing and the consequences of their actions!

An overview of the Nant Byfre looking east from the railway embankment. Our abstraction point and tanks are roughly in the centre of this view.



There are three tanks, this is the middle one. Note the polythene lining.



When this happens, there is no company to ring up and complain to – it is down to the locals to do something about it themselves. The practicalities of this mean that it is normally the cavers who keep an eye on it and sort things out if work needs to be done. It helps that a number of members of SWCC have a fairly good understanding of fluvial geomorphology!

The simplest job is to take a stroll to inspect the inlet points and tanks to make sure all is okay. While there, removing any grass and gravel that may have collected on the filters is a fairly easy job that anyone can do. It may mean getting a wet arm in the main catchment tank – a bracing experience in winter! There should be water overflowing from both of the two settling tanks. If not, further investigation is required to see why the inlets are not providing enough input. Lifting the GRP (ex-garage door) cover over the middle tank should reveal which inlet pipes are not flowing.



Clean Main Tank Filter



Clogged Main Tank Filter

Getting the long pipe from the furthest point upstream flowing again is the most difficult as there could be an air lock. If the top filter is clear, but only a trickle of water is coming out of the bottom of the pipe, an air lock is indicated. Lifting the bottom end of the pipe as high as possible, allowing it gradually to fill with water, and then dropping it down, creates a bit of a syphoning effect that may clear the air lock. One may have to try this several times to get the flow going again. Once a fair flow is started, it may then increase on its own to clear all the air out.

The more major routine work is clearing the main catchment tank of sand, gravel and stones. If they are allowed to build up too much, they can block the outgoing pipe. The two lower tanks have polythene sheet linings that were added fairly recently to stop leaks that were bad enough to endanger the supply in low water conditions. Greater care has to be taken when cleaning these tanks as the lining can be easily punctured, but fortunately this work does not have to be done regularly.



The Main Tank Emptied for Cleaning



Landslip!

Non-routine work tends to be repairs where nature has taken its course and done some damage. This can be the erosion of the stream banks to the point where land slippage has exposed the pipe and it requires supporting. This can be seen where we have had to rig a catenary system to take the weight of the pipe. Undercutting of the gabions beside the main tank makes them collapse, or the wire eventually rusts through due to the acidic water and they collapse. Small streams had

.... eaten away the edge of the railway embankment and had come dangerously close to exposing the pipe – speedy work by Cnewr Estate corrected that for us. These are the sorts of things for which we have to keep an eye out.



Dam Breach!

As an example, a wet walk along the tramroad from Pwll Bwfre on 30th December 2006 enabled a view down onto the dam. We didn't like what we thought we saw and confirmed it with binoculars. The gabion dam had been breached and no water was going into the catchment tank – we were about to run out of water at the club! This was before the upper two pipes had been added to the system. As it was late in the afternoon, no work could be done that day, but New Year's Eve saw a working party up at the tanks putting new gabions into the hole and making sure that water was once more going into the system. We certainly earned our pints that night!

Repairing the dam breach, December 2006





Above Left: Washout on the railway embankment.

Above Right: Timely repair work by Cnewr Estates.

Left: The location of the air-bleed point.

There is more work to do on the system to improve it. The air bleed point on top of the bank by the cutting is only a screw put in the top of the pipe. This is in a (loose) brick lined pit with a couple of stones placed on top. This can be improved by fitting a proper vent valve and a proper manhole cover. There is also a T-piece in the low section between the bank and the rise up to Ty Mawr. This is intended to be a flushing point but is only a blanked off Tee. I, for one, do not want to try taking the blank off at the bottom of the pit and then trying to put it back on again! Another case of building a proper pit and cover with a gate valve and outlet pipe like the one by the end of the embankment and old bridge.

Penypant Villa and Hillcrest used to take water from the system but have recently had boreholes installed instead. Penypant Villa's supply pipe has a stopcock on the tee point in the field over to the Stump, so that pipe is effectively cut off there. The pipe to Hillcrest runs behind Maes Y Crug and does not have a stopcock after the tee to Maes Y Crug. There needs to be one installed so that any inadvertent failure of the old pipe from there on does not cause a problem.

Hopefully, this article will have made the newer members more aware of where that nice hot shower has come from and that it is, to a greater part, our responsibility to maintain that water supply. It is better to go for a walk on a fine day along the route of the pipe up to the tanks just to make sure everything is okay, than to ignore it and wait for the water to run out for some unknown reason on a foul, wet and windy day – only to discover that a little bit of work on a nice day could have prevented an unpleasant trudge to clear a bit of grass from a filter!

Newer members are quite welcome to join those of us who know the system when we go for a walk to check that everything is okay. Quite often this is later in the afternoon after a caving trip, so can be fitted in with other activities. If you have any questions about the system – just ask. Anyone who checks the system should make a note of their observations in the logbook that is tied to the cupboard in the N^o8 Lobby. This helps us keep it all running nicely.

SWCC Newsletter 137

June 2020: Pandemic Supplement

This section of the Newsletter came into being during April, when it became obvious that much was happening in the SWCC world that deserved to be included herein as a record of an extraordinary period in all our lives. Many members responded with material very promptly and what follows is the result. It is worth noting how social media, and Facebook in particular, facilitated much of what is reported. Bob and Elaine

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Thoughts from our President

Fred Levett

SWCC President

The phone in my pocket vibrates. A message: “Weird your not allowed to see people buy” (sic). That’s my granddaughter; at 8 years old, her first steps into the world of social media are, through necessity, earlier than her parents envisaged. Just WhatsApp with a limited contact list, but she can reach out to her friends – so important. I reflect, “Weird” is right. When I was 8, there was no phone in the house and Zoom came on a stick.

Despite being busy with voluntary work, I have done a lot of reflecting recently. I notice more small things, colours, bird song, the Spring. I’m yet more aware of the inequalities of life, the challenges faced by others, how health matters, how privileged I am, how much I value face-to-face communication. What’s brought this on? A mid-life crisis? No, I’m well past the mid-point. The Coronavirus pandemic, that engulfs us all as I write this, is responsible for much more than the daily deaths figure on which so much attention is focussed. It has created a cliff edge over which society has stumbled. We are taking a collective tumble and it will be interesting to see how we pick ourselves up. Time will tell.

There feels to be a giant gap between a Saturday caving trip in Ogof Fynonn Ddu and it being a criminal offence to leave my house without reasonable excuse.

Hold on a minute! I remind myself I haven’t survived 50 years as a caver, with countless trips under my belt (or should that be helmet?), without learning a lesson or two. Weigh up the risks, use everything at your disposal, focus on what matters and can be done, trust your judgement, learn to rely on others where appropriate, seek help. Move on.

So where does the Club fit into this picture? Whilst primarily a gateway to the incredible underground world, the Club is much more. It may not be possible to use the HQ, visit caves, organise expeditions, but the Club has not ceased to exist. It has always been its members. Members – that’s you – who share a passion for the outdoors, adventure, comradeship, achieving together. We are people who do things, not just watch. We have our shared history to draw on and a certain determination. We may not be able to do what we want, but we can do something.

This Newsletter brings shared experiences, information, opinion and is a testament to our continued existence. It will remind you that you still *belong* and what, with determination, we will return to.

To end on a note of hope, we might see a better society emerge; I have personally witnessed countless small acts of kindness, people putting others first and their personal safety second, sharing food, showing compassion and understanding. To every member who has been helping others, in whatever way, thank you.

At a point in the future, caving will recommence, the HQ will open and events will be organised. Meanwhile, as I have said before, as a member of the South Wales Caving Club, you need never stand alone.

Pandemic

John Gillett

Outside the bubble of my home
The virus rages loose and wild
Among the helpless folk exposed
Because their bubbles burst.

Let's walk around with haloes on our heads.
Transparent plastic bubbles fed with air
That's filtered free from harm
By packaged process on our backs.

Did visitors in the deep past
Come with such gear to keep them safe?
Or were they angels of another kind
From those who work in NHS today?

©John Gillett 26/5/2020

A Pandemic Potpourri

Collated by Bob Hall

As might be expected, the SWCC membership has responded to the challenges of the Covid-19 pandemic with typical resourcefulness. Whilst the Committee and its various sub-groupings dealt with the 'nitty gritty' matters of financial management, the care of the headquarters and so forth, the SWCC Unofficial Facebook Group became the focus around which creativity flowered and some amazing initiatives came into being. What follows is, in part, an account of this activity in the virtual realm.

We must recognise that amongst our members we have a goodly number of medical professionals, NHS support staff and other 'key-workers'. They have all had to continue to work, often under challenging, and perhaps distressing and dangerous circumstances. Other members will have had caring responsibilities or concerns for their own well-being. But, for many members, some working from home or studying remotely, others furloughed or otherwise without work, the challenges have been different. Some of the contributions and images over the next few pages tell us something about the initiatives that individual members have undertaken to keep the club flame alive through virtual interaction. Others recount personal experiences and responses to 'lockdown'. The tone is intentionally light, if not downright frivolous, and indeed your editors toyed with 'Lockdown Lunacy' as a working title!

Perhaps the Virtual Long Common Room has been the most significant initiative, and here Chloe Francis picks up the story:

With the club closed and the looming reality of being confined to Oxford for the foreseeable, I hatched a cunning plan. On March 19th 2020, I emailed the membership with an invitation to a "highly experimental" virtual Long Common Room. Paul Craddy and I had spent some time the evening before testing out a couple of options for facilitating this. We decided that Zoom worked the best.

I wasn't sure how well my idea would work, or how many people would be interested in joining in. Although I'm used to having virtual meetings in work, they generally have a clear purpose and agenda. Could Zoom really enable the camaraderie and banter of the LCR on a Saturday night? It was worth a try anyway.

Turns out quite a few people were interested in the idea: by 20:30 that Saturday night we had about 20 people in the vLCR. What was lacking in any organised activity was made up for with lots of good chat. Harvey even serenaded us with his guitar. ***(See screen-shot on next page!)***

It has been great to see people engaging with the vLCR as we have progressed through lockdown. Some regular vLCR attendees are people who wouldn't usually be able to make the club on a weekend evening. As well as the Finnish contingent of SWCC, members have joined from (at least) Dublin, Luxembourg, France and Canada. Activities have included: intense competition in various quizzes; listening to and sharing stories from the club's past and present; insights into trips to far-flung places and locations closer to home.

While we have no clear idea when we might be reunited back at the HQ, the vLCR has helped to connect people during these tricky times. When things begin to shift towards our new semblance of normality, perhaps the vLCR is an event which should remain on our social calendar. A mid-week evening social once a month sounds like a good potential plan to me.

Chloe Francis



***The vLCR:
Harvey in Serenade Mode.
Photograph Jenny Burrows***

Meanwhile, back in the physical world, Tony Baker was concentrating on remaining ‘Mynydd Ddu fit’ in the hope digging activity would resume soon. He shares his training secrets below:

On 20th March 2020, an SWCC e-news was sent out to inform members that the HQ was closed with immediate effect, at the start of the Coronavirus lockdown. On the same day, all youth football was halted, Premier League and EFL football suspended, pubs and restaurants were closed and restrictions on many aspects of normal daily life were imposed. In short, all of my most important leisure activities, as well as my work as a freelance photographer and part-time teacher, came to an abrupt halt.

Members of the Ogof Giedd digging team had a brief exchange of emails after the closure of the HQ, to establish whether we might be able to occasionally visit the dig by meeting up away from the club, but on that first weekend the news media was full of pictures of miles of parked cars at the bottom of Snowdon, and the terms of the lockdown were soon changed to restrict travel outside of one’s home area. Some members of the team are within the age group considered most at-risk of COVID-19 and declared themselves unavailable. Martin Hoff and Paul Quill walked up to the dig on Sunday 22nd March and made sure the dig was left secure, removing the more valuable digging tools for safe keeping. Within days, the Brecon Beacons NPA took the matter out of our hands by closing pretty much the whole park. Infuriatingly, after many winter weekends of torrential rain and gales, some of which we had endured to keep progress going at the dig, the weather for the next few weeks was glorious.

Stuck at home in Berkshire for the foreseeable future, it became important to look further ahead and concentrate on retaining a reasonable level of fitness in readiness for an eventual return to caving and digging. The landowner of my local mountain bike centre, Crown Estates, closed Swinley Forest to cyclists, removing yet another leisure activity. Dog-walking became important not just for the dogs but for me as well, and since lockdown started they’ve been having a brisk walk of three miles or more every morning. Not entirely coincidentally, three miles is the distance from the car park at Dan-yr-Ogof to the dig at Ogof Giedd. Sadly, my digging rucksack is stored at SWCC, so I can’t quite replicate the experience.



Tony and Mavis out on a Run

My fourteen-year-old son Harry, deprived of football, cricket, basketball and school PE activities, recognised that his fitness would disappear if he didn't take action, so six-mile runs around our local military lands with me and dog Mavis replaced his Tuesday school games afternoon. Long family dog walks became a Saturday-afternoon staple. With off-road mountain biking considered irresponsible, due to the risk of accident or injury, I took advantage of quiet roads to use the road bike on sunny days, while sticking to the guidelines suggested by *Cyclist* magazine and not venturing further than 20km from home (and avoiding the temptation to go fast down steep hills!).



Tony and Harry Baker on a family bike ride, after the trails at Swinley Forest had re-opened.

At home the garage has been cleared, the caving and digging gear neatly packed and sorted, and the shelves full of flashbulbs and bulb guns rearranged. Having volunteered to provide material for the upcoming 75th Anniversary Publication, I've been able to devote time to that without feeling guilty that I should be doing something more pressing.

I've been trying to eat sensibly, sticking to regular mealtimes and avoiding snacks, although the Ogof Giedd digging team will be pleased to learn that I have been expanding my repertoire of cake recipes, despite the frequent lack of flour and eggs in the supermarket. Alcohol intake has been kept restricted to Friday, Saturday and Sunday evenings, despite the temptation to pour a glass of wine during our nightly family binge-watch of *Homeland* (highly recommended, if you've not seen it). Saturday nights have become a social whirl, with Sue in one room on a Zoom call with her Welsh friends, while in another I take part in the local dog-walking group's weekly online quiz and then join the virtual Long Common Room (huge thanks to Chloë Francis for setting this up, and a special mention to Piers Hallihan for the 'not-the-ceilidh' evening on 2nd May). What would life in lockdown be like without smartphones? It's been great to see familiar faces and exchange caving-club banter while we can't get to the HQ, and the SWCC Unofficial Facebook page has been a regular source of entertainment, its content refreshingly different from some of the acrimony and vitriol elsewhere on social media. Finding cave pictures for the A-Z alphabet picture game, started by Paul Craddy, was an amusing diversion – I struggled with Z, though.

At the time of writing (8th May 2020, the 75th anniversary of VE Day) lockdown restrictions have just been extended for another three weeks, and it is clear from the likely schedule of de-restriction that it will be some time before we can visit Penwyllt again. The caves will still be there when we get back, as will the dig at Ogof Giedd, even if it's likely we'll be walking up in the wind and rain again. The sun is shining in Berkshire today; the dogs have done four miles this morning, the lawn needs a mow and I've just downloaded a recipe for rhubarb cake. Will the digging team like rhubarb cake? And it's Friday, so at 7pm it'll be time for that first beer...

Text and Images: Tony Baker

With the AGM postponed, Piers Hallihan set about developing a virtual alternative to the cancelled Ceilidh. Here he tells his story:

The Curfew Ceilidh

For various reasons, the SWCC Ceilidh missed a couple of years, so it was really good to have it back in the Club calendar last year, thanks to the sterling efforts of Paul Craddy and Harvey Lomas. After the event, there was some consideration given to the format. Having the talk from Gary Mitchell about the Thai Cave rescue before the start of the festivities turned out to be a really good format, but it did set a bit of a challenge. Without a major international rescue to rely on, what else could fill the early evening lecture slot?

I've long been fascinated with the Club expeditions to Balinka Pit in Yugoslavia in the mid 1960's and thought that the story deserved re-telling – many of the newer club members may not have even heard of the place, let alone the story of how a Welsh Caving Club finished up with medals from the Yugoslav government. I approached the Committee and asked whether they had any plans for the 2020 AGM "lecture" slot, offering to organise a talk on the Balinka expeditions. Not only was my hand nearly bitten off, I also found myself responsible for organising the rest of the event!

Fast forward a few months to March 2020 and the coronavirus arrives in the UK sending the club, along with the rest of society, into a lockdown – no gatherings, no unnecessary travel. No caving and certainly no club meets. We remained optimistic that we had all of April for things to settle down but, once it became apparent that this wasn't going to be over in a few weeks, the AGM / Ceilidh weekend joined the list of thousands of events, large and small, to be cancelled all over the country.

By early April, Chloe had set up the Virtual Long Common Room on Zoom and a few of us were meeting there on a Saturday night, drinking and talking about caving.

I spoke to Paul Meredith and offered to put on some kind of virtual event to take the place of the lecture and Ceilidh. Having made the offer, I then had to think about what I was going to do. How was I going to come up with something different?

After a few hours of Googling ideas, I realised that I was asking the wrong question. I started to think about what the event would need to achieve. It was then that I realised exactly what the lockdown had taken away from us. Yes, the ban on caving (and various other activities) was frustrating but what became apparent quite quickly was that the real vacuum in the lives of many people now was the little human interactions. I knew then that, whatever form the Non-Ceilidh was going to take, it would have to be something that encouraged interaction.

Fortunately, a lot of my work this year has been around developing and implementing remote training solutions. I've looked at all sorts of websites and online games to test and check students' knowledge of the subjects that they are learning. Some of them turned out to be of little use professionally but, when the lockdown started, I found a use for them running virtual Scout meetings.

One of the games I'd just started experimenting with was an app called GooseChase. This clever little game brings the old fashioned scavenger hunt into the digital realm. Used by schools and event organisers all over the world, it's usually linked into a wider event. You'll see users running around parks and towns photographing random things as dictated by the creators of the various challenges. I'd already put together a short game for my Scouts and it proved to be very successful – even in a short 45 minute game, facilitated via Zoom, it achieved the objective – it got 15 kids working in teams, rushing round their respective houses as they worked to complete the goals and collect the points. It struck me that I could scale this up. I could come up with some new challenges – some grown up ones, but keep a few of the childish ones too; after all, it is for cavers!

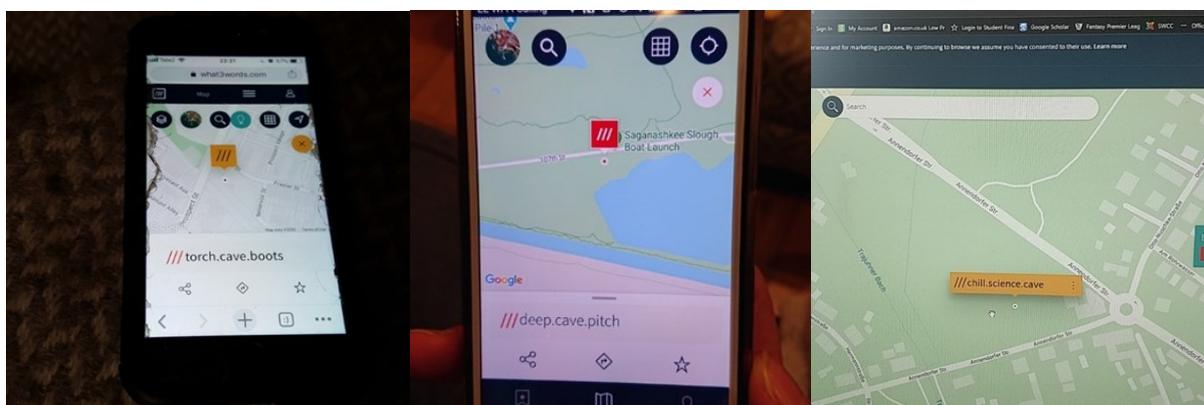
I spent some time creating a list of different challenges, then published the game via the SWCC Unofficial Facebook group and via email to every member. It started off slowly, with a few individual submissions, and I worried for a day or two that the plan wasn't going to work. People were signing

up, but they were all choosing to join different teams, and I thought that we were going to end up with 40 teams each with one person in. Then a few teams started to develop, and the collaborative submissions started to come in.

Challenges like “Photograph all of your team members on a conference call” meant that these teams, which had come together in quite a random way, (when you join the game you see only how many people are in a team already, not who they are) needed to interact. Other challenges meant that they had to work together to see who could score the most points for a given challenge before choosing the best person to submit an entry – things like “Photograph the highest point you can see without leaving your premises” .

Of course, there were some caving related ones, some club related ones and some alcohol related ones. There were silly ones and ones that needed some thought. Here’s a sample of the challenges and the responses:

What 3 Players – Using the “what3words” app, find a location that describes your team



***International Libations –
Show us your drinks cabinet. 50 bonus points for each different country represented***



Top Entrance—OFD II is 432 metres above sea level – how many times do you need to climb your stairs to make the same ascent? Film your last few metres (bonus points for doing it in caving gear).

Obviously, sharing a video doesn’t work in print but I thought Andrew McCleod needed a special mention for climbing up and down his stairs 190 times in full caving gear to make the ascent.

Big Impression – Pick a well known club member and show us your best impression.



There were challenges to write new caving songs – the app only allowed for submission of about one verse, so I’m hoping to collect the full versions and see if we can update the song book.

There were some isolation themed challenges too. **Panic Buying** asked participants to create a recipe using the random items found at the back of the cupboard. Some sounded worth a try but others, like James Meredith’s Fried Mackerel (tinned) with Pineapple rings and Garlic Pitta Chips, sounded less palatable; something that James can verify – the follow up challenge, released a week later, was to make the recipe with bonus points available for a video of you eating it.

Many of the collaborative challenges were video based and I hope to put together a compilation of the highlights of the month.

Three teams really engaged with the challenge and the competition became quite fierce until team ‘Dan Yr Ogof’ stole the lead, with just minutes left to go, with a fantastic collaborative video recreating the drama and excitement of the discovery of OFD.

But the GooseChase was only part of the challenge – I still didn’t have a programme for the big night itself. I had one item – the announcement of the winning team and a short selection of highlights from the 40 different challenges.

Item two was to be a quiz, but one with a difference. We’ve had a few quizzes on the virtual LCR and I didn’t want to just copy someone else’s formula. I wanted something that would trigger conversation, so I looked for inspiration and found it in the archive section of the club website. We have 136 Newsletters brimming with club trivia. A quiz based on those would get people reminiscing and sharing stories and hopefully inspire others to delve into the Newsletters and find out more about the stories behind the questions. I picked a selection of questions from each decade and, to keep with the digital nature of the evening, set the quiz up on the Quizizz website.

Finally, having fed in some inspiration, I needed to actually get people talking. One of the downsides to using conference-calling platforms is that they don’t fully recreate the feel of the LCR. It’s great to get people all together but what it doesn’t do so well is to facilitate the little pockets of conversation, the separate chats in the kitchen, the library, the benches outside. I wanted to recreate something close to that, so I had a play with a great little feature in Zoom – the breakout rooms. By splitting people off into groups of 6 or 7, I could get those small interactions going.

Simply popping people into virtual rooms wasn’t going to work, though. I needed to seed the conversation. The solution was simple (although it took me a while to find it). Get them to write a story.

Each breakout room was given a simple text file with the words “One day, whilst caving with _____ in _____ I.....” and given a few minutes to add a line or paragraph.

The groups reconvened, and the updated files were shared before the breakout rooms were re-opened and new random teams were created to write the next paragraph.

We did this a few times until we ended up with a collection of interesting short stories. Of course, as fun as the stories turned out to be, they were only ever a by-product. The aim of the session was to get people chatting in small groups. The fact that the groups were randomised three times meant that everyone interacted with different groups, including a couple of members dropping in from overseas who were able to chat and catch up with people they'd not seen for years.

Here is a selection of the finished 'literary' works:

"One day, whilst caving with Alan Coase in DYO, I accidentally joined the discovery team of DYO 3. I didn't know where I was. I thought I was in another cave. I thought I was in OFD. I thought I was hallucinating but really, I was in a slide show. Suddenly I realized that Ariana Preston had slipped some dodgy mushrooms into the chicken and mushroom soup that I had been simmering on stove. It was all confirmed when I saw the pink elephants start gyrating on the controversial wide sofa in the LCR. As for the monkeys that were swinging from the drainpipe, they should have known better!"

And:

"One day, whilst caving with Alan Coase in DYO. I accidentally joined the discovery team of DYO 3. And popped out at Waun Figen Felin, and saw Ian Alderman naked on top the hill with Bob Hall, Toby, Sue Mabbett & Jules Carter!! The sheep looked disturbed, they claimed to be looking for the club premier dig, but somehow..."

And:

"One day, whilst caving with Father Christmas in Rudolph Rift I bumped into a snowman and he had a big big carrot! He was is in coal cellar passage when they were near summertime, because it was near summertime all was left was his big big carrot. Whilst I chimneyed up a nearby rift, the carrot got stuck help said the carrot, Father Christmas said 'HO, HO, HO, that is a very big carrot'
Snowman said, 'I don't like soup' The carrot said 'I don't like snow'
Look said FC, Stop arguing but get us the f*ck out of here.
Carrot turned and said, 'has anyone seen the Turkey?' and someone turned and said he was in the pool. Then the carrot said to the snowman 'You won't get out of the keyhole'.
And then it got all a bit bizarre!! They were all lost and kept going in circles, inner, outer and grand, it ended to be terminal. The carrot and the snowman said, let's go down and see the Whitewalls, where all get drunk on sherry."

OK, maybe not Booker prize material but we had some fun creating them. As I mentioned above, these really were the byproduct. The aim was to get people chatting and it certainly did that. More than one team mentioned afterwards that they got so engrossed in the chat that the story got forgotten until the 60 second warning popped up.

Would I suggest that online parties should replace every event? Certainly not, but, in the circumstances, it was a good alternative. It's certainly worth doing every now and then, to include those who can't travel to South Wales for various reasons.

And a few quotes from participants:

"Just emailing to say thank you for organising last night - it was a brilliant success! Think your tactics to get people talking about the club's history were extremely effective. Everything was really good fun! "

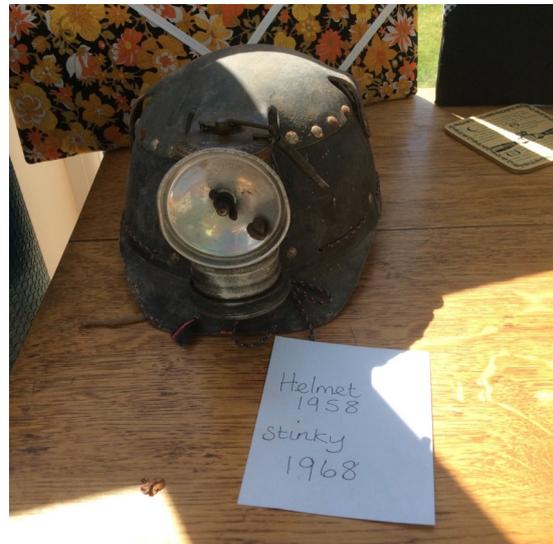
"I just wanted to thanks for all the work you put into the Not the SWCC Ceilidh event last night. It was a well run and very professional affair and all seemed to enjoy the challenges"

"Excellent idea about running a virtual post AGM thing! Brilliant. We need more people thinking creatively during this time."

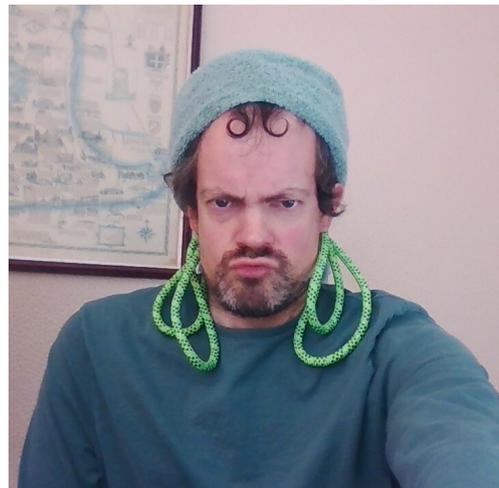
Piers Hallihan

Andrew

Angela, aardvark adventurer, ambled aimlessly along airy avenues and alleyways. Audrey, an aardwolf, advanced ahead, approaching an alehouse. Aardvarks are analytical, and are against ale altogether. 'Ahoy!', announced Audrey. Angela, alarmed, absconded against an alabaster antiquity. Alistair, an armadillo accompanying Audrey, ascertained Angela's area. Avariciously, Audrey and Alistair ate Angela!



***A medley of images from the challenges:
From above and then clockwise: 'High Tackle',
'Alliteration', 'Living Art', 'The Pioneers', 'Living Art' (2),
'In Miniature', 'Conspiracy Theory'.***



Piers has described the 'GooseChase' he organised and it certainly hit the spot with some members. Here is Sanita Lustika's and Simon Protheroe's enthusiastic response to the activity their team ultimately won!

A group of people competing to do silly things at home, nothing unusual here; that's right, it's 2020 with the Covid-19 lockdown in full swing. A while back, a treasure hunt challenge to help celebrate the Ceilidh appeared on the Facebook page calling for participants. The idea was to get into groups and collaboratively (online, not in person, obviously) complete a range of challenges. These were testing our skills and creative thinking with tests of songwriting, reenactments, mathematical challenges all the way to cooking skills. Our team was proudly carrying the name Dan Yr Ogof and consisted of Chloe Francis, Simon Protheroe, Sanita Lustika and Paul Craddy.

Once in a while, you'd look into the app and discover that a teammate had completed a challenge and have a great laugh at their creativity or envy their magnificent and varied drinks cupboard. And so, we were ticking off one challenge after another with some great hits like:



Filming a lego based caving traverse scene. (Ours had special effects with water splashing onto the little lego cover from the gutter.)



Re-enacting a famous statue.



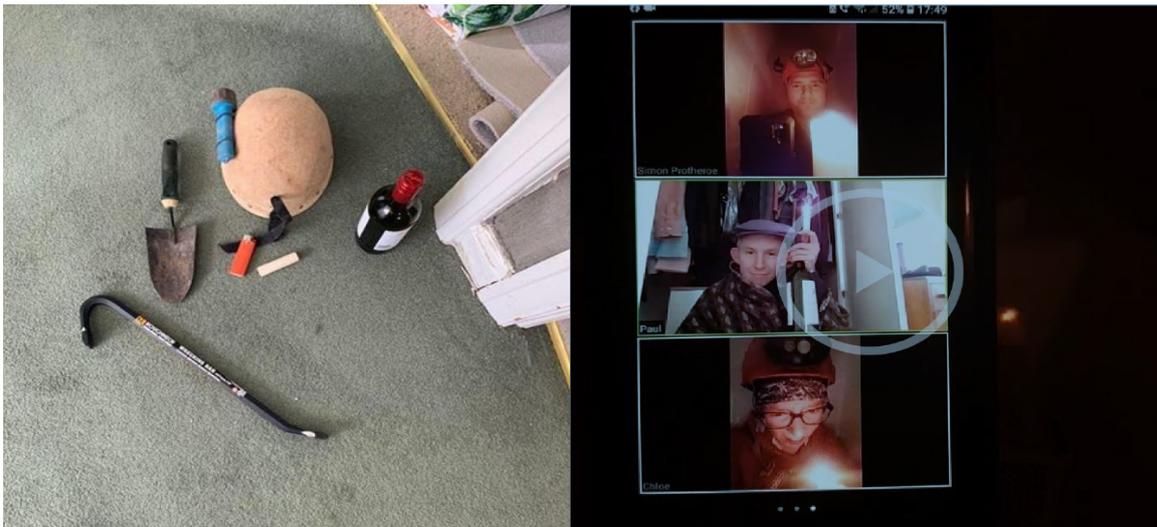
Dramatically entering a room. (We should have been awarded more points for this one, how much more dramatic can an entry get?)



Reminiscing about old times with photos from the start of the early days of our caving adventures.

For a long time, we were in the lead However, towards the end, the competition got fierce as others stepped up their game. We were facing a 3rd place, a few thousand points behind the lead team with just two days before the finish line. During our team call, we committed to one final push to give other teams a run for their money and see what would happen.

The tension on the last night (1st of May) was tangible. It was the closing moments of the SWCC Ceilidh Challenge and we, the Team Dan Yr Ogof, were scrambling around to find candles, caving gear, tools, wine and a flat cap to reshoot a submission for the 'History 101' task.



Aiming to earn bonus points for collaboration and the use of props to edge us into 1st place, we quickly set up a Zoom call, 13 minutes before the 6pm deadline. With Paul C fulfilling the starring role of Peter Harvey, Chloe F and Simon his accomplices (Sanita was sadly on a walk), we set to drawing curtains, clambering into wardrobes and sitting on the downstairs toilet, definitely the darkest place in my house! With 7 minutes to go, we ran through the script for a 10 second clip. It had to be short and to the point. The stakes were high and it was all over so quickly. 'One-take wonders', we had it resubmitted and were on tenterhooks awaiting the results. (At the time of writing we're just ahead in 1st place, but who knows what could happen before the announcement!) It was such good fun collaborating and cheering each other on as we completed the tasks. In the process, we experienced the team spirit and camaraderie you would have when caving, where everyone tries their best to make it a great time for all. As a team, we would like to thank Piers Hallihan for keeping us entertained and laughing during the lockdown.

Sanita Lustika and Simon Protheroe

Tony Baker was not the only person concerned about their fitness as Piers goes on to describe:

SWCC (Logistics Division) on a mission.

For almost 75 years, the logistics division of SWCC has moved things, often big heavy things, around the world in innovative and, usually, low budget ways. Beating the coronavirus lockdown turned out to be amazingly simple, compared with shifting dive cylinders from one continent to another.

My daughter, Meghan, is one of the Club's up and coming new cavers. She was just a few months old when I joined SWCC and has been caving pretty much since she could walk. She was born with Cystic Fibrosis, so activity is an essential part of her wellbeing routine; a routine that got completely derailed by the lockdown. For the first week or so after the schools closed, Meghan was riding her bike a few miles "around the block", a short circuit through the lanes on the edge of our village.

We were keeping an eye on medical advice from many sources, including the Cystic Fibrosis Trust, regarding shielding people with respiratory illnesses and, at that time, we had no real concerns; the lanes were quiet enough that she wasn't likely to come into contact with anyone, and the exercise was as good for her as the time out of the house.

Then the lockdown started to really bite, and people who I've never seen at this end of the village before started walking past our house to access the quiet lanes in a steady stream right through the daylight hours. We had no choice but to call time on Meghan's daily cycle ride. The risk of her coming into contact with one of these people, most of whom either didn't care about social distancing or were struggling to count to 2, was just too great.

In a very short time, she was getting frustrated. Walking round the garden wasn't cutting it and her motivation to do any kind of exercise was pretty much zero. I had a brainwave and, after discussing it with her, started shopping for an exercise bike. Turns out that the people who bought all the bog roll had also bought all the exercise equipment. Anything that was vaguely near my budget was sold out in every outlet I looked at. Sure, for £750 I could have one delivered in 24 hours, but that was significantly more than I was able to spend. Even Amazon Prime couldn't get me a budget exercise bike in less than 8 weeks so, in desperation, I shared our plight on Facebook.

Offers of loan of equipment came in. Many more than I was expecting, and more than half of them from SWCC members. If I had the space and the facility to transport them, I could have set up a nice little sideline shifting used exercise bikes. The trouble was, even the nearly local offers meant someone having to make a journey and I had trouble convincing myself that, as important as it was to us, collecting an exercise bike would probably not satisfy the criteria of "essential travel."

One of the first offers to come in was from Bob and Elaine. It was much appreciated but not, apparently, realistic. If I couldn't justify fetching one from Toby, 45 miles away, how could I contemplate transporting one from Gosport, 160 miles away?

Within a short space of time, though, an answer appeared. The SWCC Logistics Division sprang into action. Picking up on the Facebook thread, Gary Vaughan commented that he was working in Gosport the following day and in Bristol a few days later and had plenty of space in the van. Offers started to arrive from cavers in the Bristol area, offering temporary storage until onward travel could be arranged. It still didn't seem workable until it transpired that Gary was going to be working just a few miles from the Severn crossing, only minutes away from my sister's address. Since my sister has a daughter currently living in Bridgend, the occasional care package was passing between the two of them. If Gary could get the bike to the Severn, it would only be a matter of days, a week at the most, before one of the family could make a suitably socially-distanced transfer. And that's exactly what happened.

Gary picked up the bike from Bob as he passed through Gosport and delivered it to Chepstow a few days later on his next job. My sister dropped it in to us that evening, as she was bringing some essential supplies to her daughter (replacing stuff that is currently locked in her student accommodation as she was away for the weekend when the lockdown hit and hasn't been able to get back to it yet). When I couldn't get an exercise bike from 20 miles away because of the lockdown, the SWCC machine moved one over 150 miles without a single unnecessary journey.

So there you have it: SWCC Logistics Division, more efficient than Amazon Prime.

We'd like to say a massive thanks to Bob, Elaine and Gary for making it happen and to all the Club members who offered options or support.

Piers Hallihan



Returning to the virtual world, further entertainment was enabled through a game initiated by Paul Craddy. Here is his account of what transpired:

The SWCC Unofficial Alphabet Lockdown Game

To generate some fun between the members and share great caving images and experiences, the SWCC alphabet lockdown game was born amongst the SWCC Unofficial Facebook Group . The simple premise:

Each day a letter of the alphabet would be posted, and members would share a caving related picture that they are in or they took, starting with that letter.

What started as a bit of fun really snowballed. Across the 26 days there were over 600 images posted by a wide range of members; these ranged from spectacular caving images through to comedy shots and included members past and present. There were also some very inventive images, ranging from marmite jars to suggestive cave formations. The range and variety were truly impressive, highlighting the adventures that the club has undertaken and its great spirit.

During the last few letters, as a little “Thank You” for all the effort that had been put in, Roo Walters and I hatched a plan to generate a little competition. We identified 3 categories: Best Caving Photo, Essence of SWCC, and Funny Caving photo, and identified 6 pictures for each category. The SWCC Unofficial members then got to vote on their favourite pictures, with the winner getting a £20 Starless River gift voucher. Narrowing down the images from 600 was a challenge, and there were so many great ones but, in the end, the chosen pictures were:



Best Caving Photo: Nicky Bayley – The Elephants trunk, Racer Cave. Mulu



***Essence of SWCC: Claire Vivian
Taking the Adventure Queens group caving for the first time.***



***Fun Caving photo: Julian Carter
Emily in a Daren drum on an
Unexpedition to France.***

A huge thanks to all the people who took part and shared their photos. It was great fun and a real highlight of the early lockdown period. I am looking forward to seeing plenty more creative images in the coming months and years, which can be used for future fun and frolics.

Paul Craddy

***Now, moving from the 'virtual world' of 'Zoom' meetings and social media, we enter yet another world; the world of pure fantasy.
If you have been paying attention thus far, you will recognise the origin of this piece of delightful whimsy!***

Around Easter time Lego Jo was exploring for cave entrances on the kitchen massif. Amongst her finds, including the back of oven shaft, and spice jar maze cave, she discovered the elusive and much searched for 'Easter egg cave'. She was very excited to explore the cave as she'd read much about it from the few who had been lucky enough to find it previously. As she explored the cave it quickly opened up into a well decorated chamber filled with white stalactites and golden egg-shaped stalagmites. On the wall at the back she spotted a flowstone glistening with crystals that had a 'sugary' texture. A little further on she discovered a pitch, and thought about returning another day, but she was worried the walls might shatter if she tried to bolt them. As she carefully retraced her steps back out of the cave, she wondered how best to conserve the cave against hungry cavers and how the cave would be affected by climate change...



Jo White

Meanwhile trouble was brewing on the outskirts of Bristol!

George Linnane rose to the challenge thrown down by fellow CDG member Chris Jewell. This was to do something utterly unrelated to diving whilst wearing full diving kit! Here is the story in stills from the video George made with a few snippets from the Facebook responses.



Needless to say the banter was extensive and much of it not suitable for reproduction in a family journal such as this! But George's efforts provided a wonderful snippet of entertainment for a great many people at a stressful time.

So, from frivolous idiocy on the fringes of Bristol we move a whole hemisphere away, to the Antarctic. Many older members will remember my sister Kitty who caved actively with the club throughout the 1970s and also participated in one of the first Blue Holes diving expeditions to the Bahamas with Julian Walker and Rob Parker. Here Kit describes her return from Antarctica:

Magnificent Antarctica with a Coronavirus 'Extra'

When I departed on my 'trip of a lifetime' to Antarctica, coronavirus was certainly big news, but like most people there was no sense, in early February, of how fast and with what far-reaching impact matters would develop over the next few weeks. I re-booked my outbound flight to avoid a stop-over in Hong Kong and we had our temperatures taken before boarding the vessel in Bluff, on the southern tip of New Zealand, on 16th February. Otherwise all was very positive aboard the MV Ortelius, an ice-strengthened former Russian research vessel turned "expedition cruise" ship carrying 150 passengers and crew.

A few geoscience friends and I had joined a group of 25 organised by the Friends of the Scott Polar Research Institute on their "Centenary Ross Sea Voyage" in celebration of the founding of SPRI in Cambridge back in 1920. I had long had an interest in Antarctica, inspired by various things such as growing up listening to my dad's recording of Vaughan Williams' Sinfonia Antarctica and watching the Sir John Mills film from 1948. Also very important was visiting Clive and Claire Jones' farm near Porth-yr-Ogof back in the mid 1970s, where, by the fireplace, they had a fantastic Frank Hurley print of Shackleton's Endurance trapped in the ice in 1915, which I found very inspirational.

Later, as a specialist geophysicist in magnetic data processing in the 1980s, I was responsible for the compilation of the British Antarctic Survey's earliest aeromagnetic surveys into a published map of the Antarctic Peninsula; during that time I made some lifelong friends amongst the BAS team, but had been disappointed that I was not allowed to join the staff and "go South" because I was female. So it was very satisfying to be able to participate in the Ross Sea Voyage for both the historical and the scientific interest.

Along with the "SPRI Group" on the ship were passengers from across the world, and we enjoyed an amazing voyage with fabulous scenery, wildlife and truly spectacular ice, and visited Scott's Hut at Cape Evans with his granddaughter Dafila Scott, for whom it was a very significant trip. We were all well and happy as we sailed the final miles of our 6500 nautical mile (12000 km) journey, crossing the Drake Passage through some huge seas towards Ushuaia at the southern tip of Argentina – only to learn that the local Argentine authorities had denied us permission to disembark. We had been at sea for 32 days and were possibly the 'cleanest' ship on the planet, but from across the harbour we watched our flight take off from the local airport without us.



***Port of Ushuaia, Tierra del Fuego
Photograph: Kitty Hall***

After taking on fuel, we sailed north for another 1200 nautical miles. This was actually a real bonus – the daylight trip down the Beagle Channel (we had sailed up it at night) was so spectacular; we saw more great wildlife, especially schools of Peale's dolphins 'bow riding' at a sustained 12 knots along with the ship then suddenly swimming off when they had had their fun; and less romantically, sailing for three days and nights parallel to the City of Lights – hundreds and hundreds of Chinese squid-fishing vessels using huge lights on booms to attract the squid up to their hooks. They sit along the continental shelf edge just into international waters, the crews are in unsafe, unregulated conditions, living aboard for several years at a time. The lights on the horizon were really spectacular, but learning more about what was happening was a real eye-opening experience for many of us on board.



Gable Island in the Beagle Channel. Photograph: Kitty Hall

Buenos Aires also refused us entry, but eventually we were berthed in the container port in Montevideo, Uruguay – a pretty grim contrast to the beautiful mountainous setting of Ushuaia! Intense negotiations took place between the ship’s owners, the Uruguayan authorities, the embassies, the airlines ... and eventually groups of passengers of 18 different nationalities were able to leave the ship bound for many parts of the world. I was in the last group, almost wishing I was staying on board for the voyage north to her home port of Vlissingen, Holland.



***‘Cordon Sanitaire’ formalities in Montevideo harbour
Photograph: Kitty Hall***

We left Uruguay via a ‘cordon sanitaire’, in a coach with motorcycle outriders, black consular vehicles with tinted windows, a police escort with flashing blue lights ... at Montevideo airport we were the only passengers, flying on to Sao Paulo in Brazil for a flight to London. In the end my journey home was exceptionally straightforward and quick through three empty airports and even an empty road home from Heathrow on 28th March.

I had been away nearly seven weeks and came back to a very different situation, not least the excitement of a “commune” being established in my house with four young family members moved in to “work from home” here rather than in their crowded London flatshares. Antarctica was a fabulous experience, and while for us the extra time sailing north to Montevideo was a bonus, I realise that other Antarctic cruise ships had a much worse experience, and we were very lucky to have enjoyed our delay.

Kitty Hall

Covid-19: The SWCC Response

Paul Meredith
Club Chairman

For many of us the Covid-19 event will have been one of the more significant events of our lives. Very early on, it became obvious that, unlike a lot of things, Covid-19 would not stop at the gate to the SWCC HQ. As it started, (early in 2020), we had no idea of the extent of pandemic, the length of time it would last or the wider, or longer term, effects it would have on society, or the Club. This article is a contemporaneous account, and record, of how we managed the Club during the 2020 Covid-19 event.

The HQ

SWCC responded quickly, and ahead of the formal government advice and lockdown, by closing the HQ on March 22nd 2020.

Although this is not the first time we have had to do this, we had no written record of how to proceed or what actions to take. The following is a list of actions which formed the basis of our tactical response, which may be a useful point of reference if we ever have to close the HQ again:

- Appoint a shutdown co-ordinator to facilitate the whole close-up event
- Communicate closure to all members, guests and visitors
- Stand down all Duty Officers
- Make arrangements for periodic security checks
- Change mid-week access codes
- Remove the cave keys to an off-site location.
- Set thermostat to 15 deg. C (60 deg. F)
- Check gas situation
- Leave heating on timer - consider altering it to cover weekends.
- Isolate water supply
- Drain header tanks
- Open all taps
- Remove shower heads
- Make arrangements for grass cutting
- Prepare a longer-term plan.

The support, help and contribution from many locally-based members made managing the closure and the ongoing visits and security checks much easier, and was very much appreciated.



A locked-down HQ.
Photographs: Toby Dryden

Committee Meetings and the AGM

With the HQ closed, and all but essential travel suspended, we were unable to hold a physical meeting in April. SWCC had already started running a Virtual Long Common Room event on Saturday evenings, using an internet-based video conferencing tool (Zoom), and we benefited from one committee member's professional experience to use that technology for committee meetings.

By early April it became obvious that, for the first time since 1947, we would be unable to hold the AGM in the traditional format. There is no provision within the SWCC Constitution for not holding an AGM, but there is a very useful text in para 12c:

'Any matter not provided for in the Constitution, Policy Document or Rules may be dealt with by the Committee or a General Meeting.'

The Committee, supported by the advice of the Governance Advisory Group, felt that this gave them the authority to postpone the AGM. Because of the uncertainty of the situation we initially postponed it to a date to be not before August 29th. For the interim, we set up a Working Group to investigate the technical practicality of running a virtual General Meeting over the internet, and we consulted the GAG with respect to constitutional issues. The planned Ceilidh was replaced by an extended, and more structured, virtual Long Common Room session.

The Club

With our initial tactical response established we prepared a longer-term plan. From the range of possible options our response was to:

- Pro-actively maintain, and look for opportunities to develop, the Club in accordance with national guidelines and the aims and objectives set out in the Constitution
- Continue with our policy of prudent financial management and, in so far as is possible, safeguard our financial reserves.
- Support members, and endeavour to sustain membership at roughly current levels through a programme of events, activities and other opportunities to engage with and maintain an interest in the Club
- Maintain the HQ as a focus for the Club's future activities
- Develop an exit plan and ensure that measures are in place that facilitate the reopening of the HQ, in accordance with government advice and when it is safe and practical to do so.
- Regularly review our response in accordance with national advice and guidelines.
- The practical implementation of this strategy included:
- Running weekly social sessions using an internet-based video conferencing, alphabet challenges, goose chases, continuing with eNews and Newsletters, providing a range of internet-based activities and events for members to participate in. We remained open to any new ideas or suggestions for maintaining interest in the Club
- Undertaking some financial modelling to investigate the effects of short, medium, and long-term closure of the HQ and reduced income. With no income from hut fees we decided to continue to collect subscriptions, which are due on Sept. 1st
- Making an application for a small business COVID-19 relief grant
- Reducing maintenance of the HQ to only that required to maintain the fabric of the building
- The development of some future scenarios of how the Club might have to / want to operate in the future.

Finally, I would like to thank to ALL of the members who have helped and contributed to keeping the club running during this unprecedented event.

Strange times

Barbara Lane

Penwyllt you see is a special place
No other exists in time and space
Members, visitors, young and old
Brave natures wonder in the dark and cold

Cottages warm with friendly chat
Embrace explorers with hardened hat
Starless rivers flow deep and far
Their colour akin to blackened tar

Strange times we live in at the mo
For caving and walking we cannot go
Visits to our club have been barred
And the members are finding this really hard

But fear not my friends for it won't be long
Before the cottages again are filled with song
Soon it will be over and then you'll see
How much you missed old SWCC



Two takes on the same cave feature: the water-splash in Piccadilly, OFD.

Top: Keith Edwards captured by Kayleigh Wood, and Right: Becca Miller captured by Nick Adams

