

TRAVELS BENEATH THE EARTH: REMEMBERING 100 YEARS OF THE UNIVERSITY OF BRISTOL SPELAEOLOGICAL SOCIETY.

by

ANDREW FLACK, LENA FERRIDAY and NICK STROMBERG

ABSTRACT

Examination of the experiences of travels beneath the earth across twenty oral history interviews reveals UBSS members' diverse attitudes – from delight to dread – towards the dark worlds beneath the earth. In the process, it uncovers the rich sensory experiences of their encounters with the subterranean. Many of these experiences converged around the adaptation of participants' bodies to the new spaces that surrounded them, revealing a thorough symbiosis between the body of the caver and the physical world. For some, this symbiosis was facilitated via changing technologies, including changes in climbing equipment that allowed easier access to deep underground spaces, clothing that allowed for increasingly extensive expeditions, and lighting that enhanced the scale and scope of perception in the darkness. Through engagement with visceral testimonies, this paper will illustrate that embodied and emotional relationships between UBSS cavers, and their underworlds, were rich and unstable, changing across time, space and according to individual experience.

INTRODUCTION

Desmond Donovan was the oldest surviving member of the University of Bristol Speleological Society, having joined in 1939, shortly after the start of the Second World War. An embodiment of this historic Society's living heritage, his memories were animated by the faces of individuals long passed, including Bertie and Marjorie Crook, the Stride brothers and Professor EK Tratman. Memories of the people and vital social relationships at the heart of a society imbued with a distinctly familial ethos are crucially important. But, beyond that, Desmond also reflected extensively on what it was like to be in the darkness beneath the ground, of the physical and embodied experiences of travelling the dark trails of the subterranean. Such recollections must not be underestimated. Not only do they capture a wholly tangible past, but these insights shed light on the transformations in caving practice over the course of the past century, as well as the ways in which the underground experience facilitated by the society could be profoundly personal. Desmond shared impressions of naturally adapting his physical mobilities for more efficient travel in the darkness, and the technologies that allowed him to navigate the underground most effectively - wearing a boiler suit and 'grotty' old clothes, accessorised with his father's Trilby hats with holes cut out for his ears to poke through (Donovan, 2019). Donovan's memories of the physical process of going underground, and the sensual and emotional experiences it engendered, are replicated – in diverse ways – across the memories of UBSS members, past and present. These testimonies comprise a deep and diverse living archive.

This paper - emerging from research undertaken across the Society's centenary year - surveys 20 oral testimonies of UBSS members, considering specifically the aspects of these testimonies that attest to their engagement with the underground. Using this approach, we have privileged thinking about personal experiences of the subterranean environment (what we have called here 'underworlds', evoking the non-tangible mythical underworlds of so many world

cultures), over simply the physical landscape of this environment (the ‘underground’). Examining the accounts of travels beneath the earth in this way reveals participants’ diverse attitudes – from delight to dread – towards the darkness itself, and further, uncovers the rich sensory experiences of their encounters with the subterranean. Many of these experiences converged around the adaptation of participants’ bodies to the new spaces that surrounded them, revealing a thorough symbiosis between the body of the caver and the physical world. For some, this symbiosis was facilitated via changing technologies, including changes in climbing equipment that allowed easier access to deep underground spaces, clothing that allowed for increasingly extensive expeditions, and lighting that enhanced the scale and scope of perception in the darkness. Through engagement with these visceral testimonies, this paper will illustrate that the embodied and emotional relationships between UBSS cavers and their underworlds were rich and unstable, changing across time, space and according to individual experience.

The insights gleaned from these testimonies are significant. In positioning our analyses at the intersection of cultural and environmental histories, we consider the history of caving within an experiential frame. There are very few recent historical studies of caves and caving (see, most recently, Crane and Fletcher, 2015), and these pay little attention to experiences of the underground itself. Shedding light on the neglected consideration of human encounters with the underground aligns this work with the slightly more developed set of histories relating to mines and the lives of miners (see, for instance, Williams, 1992). While similar in some respects, mining is substantially divorced from caving in its emphasis on toil, exploitation, and physical and psychological suffering. Our examination of caving memories serves as a useful reminder of the different ways in which the underground has been experienced and imagined. Wider still, darkness itself has been subject to an array of historical interrogations in recent years, from Western attitudes to darkness in its broadest sense, to the urban gloom of the modern city (see, for instance, Edensor, 2017; Edwards, 2018). Our consideration of underground darkness expands this literature, not only through an emphasis on the lived experiences of total immersion in obscurity, but also through our interest in a darkness more total than almost anywhere else on Earth.

Working with memories of sensory and emotional experiences offers important avenues into traditionally neglected seams of knowledge. Indeed, recently, environmental historians have appraised the significance of oral testimonies to the telling of environmental stories (Gaynor and McCann, 2017). The privileging of sight above all other senses in Western culture has led to the development of significant vocabularies to effectively communicate recollections of ‘what something looked like’. As scholars have, more recently, turned towards histories of the other four (at least...) senses, we have been presented with the challenge of working with memories of embodied engagements with the world that resist such easy articulation. (Smith, 2006; ‘The Senses in History’, 2011; Howes, 2005) In our examination of oral testimonies relating to the UBSS, we draw on important literature that provides new avenues into working with the traces of historical multisensory experience.

METHODOLOGY

Over the course of the UBSS’s centenary year, the project team – comprised of the authors and Linda Wilson and Graham Mullan – interviewed 20 members of the Society, before transcribing the interviews. A series of questions were posed to each interviewee, probing for recollections of embodied experiences beneath the earth. Oral testimonies can be at their most valuable where they seek traces not of what happened but, rather, of how people felt and feel



Figure 1. *Caving equipment in the '50s. Mike Balister, Geoff Fuller and Oliver Lloyd at the entrance to Axbridge Ochre Cavern, Mendip, 1954.*

Photo: © Geoff Fuller

about their lives and the experiences and events that define them (Perks and Thomson, 1998). Our results were decidedly mixed in terms of the degree of detail interviewees were prepared to offer. Some - such as David Savage and Dick Willis - responded very directly to this line of questioning. They had clearly reflected on these issues before. Others, meanwhile, such as Bob Churcher, had not seemed to have actively considered the act of caving in this way before and thus offered less developed answers. Identification of differences among interview subjects are not intended as criticisms. Instead, they highlight at the outset a range of different ways of thinking about one's experiences beneath the earth. By emphasizing embodiment and experience, then, this project not only injected new approaches to the study of the underground environment, but also prompted cavers to consider new ways of considering and historicizing their past caving practices.

In the essay that follows, we highlight the ways in which these oral histories revealed memories of mobile and sensual perception, and the emotional experiences of following the darkest trails beneath the surface of the earth.

LAYERS OF SKIN AND MOBILE PERCEPTION

Memories of caving offer insights into the ways in which bodies historically moved below the ground. Moving underground is an intensely physical activity, and some testimonies communicated a tangible sense of this subterranean immersion and movement. Reading from notes taken at the time of his first caving trip, down GB Cavern in October 1966, Steve Trudgill explained that ‘All I’ve written there is “deep breath, turn back on lights, stumble, cannot see, custom boots to glow rock dangle down and wedge and push. At last stand up, grope hard rock, below the air. Black caverns yawn open, now down on your knees before the hole. Reverence. Crawling on sand and walk and drop down with the chamber where water falls. Is this from heaven?”’ (Trudgill, 2019).

This kind of movement was never a ‘pure’ series of contacts between human body and cave environment, however. Experiences of moving beneath the skin of the earth, as articulated by Trudgill, were in large part mediated by prosthetic skins – clothing which enabled access to the underground in the same way that diving technologies gradually enabled greater human access to the marine world. Travel beneath the earth was, in large part, about the engagement of a human-technological hybrid with the subterranean world. For example, Kit Eaton, who joined the Society in 1956, recalled wearing an ex-navy submarine immersion exposure suit, or ‘goon suit’:

‘Comprising of a double layer of thin rubberised canvas with neck [and] wrist seals and integral canvas soled boots, with a chest to crutch “foreskin” entry that you knotted with cords after climbing through, the double layers could be blown up rendering the occupant dry, warm and floating. However they were very, very fragile requiring the wearer to use a totally intact boiler suit over the top, a rare item amongst most cavers gear in those times as most wore the most torn and tattered collection of old ex-army long johns, trousers, vests, sweaters etc. topped by a coverall that had more hole than cover. Indeed, most of us carefully kept a separate intact boiler suit alongside the Goon Suit, for the occasions when these were worn’ (Eaton, 2019).

Eaton’s description here indicates the presence of multiple skins, the adoption of which transformed experiences of the underground, rendering the caver more comfortable and able to spend longer underground than they had previously been able to do. By the 1960s, this caving ensemble had developed very little. David Savage similarly recalled wearing old clothes and a boiler suit, in combination with heavy boots (Savage, 2019). Barry Perratt, meanwhile, recalled an instance in which the ‘goon suit’ offered a means of adapting to travel among specific underground features.

‘And another incident I can remember in a cave, was that I’ve never learnt to swim... Anyway, we came to a part in Upper Poulmagollum where we had to get past. So how could I do it? You could feet on one side and back on the other side, and shimmy along to a certain extent. And it got wider and wider, and just impossible. So, what I did was I simply blew into there (gestures), so I was like a Michelin man. And then dropped into the water, and I remember Gary Witts just towed me. That worked quite effectively’ (Perratt, 2019).

During the 1960s, wetsuits began emerging as a means of better insulating the body from the elements underground. Clothing, as an artificial outer skin, mediated the experience of

the underground in important ways. The wetsuits, however, simultaneously affected maneuverability in the narrow passageways. These pseudo-skins impacted on the mobile haptic experiences of the underground landscapes, making effective navigation more cumbersome. Clive Owen recalled the restricting effects of wet suits which, while ideal for keeping cavers warm in damp underground environments, were ‘irritating’ in dry caves. Furthermore, Owen recalled that it was ‘more tiring to cave in a wetsuit ... because it constricts you’ (Owen, 2019). Linda Wilson elaborated on the pitfalls of wetsuit technology:

‘caving in wetsuits, although it might have been safe in terms of keeping you warm, it was just horrible. Because they were restricting, difficult to move in at times. I remember doing a trip in a borrowed wetsuit that was several sizes too small down Peak Cavern in Derbyshire. We were caving there and I worked out that I kept falling over, I’d take a few steps and then I’d go flat on my face again. I didn’t realise until after a while that the problem was that the gusset of the wetsuit only came up halfway up the sides so I didn’t have the full stretch of my legs so I was waddling around like a penguin up and down this passage falling over the whole way and I was like - this doesn’t fit me, and it’s really unpleasant’ (Wilson, 2019).

Indeed, some interviewees recalled creating their own wetsuits. In a sense, then, clothing as prosthetic skin could be deeply individual, not only in the choice of skin but also, by extension, in terms of the kinds of experience they facilitated. Peter Standing recalled that ‘We generally made our own wetsuits. So, we spent a lot of time with Evo-Stik, gluing them together. And forever falling to bits, and you had to re-glue them. They were most unpleasant putting on, if you went for a weekend’s caving, on the second day when they were still wet’ (Standing, 2019).

While such clothing enhanced the experience of the underground by providing warmth and comfort to the caver, such descriptions of historic clothing technologies perhaps disrupt the notion that experiences underground could ever be ‘authentic’ in the sense of a pure experience



Figure 2. *Caving equipment in the ‘70s. Wet suits, Texolex helmets and ex-army boots. Chris Greenall, Rich Barker and Graham Mullan, Poulmagollum, Co. Clare, Ireland, 1974.*

Photo: © Steve Warr.

of the underground (Wilson 2019). In reality, clothing technologies – prosthetic skins - increased the distance between human skin and the body of the cave itself. By extension, it becomes clear that changes in clothing technologies over time also meant that experiences of the underground changed.

Changing clothing technologies are vital to understanding historical experiences of moving underground. However, clothing was merely a single element of subterranean locomotion. There were also highly personal ways of moving underground which developed due to the lack of formal training to provide UBSS members with prescriptive guidance on how to navigate below ground. Oral testimonies suggest that each caver's body enabled adaptation to the underground in its own unique ways. David Mead captured this experience in his recognition that 'By and large, it's like a child learns to crawl really. When you get there, you just do what you can to move...It seemed just an extension of normal life' (Mead, 2019). Adapting to movement underground was remarkably easy for some. Tim Hill recalled that 'it's something I never had a problem with to be honest. The first time you go down you're generally with somebody and thereafter the majority of caves, certainly then, you followed marks' (Hill, 2019). Others, such as Angus Watkins, recalled the kind of practice undertaken in preparation for going underground: 'The only practice before I went in', he recalled, was 'in the old Refectory which became Brown's, [and] had a set of stairs down from University Road. And there was a space beneath them which was quite useful for practicing squeezes' (Watkins, 2019).

Here, Watkins demonstrates the necessary entanglement of multiple bodies in order to move through the cave. Not only were cavers required to adapt their own bodies to the underground environment, but movement throughout required an adaptation and hybridisation with the bodies of fellow cavers. Moreover, such movement underground was as much about psychological discipline as it was about physical adaptation. Thinking on your feet was a crucial part of successful cave navigation. Linda Wilson recalled that,

'Climbers will always tell you you climb with your fingers and toes, so to speak. But for cavers, if you can put your knee on the rock it's fine or if you can wriggle your bum in a crack so you know you're not going to slide that far... So you're used to using every point of contact that you can. And not committing yourself to something - you'd never wriggle feet first over a drop if you have no idea what's on the other side of it. So often it's a case of having a look at something and you change which way round you're doing it' (Wilson, 2019).

Adaptation to cave environments was something that took place over a period of time. Clive Owen recalled that 'one of the things I certainly did notice when I first started caving was that after a caving trip I would feel stiff cause I wasn't used to using my muscles that way. And as well as stiff, tired, obviously. Once I'd got used to using my body and muscles differently so that I could navigate the cave passages more efficiently ... I think once you've learnt it, it does last pretty well, because I have to do a reasonably long trip down before I get stiff afterward.' (Owen, 2019).

SENSORY PERCEPTION

Beyond the relationship between technology and haptic sensation underground, a variety of allied sensory experiences characterised memories of travelling underground. Humans are - generally speaking - visual creatures, being heavily reliant on their sense of sight to survive and thrive in the world. But in a world where normal vision is necessarily impaired, caving not only became a feast for the extra-visual senses but also came to be fundamentally defined by transformations in lighting technologies. In other words, caves themselves were

produced by the kinds of lighting used to render them visible. Different forms of lighting illuminated formations in different ways and permitted different degrees of penetration into the cave systems and the thick darkness resident in the underground.

Rudimentary lighting was the principal mode of illuminating the subterranean world for the first few decades of the Society's operations. For much of the pre-Second World War period, UBSS cavers attached candles to the front of their helmets, which emitted an unstable intensity of light that was limited in its capacity to penetrate the darkness (Churcher, 2019). There was, however, something deeply authentic and perhaps profoundly moving about the experience of darkness in the presence of a fragile candlelight. Barry Perratt recalled the New Year's Eve nostalgic tradition of descending Goatchurch naked and with merely a flickering candle flame (Perratt, 2019). The moment of transition from one year to the other is imbued with the spirit of renewal and, for many, is a moment of perspective in which one's significance fades in the shadow cast by the power of the natural world.

In addition to candlelight, paraffin and carbide lamps were also available before the Second World War, and became more frequently used as the decades advanced. They went some way toward stabilizing the intensity of light emissions, enabling more effective travels underground. David Mead, who joined UBSS in 1956, recalled using 'a Tilley lamp in GB Cavern, which was a paraffin operated thing, with a luminous filament thing. Which was capable of quite a good light' (Mead, 2019). This was a permanent fixture in the lamp, and it could illuminate the large formations in the cave in ways that candlelight did less effectively. Similarly, ex-miners' batteries, either lead-acid or nickel-cadmium, could be used in water, and opened up new avenues for cave exploration.

Despite the advantages of new kinds of lighting technologies, they often presented challenges to easy movement through underground passages. They were often heavy, dangerous, and rarely lasted long, so a number had to be taken to ensure adequate supply for an underground expedition. This could render such travels not only cumbersome but also added to the potential perils of subterranean travel. Linda Wilson noted that '...the old NICAD and NIFE cells were all really heavy and they were in the small of your back, so they weren't too comfortable especially if you were going through tight places. Often it would be a case of taking them off and pushing them through in front of you' (Wilson, 2019). Tim Hill, meanwhile, noted that 'Second-hand batteries were coming in when I was a student, but they had a big drawback - people got horrible burns down their sides. Of course, nowadays, quite rightly, you're not allowed to use carbides. But they did have advantages: they gave much more diffuse light. And you could warm your hands on it!' (Hill, 2019). Increasingly better visual perception of underground worlds, then, often came at a significant price. Carrying this equipment made movement through the underground relatively more cumbersome and this rendered travel underground a physically demanding experience, beyond simply hauling one's body along, up, and down passageways.

The arrival of LED lighting in the mid-1990s, however, revolutionized underground travel, substantially affecting the character of this trade-off. According to Dick Willis, who joined UBSS in 1971, 'whereas in the old days you'd blunder your way down the middle of the passage in this little pool of light, with the dimness over here and over here, now you go down and you can look at the whole thing' (Willis, 2019). Similarly, Clive Owen enthused that 'when LEDs finally arrived, they were fantastic, and they still are. You know, I've seen things I never saw before when I went down caves, and that's amazing.' Continuing, Owen reflected that 'I would have been used to seeing only a few metres, and so in the small passage you would see everything, and in the big passage there'd be quite a lot you didn't see. Yeah, I can almost imagine that the way that the dark was always sort of maybe slightly pressing in, nowadays

doesn't really happen' (Owen, 2019). Beyond more effective illumination, the move to LED technology also affected the very colours and shades of the caves themselves, and this was not always a welcome development. Linda Wilson noted that 'the original lights we used had a very yellow beam. So there was a slight, it's a very warm light, there's a nice, slightly yellowish glow. But when the LEDs started coming in that was really interesting because they lasted a lot



Figure 3. *Caving equipment in 2015. Elliott Smith in the Bergkäsehöhle, Totes Gebirge, Austria.*

Photo: © Elaine Oliver

longer and they were quite bright but the early generation of them were not very directional so it sort of threw a wider light, but it was a very different quality to the light, it was very white ... a lot of people didn't like them at the time because they didn't like the white lights, they preferred the older, slightly warm yellow lights' (Wilson, 2019).

Changing light technologies, despite an array of drawbacks, essentially expanded the underground world, permitting visual access to areas that had previously been off-limits to cavers. For David Savage this engendered a deeply mindful reflection on the experience of discovering new spaces. Given that developments in lighting technologies continually illuminated features that had never been seen before, he recalled that 'it's a unique sensation. This feeling that I'm just about to look up on something that's never, ever been seen by, not just any human being before, but possibly any animal.' (Savage, 2019)

Lighting, then, had the capacity to add layers upon layers of experience to subterranean explorations. But there was no escaping the fact that one was descending into a profoundly and essentially dark world, and this manifested in a series of intense extra-visual sensory encounters with caves. These were frequently intimately

personal, and oral testimonies permit unique insights into these dimensions of subterranean travels. Dave Savage recalled a surreal sense of time elapsing at speeds which bore little relation to its real-time passage:

'For example, if you discover a new passage, and you start exploring, you can be gone for two to three hours, and swear blind that you've only been exploring for an extra ten minutes. Because when you get back to base, they say, 'Where the hell did you get to? We thought you were dead.' 'No, I've just been ten minutes extra.' 'Ten minutes, you've been two hours. Where have you been?' And other instances similar to that, I don't know whether you've

ever heard of a Frenchman called Michel Siffre? He must be getting on a bit now. But he still goes underground without any hints as to what the time is. Or any indication from the surface about how long he's been underground. But he does experiments about what happens to his concept of time while he's underground. And finding, for example, that he thinks he's been underground for three weeks. But on the surface, they say, 'Oh no, no it's more like six weeks ... If you don't have a watch you've got absolutely nothing to indicate whether it's night or day. Your body will tell you when you're hungry, and it will tell you when you're tired, when you should go to sleep. But it won't tell you the absolute time' (Savage, 2019).

Olfactory sensations were often heightened, too, as Isobel Buckingham suggested, in her recollection of the 'stale' smell of damp and mud (Buckingham, 2019). Smells featured rarely in the testimonies that we collected. Far more frequent were recollections of a subterranean soundscape. Secondary to vision, sounds provide signals, marking out features of our worlds, while simultaneously alerting us to dangers that lurk beyond the scope of our vision. These include the immense roar of water as it flooded passages (Owen, 2019). Most frequently, however, our oral testimonies denoted profoundly emotive experiences of sound underground, especially when the lights had been turned off. Dick Willis recalled the sounds of the underground as inherently discombobulating: 'And it's really quite odd in caves, if you're sitting there on your own, you hear people talk. You hear people having conversations. But there isn't anybody there. It's your imagination picking up on the sounds that you can hear and converting it into something that your brain tries to make sense of. It's a very odd. And it can be really, really musical. It's absolutely extraordinary' (Willis, 2019). Linda Wilson recalled that 'sounds are very much magnified. You can often be going down a passage and you can hear water and it can sound like there's a huge stream running somewhere further ahead and you get to it and it's a tiny little trickle going over a few rocks. So, there's a definite sound amplification that goes on down there' (Wilson, 2019).

But sounds were also deployed in order to create particular kinds of experience. Clive Owen fondly remembered the astonishing acoustics of the cave in its enhancement of club singing sessions (Owen, 2019). Sounds were also crucial navigation tools, as Bob Churcher attested: 'Darkness is interesting in a sense that quite a number of cavers, who when caving on their own for some reason – not necessarily because they're doing the whole trip on their own but because they're between two different bits of the party or they're catching up...– will deliberately sit down quietly and wait and turn their lights off, and absorb the noise of the cave. Because, of course, you can't see anything. But you can hear a great deal. And you can hear the other party coming towards you. And in some ways, it helps to turn your light off, in some odd way, because you become more attuned to the noise' (Churcher, 2019). Indeed, David Savage recalled Oliver Lloyd ruminating on the sensory dimensions of caving:

'And he said, 'D'you know DS. I'll tell you what we'll do. We'll go down Swildon's Hole. We'll turn our lights out, and we'll go all the way to Sump One and all the way back without using our lights.' I said, 'Yes, a bit dangerous.' He said, 'No, I've been practicing it in small doses.' He said, 'What I do, is I sing and whistle and listening to the echoes will tell me where I am in the cave.' I said, 'Well, Oliver, I'll come with you, but you go in front and I'll follow you.' So that's what we did ... I wasn't too sure about his choice of song. It was usually something from some well-known opera. He also had a fine collection of whistles which he used. He had a physical whistle which he used to blow. But he also had the ability to whistle at several different frequencies. And he reckoned that by listening carefully to the whistle, he could tell where he was' (Savage, 2019).

Despite the advantages provided by increasingly efficient lighting technologies, testimonies suggest there was something profoundly attractive about the darkness itself. We find

hints of this in Barry Perratt's recollections about nude, candlelit New Year jaunts down Goatchurch, but also much more profound recollections that suggest that the absence of light provided moments of communion with a more-than-human, perhaps primeval world divorced from the trappings of technological 'civilisation'. Complete sensory deprivation created the circumstances for intense reflection. Steve Trudgill reveled in the solitude of the dark, with only natural sounds for company: 'when the lights did go out, I used to quite enjoy just sitting there, in the darkness, listening to the drip. I sometimes did that with some friends. I really liked it. Just away from everything' (Trudgill, 2019). He remembered having written a poem about this experience in Pollnagollum. Natural sounds were evidently considered to be important elements of underground experiences. Tim Hill recalled experiences of vast chambers in Yorkshire which were 'Cathedral-like if you like. Probably more impressive than being in a cathedral. Huge dark spaces. And I remember climbing a ladder up the middle of one of them and being totally, you look up and see the ladder above you and below nothing...its marvelous, I'll never forget that feeling.' He elaborated by referring to a 'friendly darkness', an inviting and exciting place to be (Hill, 2019). Indeed, this relationship with darkness founded on excitement and the unknown penetrates many of the testimonies that we collected and suggests that while ever more illumination was vital to effective mobile perception of the underground, its disappearance was equally as desirable in certain times and spaces.

CONCLUSION

Oral histories are valuable resources in the augmentation of institutional histories, not only in terms of the key facts and details they hold, but also - in the context of this society at least - in their capacity to draw out recollections and feelings regarding the experience of moving through the underground. After all, travelling underground has been, and remains, the key activity of the UBSS. It is clear from analysis of 20 oral history testimonies that captured the memories of many of the society's longest-standing members, that travels beneath the earth are historically complex journeys. They have been comprised of encounters with the underground that were mediated in changing ways by clothing technologies that produced hybrid beings; cavers entwined with technologies that both enhanced and restricted their sense of 'authentic' encounters with the darkness beneath. Lighting technologies, too, were impactful agents in the generation of historical underground encounters, shedding light on the visual character of travels underground, despite the darkness. But vision was merely a single kind of sensory experience. Other senses provided clues to the underground, and enhanced, in various ways, cavers' personal - intimate - engagements with the subterranean. These insights are important, not only in terms of understanding experiences at the heart of UBSS across the past century, but also for encouraging reflection for present and future cavers as they, too, undertake richly stimulating, highly memorable travels beneath the earth.

REFERENCES

- AHR Forum 2011. 'The Senses in History'. *American Historical Review*. **116**. 2. 307-400.
- Buckingham, I. 13th July 2019. *Interview with Nick Stromberg*.
- Churcher, B. 7th June 2019. *Interview with Lena Ferriday and Nick Stromberg*.

- Crane, R and Fletcher, L. 2015. *Cave*. London. Reaktion.
- Donovan, D. 25th July 2019. *Interview with Lena Ferriday and Linda Wilson*.
- Eaton, K. 16 July 2019. *Email communication with Nick Stromberg*.
- Edensor, T. 2017. *From Light to Dark: Daylight, Illumination and Gloom*. Minneapolis. University of Minnesota Press.
- Edwards, N. 2018. *Darkness; A Cultural History*. London. Reaktion Books.
- Gaynor, A. and McCann, J. 2017. 'I've had dolphins... looking for abalone for me': Oral history and subjectivities of marine engagement. *Oral History Review*. 4. 2. 260-277.
- Hill, T. 16th May 2019. *Interview with Lena Ferriday, Andy Flack and Nick Stromberg*.
- Howes, D. (Ed.) 2005. *Empire of the Senses: The Sensual Cultural Reader*. Oxford. Berg.
- Mead, D. 8th July 2019. *Interview with Nick Stromberg*.
- Owen, C. 12th June 2019. *Interview with Lena Ferriday and Nick Stromberg*.
- Perks, R. and Thomson, A. 1998. *The Oral History Reader*. London. Psychology Press.
- Perratt, B. 9th July 2019. *Interview with Nick Stromberg*.
- Savage, D. 13th July 2019. *Interview with Nick Stromberg*.
- Smith, M. 2006. *Sensing the Past: Seeing, Hearing, Smelling, Tasting and Touching in History*. Berkeley. University of California Press.
- Standing, P. 23rd May 2019. *Interview with Linda Wilson*.
- Thomson, A. 2006. *The Oral History Reader*, 3rd Edition. London. Routledge.
- Trudgill, S. 18th July 2019. *Interview with Lena Ferriday*.
- Watkins, A. 3rd July 2019. *Interview with Nick Stromberg and Linda Wilson*.
- Williams, R. 2008. *Notes on the Underground: An Essay on Technology, Society and the Imagination*. Cambridge, MA. The MIT Press.
- Willis, D. 8th May 2019. *Interview with Lena Ferriday, Andy Flack and Nick Stromberg*.
- Wilson, L. 15th July 2019. *Interview with Lena Ferriday and Nick Stromberg*.

Andrew Flack

Andrew.Flack@bristol.ac.uk

Lena Ferriday
lf16094@bristol.ac.uk

Nick Stromberg
nwestromberg@outlook.com