

The Professional **Mountaineer**

ISSUE 30 >> SUMMER 2020 >> £4.75

The Association
of Mountaineering
Instructors

British Mountain
Guides

British Association
of International
Mountain Leaders

Mountain Training
Association



**LEARNING FROM
NEAR-MISSES**

**GEOLOGY OF
THE ALPS**

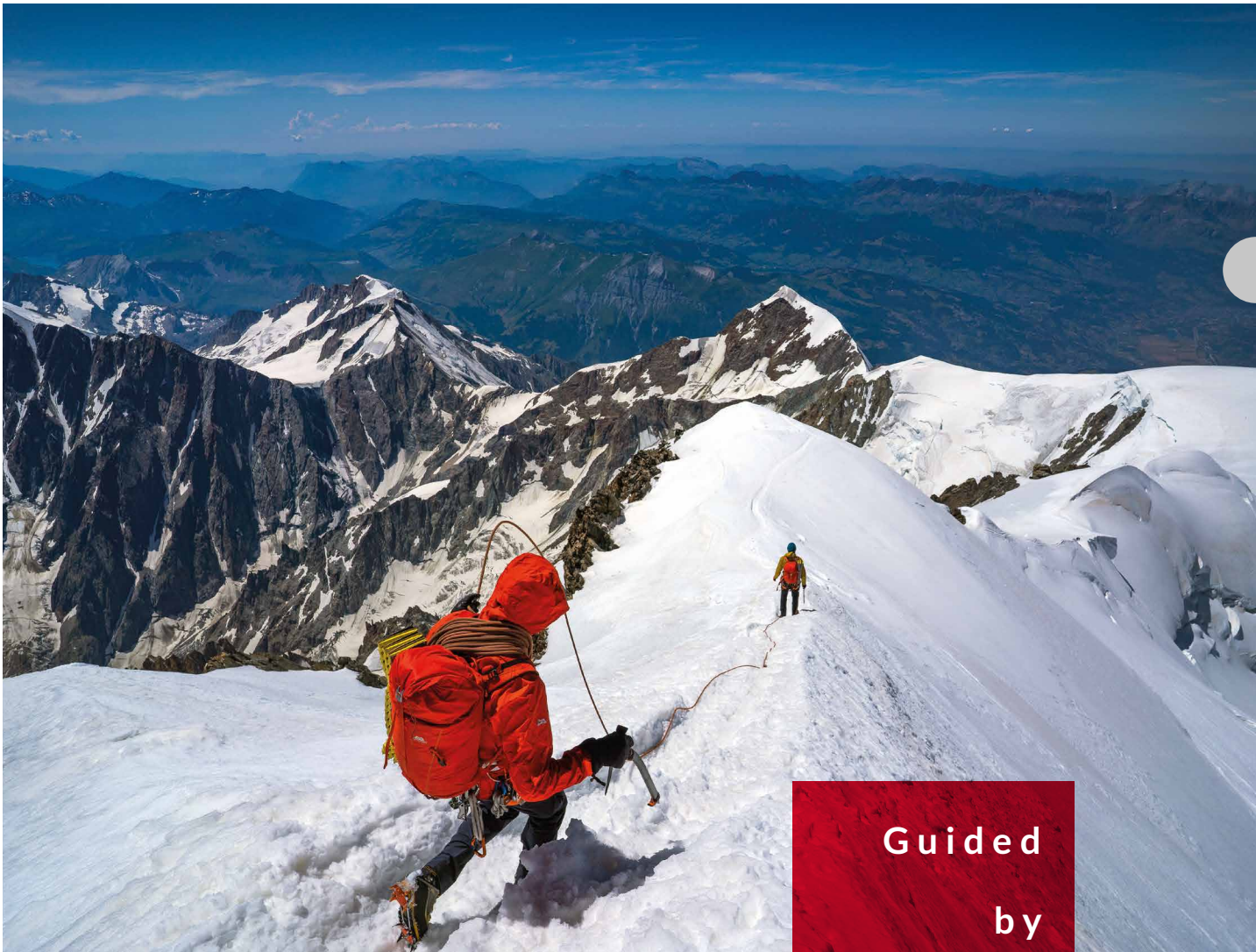
**LEAD
FOR A LIVING**

**MOUNTAINS
FOR THE MIND**



TUJILAK PACK.

Designed and built our way, the Tupilak Pack is crafted with obsessive functionality and an enduring simplicity for those moments when nothing else matters.



Guided
by
necessity

The Professional Mountaineer

ASSOCIATION CONTACTS

AMI Sandy Paterson
development@ami.org.uk

BAIML Ian Spare
communications@baiml.org

MTA Belinda Buckingham
belinda@mountain-training.org

BMG Kenny Grant
kenny@kennygrant.guide

EDITORIAL

Technical editor Steve Long
steve@mountain-training.org

Sub editor Jo Peters
jo@mountain-training.org

Production co-ordinator Belinda Buckingham
belinda@mountain-training.org

Design Jane Beagley, Vertebrate Publishing
www.v-publishing.co.uk

ADVERTISING

Advertising sales Caroline Davenport
T 01829 781 327
E caroline@media-solution.co.uk

Advertising artwork **must** be supplied ready prepared as high resolution (300dpi), font embedded pdf/jpeg. Please refer to our T&Cs for details and cancellation terms.

Print and distribution Printworks
www.printworksprint.co.uk

NEXT ISSUE

Autumn 2020 Photographic composition, Developing teaching and learning skills – part 2, Assessing top rope belay confidence. Copy deadline: Friday 17 July 2020.

The Professional Mountaineer is registered with the British Library. ISSN 2052-3351

Our front cover
Crib Goch at sunrise. © Rob Johnson.

Woodland Carbon scheme



CO₂ emissions from the production of the paper used in this magazine has been offset by planting native woodland in the UK, through the Woodland Trust and the Woodland Carbon scheme.

EDITORIAL



ABOVE The technical editor, Steve Long, tending to his garden during lockdown.

Since the publication of the spring edition of this magazine, the whole world has lived through a global lockdown, the scale and depth of which was hitherto the stuff of science fiction.

It coincided with the sunniest spring in living memory and followed the wettest, mildest winter ever to test the fortitude of residents throughout the UK and indeed much of Europe. After centuries of chaotic retreat, it seems that globalisation is a piper and is at last calling the tune. It is a brutal reminder that for all our ingenuity, evolution retains the power to shut us down overnight.

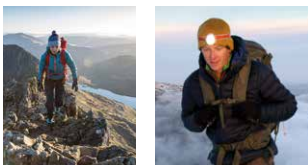
We are all passing through the five stages of grief; many suffering real losses, while for others the loss is far less tangible but painful nonetheless; the freedoms that we once took for granted seem to be damaged or destroyed. The journey to adaptation and some degree of acceptance may test our collective and individual resolve to the limits. We have all made sacrifices and will all have to adapt to a “new normal”. But humanity

will emerge stronger and wiser. We too will evolve, and the leaders that we need to take us forwards will emerge, as will the technologies that rebalance our relationship with nature.

We cannot offer any answers, but hopefully this edition of *The Professional Mountaineer* will brighten up your week and help you to plan for a return to wild places and training grounds. Most of the articles are influenced by the current lockdown, some simply from the opportunity to pause and reflect, others offering timely suggestions that will help us all to “up our game” and – metaphorically – hit the ground running when we regain access to people and places.

Steve Long
Technical editor

OUR COVER



Rob Johnson

Rob is a photographer, filmmaker and Mountaineering Instructor (WMCI) based in Snowdonia. His filming company is www.filmuphigh.com

OUR SUMMER ISSUE CONTRIBUTORS INCLUDE



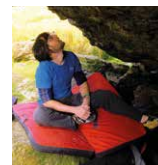
Louise Beetlestone

Louise is a freelance Winter Mountaineering and Climbing Instructor and AMI member from North Wales and spends the winter seasons in the West Highlands.



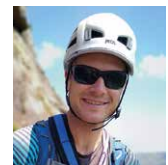
James Davidson

James is a fully qualified and registered careers development professional [RCDP] and a qualified Mountain Leader, Climbing Wall Instructor, Rock Climbing Instructor and aspirant International Mountain Leader.



Pete Edwards

Pete is a professional climbing coach, who runs Prowess Climbing Coaching as well as his Chez de la Bloc blog page. He is about to finish a Master's Degree in Elite Performance.



Tom Horrocks

Tom is a Mountain Athlete Coach and founder of Adventure Fitness Consultants. He holds the Mountaineering and Climbing Instructor qualification and is a Winter Mountain Leader and Level 4 Strength and Conditioning coach.

IN THIS ISSUE



8



15



18



20



10



12



23

DESTINATIONS

8 **Alpine 4,000 peaks**
Louise Beetlestone

10 **Keeping cool in the Son Kul**
Dan Cooper and Crispin Cooper

TECHNICAL SKILLS

12 **Belaying in modern climbing**
Dave Evans

15 **Learning from near-misses**
Trevor Massiah

OUR PLANET

18 **Alpine habitats** *Jim Langley*

20 **Geology of the Alps** *Paul Gannon*

23 **Wheatear** *Sue Haysom*

24 **The Battle of the Boulder**
Mal Creasey

Gear review
39 • *Spot X* by Alex Kendall

BUSINESS SENSE

26 **Lead for a Living**
James Davidson

GUIDANCE

28 **Mountains of the Mind**
Nicola Jasieniecka

30 **Strength and conditioning for your clients** *Tom Horrocks*

32 **Developing Teaching and Learning Skills – Part 1**
Paul Smith and Dan Wilkinson

34 **A change of perspective – Coaching** *Pete Edwards*

36 **Improve your Photography – Part 2** *Iain Afshar*

Book reviews
40 • *Peak Performance under Pressure* by Dr Stephen Hearns

• *Hard Rock* compiled by Ian Parnell



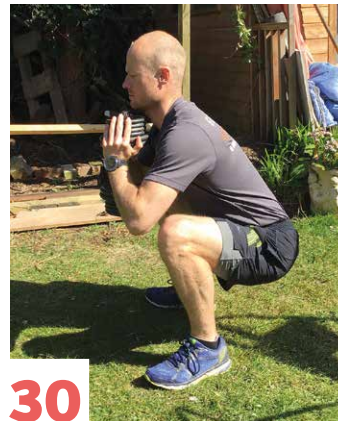
24



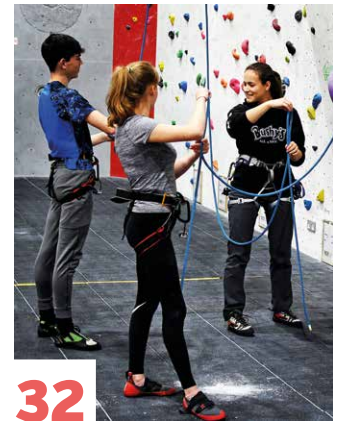
26



28



30



32



34



36

Feeling inspired? If you would like to contribute to the next issue, please contact **Belinda Buckingham** at belinda@mountain-training.org

Fancy advertising? If you would like to advertise in the next issue, please contact **Caroline Davenport** at caroline@media-solution.co.uk

NEWS



THE ASSOCIATION OF MOUNTAINEERING INSTRUCTORS (AMI)

I'm writing this a week after lockdown due to CV-19 with our entire industry suffering in a previously unimaginable scenario. I would like to thank the AMI Committee for their work in trying to deliver as much support as possible to members. My gratitude goes to the members that have offered suggestions and messages of support to each other on social media in difficult times.

By the time you read this members should have received copies of the Delivery Plan 2020-21 (and access to the presentation from the cancelled March AGM), to keep everyone informed. A weekend of workshops (with a delayed AGM) is being rescheduled, so the date should be with you soon.

To assist members after an extremely difficult financial period, a series of free CPD events are planned in every region, not only to make them accessible but to 'kick start' the AMI community after the Coronavirus period stops. A focus on marketing with external professional input is in process to further increase the visibility as members re-establish their businesses. Other planned developments are in the Delivery Plan.

Ironically AMI celebrates its 30th birthday this week, after the vision of Simon Powell in 1990 – we've come a long way from the original 45 to the 1000+ strong now. Here's to a positive future – and to be able to touch rock again soon...

Phil Baker (Chairman)



AMI is the representative body for professionally qualified Mountaineering and Climbing Instructors in the UK and Ireland and is committed to promoting good practice in all mountaineering instruction. Full members hold the Mountaineering and climbing instructors qualification or higher qualification the Winter Mountaineering and Climbing Instructor.

T 01690 720123
www.ami.org.uk



BRITISH MOUNTAIN GUIDES (BMG)

Sitting in lockdown, as is most of the world, I write this wondering where this pandemic is taking us.

The winter season came to an abrupt end across the whole of Europe in a short time period giving many problems for members.

The threat of the Covid-19 virus overwhelming the health services of most nations has brought the most draconian of measures of all. After the first concern of health and safety, priorities of all outdoor practitioners must be to the re-opening of the great outdoors for amateur and professional alike, hopefully this is in process as you read this.

Operational practices will in the future, at least until the availability of a vaccine, need to be mindful of this to maintain official and public confidence in the outdoor industry.

All BMG training and assessment courses have been rescheduled, hopefully to be completed at the soonest opportunity. The governance working group are still operative and will have their findings for the membership to scrutinise well in advance of the AGM.

The environment has temporally been given a reprieve; whether this will kickstart new practices desperately needed for the future remains to be seen, or will the likely economic depression caused by the virus allow further reductions in good practices?

Mark Charlton (President)



The BMG is a member of the International Federation of Mountain Guides (IFMGA), currently comprising 24 nations worldwide, with growing membership, it is the professional organisation that trains and assesses Mountain Guides in all disciplines. A British Mountain Guide operates to the highest recognised level throughout the world, in all terrain and in diverse roles.

T 01690 720386
www.bmg.org.uk



THE BRITISH ASSOCIATION OF INTERNATIONAL MOUNTAIN LEADERS (BAIML)

This edition should mark the start of a busy summer season, but the Covid-19 crisis now means that even if the season does take place it will be one like no other; many International Mountain Leaders report that all their work has now been cancelled. It's a terribly sad situation and one we'll feel the ramifications of for a long time to come.

BAIML has been working with our partner organisations to still try and progress projects behind the scenes. We've all made online training resources accessible to each other and have highlighted anything we think might be of interest. It's a strong basis for future collaborations. BAIML's Regional Reps have been creating quizzes and socials. We're currently still planning for an Annual Conference at the end of the year, but...

Both our new Directors have also been doing some analysis of member CPD to help inform future provision and to offer more guidance to members. Look out for the report hitting your inbox.

We have a depth and variety of skills in our association that is second to none, and many of us are volunteering and helping out where we can. I can't promise that we have all the answers, but in these difficult days if members are struggling and would like a chat with someone else in the same boat, then please don't hesitate to reach out to any of the leadership team.

Stay safe, stay happy.

Kelvyn James [President]



BAIML is the professional association for International Mountain Leaders (IMLs) in the UK. It represents the UK at UIMLA, the Union of International Mountain Leader Associations, which is the international governing body for IMLs. Full members hold the IML award and are committed to a dedicated CPD programme.

T 01690 720272
www.baiml.org



THE MOUNTAIN TRAINING ASSOCIATION (MTA)

During these unprecedented times we all face many challenges, and we would like to thank our members for doing their bit to try to suppress the spread of the Coronavirus epidemic. By the time this is read, we are hopeful that the necessary national restrictions are beginning to ease.

To support members during the lockdown we took steps to bring some of our learning opportunities online. Our regional volunteers and members alike did a fantastic job, creating a pool of online CPD quizzes, and the development of our Resource Library continues still. Thank you for all the contributions! We have also been collaborating with the other associations behind the scenes to regularly share information and resources amongst the memberships.

Our series of free online webinars has proven to be very popular and we have been overwhelmed with positive feedback – thank you. Experts in their fields generously volunteered their time and expertise to provide continued support, development and networking opportunities for members. Recordings of all sessions can be accessed in our Members Area.

When restrictions ease, our MTA workshop providers and volunteers are keen to pick up where they left off, providing members with fantastic CPD and social events across the regions.

In the meantime, please take care and stay safe.

Jo Peters [Memberships & Communications Officer]



The MTA is a membership organisation providing support and development opportunities for all candidates of Mountain Training. Promoting good practice and providing continued personal development opportunities as part of a UK-wide community of outdoor leaders. Full members hold one or more of the Mountain Training Awards.

T 01690 720272
www.mountain-training.org/mta

ALPINE 4,000m PEAKS



“Do you want to climb the 4,000 metre peaks, it’s never been done by a female team before?”

Mo asked temptingly.

WORDS AND PHOTOS BY
LOUISE BEETLESTONE



Louise Beetlestone is a freelance Winter Mountaineering and Climbing Instructor and AMI member from North Wales and spends the winter seasons in the West Highlands.

It’s not often that an opportunity like this comes along, and a team of people willing to give so much time. I love journeying and doing long routes in the mountains so how could I say no?

I committed immediately – but I would need to up my game – as I learned soon after.

A few days later Rebecca Coles, Mo Barclay and I are in a local pub to discuss things further. We decided that we should ski some in April 2019 and then go back for June and beyond for the rest.

“You do know I don’t ski...?” I confessed.

Which list?

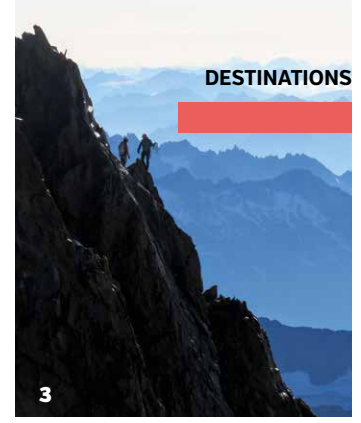
What is a 4,000 metre peak? What counts? Does that rock; that snow dome; that shoulder or that pinnacle count? There are no rules. So where should we start? Many people have thought about this before and put together lists using various criteria. The UIAA list seemed to appeal. It’s comprehensive, and its criteria accounts for the topography, morphology and mountaineering objective of peaks. There are 82 peaks in this list, from the Écrins in the south, to the often technical enchainments of the Mont Blanc Massif, the ridges of the Swiss Valais, the sometimes more remote peaks of the Bernese Alps, and all the way over in the East – the Piz Bernina. The appeal to me was getting to know the Alps more intimately, while also offering some fun and challenging journeys in the mountains. With varied routes from a simple snowy Facile to climbing Difficile plus on technical multi-day mixed routes carrying bivvy packs, the

latter would certainly test me beyond anything I’d done in the Alps beforehand. But that was part of the challenge, I thought maybe I can do this, but the only way I’m going to find out is to try and hopefully have a lot of fun along the way.

Skiing

I’d only skied a few times before, so in January I went to France for a week to practice. With kind tuition from a few friends my snowplough progressed to an untidy parallel. It’s not enough, so in March I spent a week in Andorra getting formal lessons, receiving odd looks and comments, as I was always trying to ski on the lumpiest, bumpiest most variable snow possible around the edges of the pistes. It’s still not enough, but...

A couple weeks later I’m on my first ski tour on an Alpine four thousand metre peak, opening our season with the gently angled Strahlhorn above Saas Fee. Unfortunately, Mo couldn’t join us for the skiing, but Becky and I made good progress on peaks in a two-week trip. Not all of them were as gently angled as the first. I really enjoyed being out in the Alps at a new time of year for me and travelling around the mountains on skis. I relished in the effort of skinning uphill whilst marvelling in the views around me lit by moonlight and then watching the sun rise bringing bright and crisp days. Summiting often involved pleasant scrambling, picking up our skis again to descend. Passing hundreds of metres of descent with ease – and some survival skiing.



MAIN PHOTO Mo approaching the final slopes of the Obergabelhorn. 1. Kilometres of amazing Schreckhorn behind us. 2. Mo and Becky ahead traversing Lyskamm in the Monte Rosa range. 3. Looking through the Schrecksattel in the early morning light on the Schreckhorn Lauteraarhorn traverse.

Some highlights include traversing the Bernese Alps from the Jungfrauoch to take in some of the more remote peaks, passing through the Konkordiaplatz and on down to Fiescheralp. The Konkordiaplatz is the meeting of four glaciers which become the Aletschgletscher, the largest glacier in the Alps. This meeting point is vast, and I couldn't help but feel very small here; several four thousand metre mountains towering above us. Also very apparent was that this glacier used to be much more substantial, the evidence all around us in the large piles of lateral moraine and the 468 steps up to the Konkordiahütten (more of which have been added during the summer). We skied nine of the peaks on our list.

The Summer

June saw us arrive to some challenging conditions, very short weather windows and hazardous avalanche forecasts. We found ourselves walking into winter rooms between the thunderstorms and attempting to nip up a summit in a few hours of good weather. As soon as the weather improved we skied into the remote Finsteraarhorn, in the Bernese Alps. This is a beautiful peak, with an amazing scramble along the summit. Staying in its winter room we were very warmly welcomed by a Swiss couple. They tried to cook us alive by burning the entire winter wood stores in one night! I remember the relief of going outside in the middle of the night, standing barefoot on the cold stone patio in the pouring rain, in my vest and shorts just to cool down.

We'd made lists of what peaks could be skied, peaks to climb early in the season, what could be left for the end of the season and which peaks or routes had crucial rocky sections that must be snow-free, but often a snowy approach, that would soon disappear. This was a fine balancing act that would need cooperation from the weather Gods or the ability to be in several places at once in order to achieve. We worked and climbed hard, balancing this with enough rest so as not to become exhausted, but alas eventually ran out of time and team cohesion to pull it off. At the end of the summer Becky and I had climbed 56 of the 82 four thousand metre peaks, and Mo a few less. I'm writing this during Covid-19 lockdown, while Mo and I had planned to be skiing and catching up on a few peaks with a summer of fun mountain climbing ahead of us. We'll have to go back another time.

It was an absolutely amazing summer and when I reflect back on what we achieved I'm still a little bit shell-shocked. I can't tell the whole story, so here are some of my other highlights...

Best multi-day journey

For me, this had to be the Monte Rosa group on the border of Switzerland and Italy. There's something very special about this massif, which has a lot to offer for every alpinist. With eighteen of the peaks here on the UIAA list and some stunning sweeping snowy arêtes and mixed ridges between them it gave a very satisfying journey, especially when looking back across the whole range as we walked out. I can't leave out the Margherita hut, the highest building in Europe, on the summit of Signalkuppe at 4,554 metres.

Don't come here without being well acclimatised, and a fat wallet, with a hut fee of €100.

Best rock route

After an enormous leap of faith across the bergschrund we were onto the immaculate rock of the South West ridge of the Schreckhorn in the Bernese Alps. Hundreds of metres of perfect grade three scrambling to the summit. This is an absolutely amazing day out on its own. We went for the extra long day, so also made the long technical traverse to the Lauteraarhorn. As the day wore on and the summit of the Lauteraarhorn never seemed to get any closer, thoughts of an unplanned bivvy crept into my mind more frequently, especially knowing that the very complex route-finding off the summit is extremely difficult in the day light and impossible once dark. Fortunately, we just about made it off the last abseil post and onto the easier to follow lower ridge as the light failed.

Best short days

These were so good I did them twice! Once early in the season with Becky, and then again with Mo when we were "drugs testing"... Mo had been struggling a lot with feeling unwell high up on the mountains, in the cold dry air, and by trialling my Ventolin inhaler on these peaks this life-enabling drug was a revelation to her.

From the Saas valley the Allalinhorn has to be one of the easiest of the 'four-thousanders'. It's a little surreal to walk up past skidoos towing international ski squads for training to find yourself mere moments later surrounded by a magnificent array of Alpine mountains.

On the other side of the valley the Lagginhorn was loads of fun with a little bit of easy glacier and relaxing fun scrambling in a sociable atmosphere. Celebratory lemonade and cake at the cafe before descending on the knee-saving gondola, made for a very satisfying day out.

Best mixed route and most inspirational person

We climbed so many great mixed routes and ridges, but the Tiefmatten ridge on the Dent D'Hérens stands out for many reasons. The walk into the tiny Italian Aosta hut winds its way up a beautiful valley carpeted with Alpine meadow flowers before ascending some impossible-looking lateral moraine. The eccentric hut guardian welcomed us with Génépi and some fine Italian food which was shared with 24 other guests, so we soon got to know everyone. This made for a very sociable and relaxed journey up the ridge, all elbows well tucked in, and lots of gracious "after you" "no, after you". A mixture of easy snow slopes and fun scrambling was over all too soon.

While climbing the Dent D'Hérens we met the very inspirational Beatrice and her guide Paul, from Switzerland. Beatrice is now 60 and at the age of 50 decided she would like to climb a list of 50 Alpine 4,000 metre peaks. The Dent D'Hérens was her 49th with a plan to ski her last, Nordend in the Monte Rosa, in March or April. I really hope they made it.

A special thanks to The BMC, Montane, Firepot Food, Stance socks, Julbo eyewear, Leki and crowd funders for supporting us. ■



KEEPING COOL IN THE SON KUL

“I’ve always wanted to visit Kyrgyzstan”, Tom said during our weekly post-climb ‘beer and burger’ at our local wall.

WORDS BY DAN COOPER AND CRISPIN COOPER (NO RELATION)

He had read ‘Shadow of the Silk Road’ by Colin Thubron and it had captivated him. “Isn’t that where Caldwell had his run-in with the Taliban?” Yeah, but it’s not all like that...” So that’s ok, then.

A year later we decided to stop talking about it and actually make some plans. There are so many options; over 90% of the country is mountainous, mostly comprising the Tian Shen and Pamir ranges. The Karavshin valley to the west is popular with those seeking granite big walls, but without exception every mountaineer we spoke to in hostels was aiming for an ascent of the 7,134 metre Lenin Peak, famous for its relative accessibility, and many people’s choice for their first 7,000 metre peak. Tom tracked down Pat Littlejohn who knows Kyrgyzstan well; he pointed us towards an area of canyons he had visited before, just to the east of Son Kul Lake. Pat sent us a few notes with a handful of routes described, but the area promised lots of potential for new routing (and still does).

The best time to go will depend on your aims. Our destination, the limestone Son Kul canyon is below 3,500 metres. The local nomadic people somehow keep their horses alive in temperatures of -40°C in winter: suffice to say we decided on a summer expedition! We were restricted to July-August which was at times too hot – a month earlier would have been better, though being in canyons it is possible to plan the climbing around the sun.

Having just four weeks (and we would be joined by Crispin with only a fortnight) we decided on a local expedition logistics company to arrange as much as possible. This was a great decision, as ITMC arranged everything in advance: transport from Bishkek to Son Kul, a cook to plan and prepare meals, equipment for base camp including luxury chairs! Not only did this save us a lot of time prior to the trip and enabled us to focus on climbing, but also in our opinion, climbing in Central Asia should be more than simply ‘get in, climb,

get out’. We wanted to spend some money in the country and to support mountaineering, such that some local people would benefit from our sport and passion.

Bishkek is a wonderfully multicultural city that embodies its location in the centre of the Silk Road, blending in equal measure hints of Europe, Asia and the former USSR. Svetlana, the Ukrainian lady who would cook all our food for three weeks, spent a day taking us around the market, haggling in heated Russian with the sellers while we followed and nodded in agreement to questions quickly typed into Google Translate. Planning and purchasing food for a three week expedition would have taken us days left to our own devices in a foreign city, plus, we got a local’s tour of all the nooks and crannies of the impressively busy Dordoy Bazaar.

Alas, not everything went so smoothly. Given the remoteness of our chosen objective we elected to hire a Thuraya satellite phone, not only as a lifeline but also useful in case of mistakes such as, say, being given empty gas canisters for a three week expedition! In addition to checking rented gas before departure we would have done well to check the phone itself, which was unreliable at the best of times and oddly unable to call any of the ITMC staff phones. Fortunately, we could text Svetlana’s daughter who passed messages on our behalf, and to be fair to ITMC they sent more gas the very next day. It was however, more apparent than ever that although the company has links to experienced local climbers in Bishkek, in the event of any accident we would be relying on ourselves to get back on the ground.

Having trained countless DofE and Ten Tors expeditions, Dan is well rehearsed in packing the correct equipment, and diligently requested and laminated copies of the Russian map for the area; unfortunately here too, something was lost in translation as we discovered on arrival at base camp that we had the wrong map.



MAIN PHOTO Dan on Vulture Ridge, Tepckeu-Topnok massif right behind. © Crispin Cooper. 1. *For the Fosters*. © Crispin Cooper. 2. Crispin descends from *Ibexland*. © Dan Cooper. 3. Tom Stedall belaying on *Ibexland*. © Dan Cooper. 4. Dan leading *Finale*, somewhat undergraded at S 4a. © Crispin Cooper.

Although Dan now lives under the shadow of the possibility that his students may one day find out about this misdemeanour (along with video footage of him chasing his water bottle down a river), the lack of map did not prove to be a problem, given an exploratory mindset and recognition that maps are of little use in navigating vertical limestone in any case.

There is much climbing potential here to cater for all tastes, as long as those tastes involve at least a pinch of looser rock. Once we had a few days to consider the environment we decided it prudent to lower our grade somewhat; repeating some great existing routes such as the huge single pitch flake of *Middle Earth* (E1 5b) and the phenomenal *Ibexland*. This involved an hour's walk through the canyon and two river crossings to reach the 200m VS 4c; the meat of the climb was a solid but exposed 60m crux pitch, followed by an exit on more worrying terrain and a loose but thankfully short abseil into a gully to descend. Days like this are unforgettable and epitomise what this expedition was all about – big, adventurous days on long easy routes.

Although keeping our eyes open for new lines, the more we studied potential crags the more we found reasons not to commit. Dan wondered whether his teammates, with previous experience new routing in the Moroccan Anti Atlas, were getting old? Once we got our heads in gear, we did nevertheless start to create our own routes,

some in completely new areas. Walking the massif southeast of the Tepckeu-Topnok pass we discovered numerous possibilities on some of the most solid rock around; it was 4pm before we picked an 80 metre gully which became *For the Fosters* HS 4a allowing us to pass a notch in the massif and complete a long walk along the ridge back to camp. This was followed by *Vulture Ridge*, a PD scramble along the continuation of the same massif, and single pitch routes *The Trouble With Lichen* VS 4b (at another new crag) and *Gollum's Cave* HS 4a. Twice Tom and Dan attempted an obvious multipitch on an outcrop visible from base camp, only to back off due to huge storm clouds flowing into the canyon below, but eventually succeeded on *Third Time Lucky* E1 5a.

There are a number of more traditional tourist-friendly attractions in the area: Ala Archa National Park is an impressive mountainous area which we found to have relatively few tourists; well worth a visit particularly if you are keen to don crampons. Tash Rabat Caravanserai and Issyk Kul Lake are both popular destinations with tourists and locals.

If you enjoy being in the middle of nowhere, picking your way around dubious rock and being forced to reign in your ego this is a wonderful area to spend some time and have some experiences that you will never forget. Just remember the map! ■



Crispin Cooper has been climbing for 20 years, including first ascents in Morocco in 2009, and having outdoor adventures all his life. By day he is an academic working on sustainable transport, particularly cycling. He blogs about adventures physical and mental at <https://omnisplore.wordpress.com/> and has written for UK Hillwalking.



Dan Cooper (no relation to the older and 'wiser' Cooper to the left) has been climbing for 18 years and loves being in remote places. From Mingulay to Dartmoor to Maine he gets out as much as he can. He uses his day job as a teacher to inspire the next generation of wilderness junkies.

BELAYING IN MODERN CLIMBING

Some thoughts for professionals involved
in teaching, coaching and supervision

WORDS BY DAVE EVANS

An explosion in climbing participation over the last 20 years has seen a previously considered fringe pursuit become much more attractive to a wider audience. The demographics of the people engaging with climbing are now different and there has been a huge increase in the diversity of belaying equipment available. This has changed the game in relation to the way we, as a sector, should approach the teaching and supervision of belaying.

I have recently been part of a small working group, set up by the BMC, to look at general belay practice throughout the climbing community. This working group was formed after a noticeable rise in incidents recorded involving some failure in the system regarding belaying or the belayer. Some of these had unfortunately serious outcomes.

Equipment

This area clearly breaks down into two topics: the type and diameter of rope chosen and the style and nature of the belay device it is paired with. It is now really important that we raise awareness in climbers from novice level up, that many belay devices operate in fundamentally different ways, and that not all rope diameters work with all belay devices. This can be a tricky thing for people to grasp initially.

As professionals we know there are different types of ropes on the market; thought must be given to what we introduce novice and intermediate climbers to and why. It is interesting to note that historically, as a sector, there was a tendency to shy away from introducing too much diversity too soon, and with good reason. There was nowhere near the array of kit available and consequently novices didn't need to be made aware of all the options. However, the potential for someone to marry the wrong rope with an inappropriate device is so much greater now. We need to make people aware of the various

diameters of rope in standard usage, rope types and types of belay devices; manual braking device, mechanically assisted braking device and geometry assisted braking device.

The question is, where do you start? There was some reticence to start moving novices beyond a manual braking device for many years, but this doesn't really fit modern climbing, as many young people start climbing indoors and will learn to belay with a Gri-Gri or Click Up. It is now vital that people are at least made aware from the outset that a variety of different devices exist, and that they are operated in different ways.

Decision Making

It is crucial that everyone who is engaging with climbing, at any level beyond direct supervision, understands that a series of decisions are made to marry up a belay device with a rope and a purpose, and that failure to do so correctly could lead to an unpleasant outcome. This does not need to scare people but must raise awareness as early as possible.

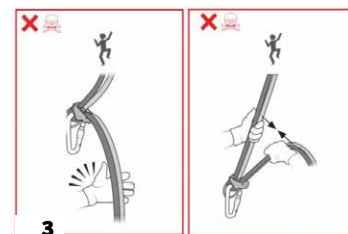
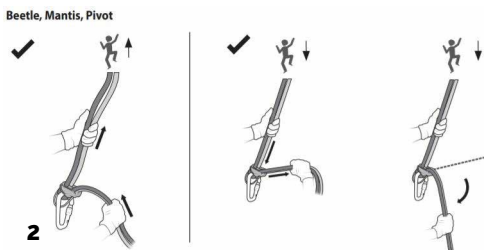
The key is developing this understanding very quickly for a new climber, so they know how to check they are using the correct combinations. Give them a strategy.

Positive Belayer Practices and Behaviours

All of the work conducted by the group has come to the same conclusion: belay devices don't cause accidents. The point of failure will always come down to the users of the equipment. I use the plural here because it is not just the job of the belayer to check things. Climbing is a team activity; we should all undertake a partner check of both the climber's knot and set up of the belay device before every climb. This will prevent most possible accidents amongst novices and experienced climbers. This is also a state of mind that we can nurture in people from the very start of their climbing career, which may also save them



Dave Evans has been climbing and mountaineering his whole life. He has been working as an instructor and coach since 1997 and has worked all over the UK and elsewhere. He started his career at a young person's multi activity company, becoming Chief Instructor and then an external trainer, and has been working at Plas y Brenin for the last 18 years. He enjoys working on recreational and qualification training and assessment courses at all levels.



1	Single Rope 8.5mm – 11mm 52 – 82 grams per metre
1/2	Half Rope 8mm – 9mm 42 – 55 grams per metre
∞	Twin 7.5mm – 8.5mm 38 – 45 grams per metre
0	Confidence 7mm – 8mm

from injury or worse further down the line. I'm sure many of us will have been exhausted at the end of a long day's climbing and had a potential error spotted by our partner!

Teaching/Coaching Belaying

There have been many different methods used by instructors over the years to get novices belaying each other as quickly as possible. Unfortunately, there is now such discrepancy between modern devices, that some will work perfectly well when operated in ways that would be catastrophic when used with others! If we can engrain some principles for belaying that will work across the range of devices, everyone will be safer.

- The place to start is always the manufacturer's instructions, both written and online videos. Don't be shy – contact a manufacturer if necessary.
- Generally speaking, it will always be good practice to keep the breaking hand low, at around thigh level, when not managing the rope in or out. This locked position is a good place to start.
- When taking in rope, the braking hand inevitably moves up to take slack in, but the hand is firmly gripped on the dead rope throughout this process. The belayer will be constantly aware that if the climber was to fall, that hand would immediately return to the lock or 'home' position.
- Tunnelling/gliding vs hand over hand. This issue has been the source of some discussion and in different contexts either may be appropriate. The key here is that the previous points are focussed on. It is impossible to effectively lead belay without gliding your hand on the rope. The point is, were a fall to occur, the automatic response is to fully grip the rope in the lock position as previously mentioned.

The instinctive response to return to the lock position consistently is the reaction that needs to be introduced from the outset, so that it never needs to be retrained later. There is much information available online; it's always best to start with the manufacturer's guidance and the DAV films (*info at the end of the article*) referring to varied devices and their usage are all interesting to watch. The reference being used most commonly here is the concept of the 'device line'; the line below which the hand must sit in order to get the best braking effect from the device when using a manual braking device.

Belayer Behaviour

This is the final and possibly single most important area in the long term. Understanding how to operate a belay device is a simple mechanical process. Being a 'good belayer' is a completely different thing. It is also significantly harder to teach.

Firstly, one must consider the belayer's skill as being of equal importance as the climber's. Secondly, the belayer's attention must always be focussed on the climber and actually be thinking for them.

It's about helping a developing belayer understand that so much of the job involves reading and interpreting the body language and verbal language(!), of the climber, so they can anticipate what is about to happen next. This is the process of becoming a 'good belayer'.

Progression to Lead Belaying

In the vast majority of cases people will be introduced to the concept of belaying in the context of managing a bottom rope. This will of

1. Correctly loaded geometry assisted braking device (Click Up). © Mountain Training.
- 2+3. Diagrams from the DMM instruction manual sold with every device.
4. A DMM Pivot with information about appropriate rope diameters and a diagram of use in direct belay mode. © Nicola Jasieniecka.
5. A GriGri with information about appropriate rope diameters. © Nicola Jasieniecka.



LYON
WORK & RESCUE
TRAINING

PPE Inspection Courses

Lyon Equipment provide equipment inspection courses specifically for the adventure activities sector

- Develop current knowledge, learn up to date inspection and maintenance techniques for mountaineering, climbing, caving and water activities equipment.
- Gain an understanding of the effects of wear and damage on lifetime, strength, function and continued use.
- Counts towards CPD points for AMI & MTA members

Lyon Equipment Limited
Tel +44(0)15396 26251
Email training@lyon.co.uk
lyon.co.uk

Follow us

facebook

LinkedIn

facebook.com/LyonEquipment

linkedin.com/company/lyon-equipment-limited



6. Correctly loaded manual braking device [DMM Mantis]. © Libby Peter.

7. Correctly loaded mechanically assisted braking device [Gri Gri]. © Libby Peter.

course include lowering climbers off in a safe and controlled manner. There has been significant discussion of late around the nature of how people progress to belaying a leader, and how robust this process is in developing a competent, autonomous skillset. The classic methods that have traditionally been adopted by instructors to teach bottom rope belaying to groups, may not lend themselves particularly well to the adaptation required for safe lead belaying. It is important to accept that lead belaying is a more advanced skill and that performing it safely requires more time spent under instruction and consolidation. The DAV video concerning the use of a manual braking device is very interesting, as the basic process it describes revolves around the use of the 'tunnelling' method for resetting the braking hand, rather than the process of involving the other hand to back up.

Professional Role Modelling and Commercial Climbing Facilities

Climbing as an activity has such a rich, diverse and anarchic history in the UK. This is something we should be proud of. We must however, as professionals, remember that in climbing centres we are using a commercially run and managed sporting facility and when working we are always under scrutiny. It is important to remember the old 'do as I say, not as I do' adage here! If we are promoting great practice in what we teach, but then doing something that looks different when we belay, it is going to confuse less experienced people. In a recent technical advisors' seminar we ran at Manchester Climbing Centre, there was a lot of debate around this area, including peoples' response and attitudes to floorwalkers in centres when questioned about their belaying practices. As a professional it would be nice to think that we could have solidarity with the wall staff whose job it is to make sure people are using the centre in accordance with the facility's guidelines.

In summary

I hope this short article has outlined some of the key areas to reflect on when teaching, coaching and supervising the belay practices of inexperienced people. I also hope that it will prompt thought by everyone on how and why, we do this, and that what we are doing is in line with the rapidly developing sport we are all work in.

Safe climbing y'all! ■

Resources

- Search YouTube for Deutscher Alpenverein (DAV) – all of their belaying videos are listed on their 'Climb Safe' playlist.
- BMC Incident and Near Miss Reporting: www.thebmc.co.uk/modules/incident-reporting/

LEARNING FROM NEAR-MISSES

Are the number of climbing accidents increasing? Of course, the sheer volume of people involved in the activity of climbing will cause the number of incidents to rise. It is apparent however that many near-misses and incidents would not have occurred with slightly adjusted systems.

The BMC recently launched an incident and near-miss reporting system – any themes that emerge will be published in a summary report.

A few years ago, in response to an increase of near-misses and accidents at the crag, I found it necessary to produce a standard operating procedure for Rock and Sun Ltd. Interestingly, this document only applies to sport climbing. The UK system of teaching trad climbing is well-established, and the client usually arrives without the necessary skills to perform the activity and therefore is immediately open to learning. This is not necessarily the case with sport climbing, as most of the necessary skills can be practised indoors.

Are modern climbers less prepared for outdoor risk assessment?

Indoor gyms eliminate as much risk as possible, and rightly so for a professionally managed facility. Routes are well-bolted with clear fall zones. When indoor climbers make the transition to an outdoor environment the extra risks may not be obvious to all.

Climbers often arrive on our climbing trips having climbed two to four years indoors and are already able to climb 6b+ or even 6c. Having practised in a relatively safe environment can create a mismatch between the “hard skill” of the actual climbing and the “soft skills” of route finding, risk assessment and decision making. This mismatch can easily put a climber at risk, as it can be difficult to engage with softer skills when their (indoor) experience may point towards those skills being unnecessary.

I've certainly noticed that it has become more difficult to persuade an ever-greater number of clients to pay enough attention to safety while sport climbing.

A compounding factor is that people have become less capable of assessing and managing risk, as children and young adults have fewer opportunities to play and learn in an outdoor environment. This can lead to excessive or inappropriate risk-taking or being overly cautious or nervous. Our client group is changing; they are not necessarily outdoorsy people. Many would not have chosen to become climbers had they not had the opportunity to learn in an indoor environment. To them the outdoor environment itself can present some challenges of its own. This is often displayed in having difficulty walking on uneven ground, struggling with the concept of going to the toilet outside, or not realising warm layers and waterproofs can be necessary in all climates.

Typical examples of people's inability to accurately assess risks:

1 A climber's feet are at 1.5 metres from the ground, the first bolt is clipped and is about 2.5 metres [around chest height] and 1 metre to the right of the climber. The climber is about to move up and left. Question posed: look at where the bolt is and how much rope will be in the system if you move further away and then fall? Answer: I will swing down to the right – pointing in a diagonal line. Response: I remind them that when Newton invented gravity he designed it to pull you in a downward direction and that you will only start swinging after the rope is being weighted. In this case the climber would hit the ground without weighting the rope.

This is a familiar scenario, even after the preliminary training that happens at the start of a trip. We consistently teach people to read the

WORDS BY TREVOR MASSIAH



Trevor Massiah has been a Mountaineering and Climbing Instructor for over 20 years, and is a Director of Rock & Sun. Rock & Sun offers climbing courses and holidays in the UK, Spain, France, Greece, Italy, Morocco and Thailand, and bouldering trips to Fontainebleau and Albarracin. Rock & Sun provide high quality coaching courses for all levels, and are constantly updating and improving climbing and safety skills.

rock when route finding; go where it is “less steep and more featured”, and before heading off on the chosen route to consider the prospect of a fall. If the fall is not safe or if they are in doubt, they should stay closer to the bolt even if the climbing is harder. It is apparent that many people are unable to assess the fall zone and struggle with visualising the physics involved. This awareness is not inherent and needs to be learned.

2 On reaching the anchor after top-roping a diagonal line the climber tries to pull up rope. The anchor is out of sight so, as is standard, the rope is kept tight so that unclipping the anchor is not possible. I shout: why do you need slack? It is quiet for a few seconds then I hear: ok, lower. The client standing next to me while I belay asks what was happening and I explain that he was attempting to unclip from the anchor. She was horrified and expressed her surprise: how could anyone be so stupid?! She then climbs, unclipping the draws as she goes. On reaching the anchor, she attempts to pull rope up. It is quiet for a second, then I hear “doh! Ok lower”.

This is a good example of how easy it is to not be doing a continual risk assessment every time we unclip our rope. At least 15 of our clients each year try to unclip themselves from the anchor after top roping and I know of several fatalities from this.

The fix is of course to always look at and assess what you are unclipping but using a locking karabiner and a quickdraw instead of two quickdraws on the anchor gives the climber something more difficult to unclip and allows time to think as well as a physical prompt that “this one is different”.

This system provides something quick to clip into for a leader and ensures that anyone top roping cannot quickly unclip from the anchor. And of course, the rope should always be tight when the climber is out of sight and near the anchor.

3 When the first bolt is high, our standard practice is to have the rope pre-clipped for each leader. In this case, the climber pulled the rope down on several occasions over a couple of days. I spot this on each occasion and climb up to reclip the draw. Words are had! The following day, the same climber again pulls rope through first draw at 3m. This time I fail to spot this. He breaks a foothold while trying to clip the first draw and breaks his foot. Cause: Climber not equipped to assess the quality of the rock or the likelihood of falling off before the first clip.

Experience: Worst or Only teacher?

A friend of mine who runs an activity centre likes to say: “experience is the worst teacher”. Meaning that when we do something repetitively and the outcome is always positive, we can become complacent and neglect to assess the risk (same activity different setting). I understand that this

sometimes catches people out, but I also think: “experience is the only teacher”.

I often think of a young trainee instructor of mine recounting a story of his near-death experience while out climbing with friends at a sea cliff in Pembrokeshire. He had decided to solo the last route of the day, only HS (well within his grade) while the other two rope climbed out. Near the top of the climb (about 90ft) and in the middle of the crux, he felt the rope he had tied onto this back (my rope by the way) untying from his waist. Realising that he was in no position to stop and re-tie he decided to climb carefully, hoping that the rope would not slip from his shoulders before reaching the top. Just as he felt the rope slip a little more, he looked down and realised that the rope would probably bounce off the ledge below and into the sea, as would he. The rope slipped, he instinctively let go of the rock with one hand to hold the rope. This caused him to barn door. He held the swing as his life flashed before his eyes. The next words he heard in his head was my voice telling him “I told you so”.

A few weeks before, during a training session with the group of trainee instructors we had had a conversation about soloing. It was apparent to me that a certain individual was overly confident in his abilities and would come unstuck if not careful. I made the point that a great deal of climbing experience with a rope is necessary before even considering climbing without. The grade is not so much the issue, it is the unexpected things that can throw you off.

Common mistakes leading to improved systems

“Everything that happens once can never happen twice. But everything that happens twice will surely happen a third time.” A quote attributed to the Brazilian author Paulo Coelho but I think is originally an Arabian proverb.

As instructors we’re in the risk management business. It is impossible to remove risk completely in an adventurous activity and to do so would be detrimental to the experience. Where you can predict however that an incident will occur and there is an easy fix to avoid it, it would seem prudent to do so.

The following are example of changes that I’ve made both personally and for those that I teach:

1 Swapping the quickdraw below the anchor onto the belayer’s rope.

This can fix any mistake made while threading providing the rope is still attached to the harness.

A good friend of mine with over 40 years of climbing experience recently made a mistake while cleaning a sport anchor that could have easily proven fatal but would not have been an issue if he was using the system that we insist our clients use. The mistake is common but is only usually a serious



issue if having climbed the route on top rope: The climber passes the rope through the screw gate on their cows' tail but fails to thread the anchor itself (see *photo 4*). If they then unclip their sling from the anchor without first testing the system there is nothing between them and the ground. I've witnessed this near-miss a few times. In one case the climber was desperately holding onto the anchor while the belayer was taking tight. With the rope pulling directly on the climber's harness the climber shouted "no", but the belayer was unable to work out what the problem was so kept taking in.

2 Tying a knot in the end of the rope close to the screwgate when cleaning anchors.

The client is being lowered from 30 metres and is around 5 metres from the ground when looking at the knot attached to the screw gate. Then, with a certain amount of alarm, says: "that doesn't look right". I figure there's not much to be done but to continue to lower. On reaching the ground it's immediately obvious that the client had tied a slip knot rather than a figure of eight or overhand on the bight. The client casually asks "what should I have done differently?" I offer a few expletives followed by "paid attention"! Clearly, they knew the knot was incorrectly tied as soon as they looked at it but had not bothered to check it after clipping to the screw gate and **before trusting their life to it**. Although I would hope to not see this near-miss again the fix for this is a simple one that I now incorporate into my own threading system and fondly call it the "idiot knot" (see *photo 1*). It's simply an overhand on a bight tied next to the screw gate to prevent the end slipping through. Watch this video: <https://www.youtube.com/watch?v=flJe3uv1C9g&t=108s>

3 Keeping a small screwgate on the belay loop as part of the cleaning set up.

This addresses two potential errors: (1) Attaching the rope to the gear loop instead of the belay loop; (2) Dropping the screwgate when moving it to the belay loop (problematic if you only know one method of threading).

After a couple days of making clear to the most experienced climber in the group that I was



1. Overhand knot with Idiot knot. 2. Mistake of tying slip knot backed up with idiot knot. 3. Slip knot only slips up to the idiot knot. 4. Mistake of threading own-cowstail screwgate. © All photo credits to Rock & Sun Ltd.

uncomfortable with him carrying the screwgate on his gear loop, because of the risk of clipping into this non-load-bearing part of the harness by mistake, he made it clear that this would be ridiculous. Next day, the client is threading an anchor 20 metres up while I'm lowering from a 40 metre pitch next to him. As I pass, I ask my belayer to stop lowering so that I can point out to the client that he threaded the anchor and attached the rope to his gear loop. He needed a near-miss to be persuaded to adopt our system.

Watch this video: <https://www.youtube.com/watch?v=d1Yn5wPv2TQ&t=190s>

Conclusion

As instructors we use our experience to make judgement calls. Systems that we have in place are built upon years of gained knowledge and experience.

While it is understandable that we all have different experience levels with making risk assessments and that each of us might assess risk or hazard differently, it is important to acknowledge that in our profession risk is always present and it is our job to reduce it as much as is reasonably possible.

During the past few years I've learned that at certain moments any of us are able to make mistakes that we would not normally think of as likely or even possible. It really doesn't matter how long you've been climbing or how safety conscious or aware you might think you are; building some safety backups into your systems could just save your life someday. We can all make mistakes! Allow yourself to be open to adjusting your system based on your own or other's experiences.

For more Common Mistakes and Improved systems visit: <https://rockandsun.com/2020/04/16/common-mistakes/>

ALPINE HABITATS

This article looks at the dynamic alpine environment and explores the range of broad habitats and ecosystems created in a rapidly changing and unstable environment.

WORDS AND PHOTOS BY JIM LANGLEY



Jim Langley is a specialist in alpine flowers and co-author of *The Alps – A Natural Companion*. He holds the International Mountain Leader qualification and a Master's degree in conservation and land management. He runs *Nature's Work* (www.natureswork.co.uk), an educational consultancy providing environmental CPD workshops for the outdoor industry and also bespoke outdoor learning programmes.

As you look towards the high alpine summits, beyond the dark green coniferous forests, you'll see a mosaic of grassland, rock, scree and late winter snow patches as summer finally approaches. Some areas have been exposed to the intense alpine climate for a few months now but equally others remain covered under blankets of rapidly melting snow. Each of these dynamic alpine habitats forms their own unique ecosystem where communities of plants and animals interact with the physical environment. Species that occur in these different ecosystems have adapted to occupy very different niches. They have adapted through the process of evolution and have become true specialists, tolerant of the conditions that control or eliminate competition.

Their novel adaptations have allowed them to extract whatever meagre nutrients, raw materials and water they can whilst gaining all the support and anchorage they need to establish, grow and survive. They also need to reproduce successfully and resist attack from pests and disease whilst the

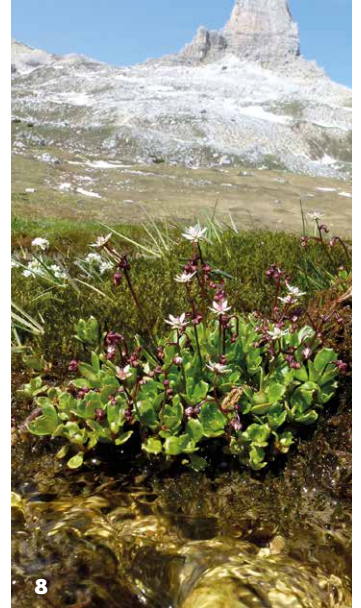
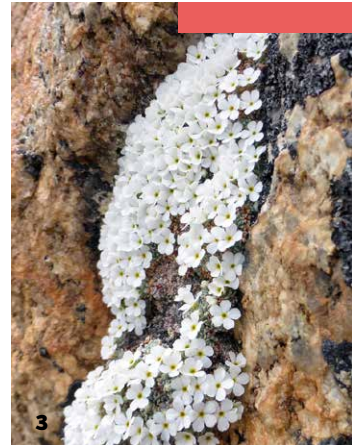
environment around them is in a state of constant change and unpredictable physical disintegration. The resilience of alpine flowers is incredible; their ability to absorb change and therefore remain and retain their character only adds to their fascination.

It is worthy to note here that geology plays a significant role as there is variation in the durability of different rock types and structures found within them (bedding, cleavage, jointing and folding). These control the development of a landscape aided by the erosive forces of water, wind and ice. The subsequent weathering releases minerals by both physical and chemical disintegration. There are many minerals in rocks but none with a more pronounced effect on vegetation than calcium. Many plants can only grow on calcium rich soils whereas others can only live on soils without calcium. These calcium-poor soils tend to be acidic and low in nutrients and the range of species within the community is far less.

Here we take a look at the broader alpine ecosystems and their general characteristics along with several key species that are commonly found amongst them.

Scree

Created by the repeated freezing and thawing of water which collects in cracks in the rock, this habitat is characterised by large angular fragments



at the base of the rock cliff where the material has originated. This unstable environment attracts the hardest of alpine pioneer species. They have to cope with physical damage and being covered by rock debris. Their strength depends on change and uncertainty and this makes up for being poor competitors. Characteristics of scree plants are a wide root system, spreading shoots (making new plants) and underground storage organ. They tend to have a short life and reproduce by either fragmentation (a shoot that is rooted becomes detached from the parent plant) or sending new shoots up from deep taproots. Typical examples of plants reproducing by fragmentation are seen in bellflowers and houseleeks and those from taproots are from the cabbage and daisy families.

Rock crevices and cliff

This habitat is created by the widening of cracks and fissures through surface weathering. They are relatively stable compared with scree and species are less resilient to change preferring more favourable conditions. Water and organic matter accumulate in the crevices providing a meagre source of nutrition. Deep roots and woody stems are common features in plants which inhabit these features and provide anchorage and support from exposure to the harsh element. The plants are, however, still poor competitors and require space

to grow but once established they can live for a long time. Some crevices develop lush hanging gardens where a seepage of water and soil adds stability and a greater variety of plants can flourish. A wide variety of plant species survive in rock crevices ranging from the short-lived plants in the cabbage and daisy families to the long-lived cushion plants such as rock-jasmines, houseleeks and saxifrages. Their tiny leaf rosettes are packed tightly and are perfectly formed against the cliff, giving them essential shelter from the harsh winds.

Alpine grasslands

This habitat forms the natural alpine belt which lies above the natural treeline. The soils here are well developed and inhabited by long-lived species. The soils have accumulated organic matter over time and provide a medium for which plants that are good at competing for resources and space is of paramount importance. The relative stability of this habitat allows for fairly constant vegetation, but changes can occur following disturbance or prolonged snow cover. There are huge variations in alpine grasslands depending on climate, altitude and underlying geology and these determine the mineral content and nature of the soil. This can range from shallow, skeletal soils at high altitudes to deep, nutrient rich and damp soils in areas closer to the treeline. Acidic soils develop on

MAIN PHOTO Wonderful bloom of spring gentians and mountain pansies in an alpine grassland. 1. Active scree formation beneath a sedimentary limestone cliff with many folds and bedding layers visible. 2. White crocus thriving on the thin soil in alpine grasslands. 3. Vandelli's rock-jasmine demonstrating its superb cushion form ideal for avoiding harsh winds in an exposed rock crevice. 4. Species such as Cobweb houseleek have adapted well to thrive in the adverse conditions in rock crevices. 5. Livelong saxifrage has tight leaf rosettes and deep roots allowing them to survive the harsh conditions of rock crevices. 6. Mt. Cenis bellflower has spreading shoots that root and fragment easily into new plants, perfect for life on active scree. 7. Scree-alpine toadflax. 8. Starry saxifrage and various mosses enjoying damp conditions of a spring-fed flush.



9. Tall herb communities enjoy deep, damp and fertile soils.

granite, gneiss and sandstone which weather forming soils that are rich in silica and generally low in nutrients. These largely favour heathers (such as trailing azalea), fescue and matt grasses. On calcium-rich rocks cushion sedge grasslands form with associated plants such as mountain avens, globularia, alpine aster and mountain sainfoin.

Tall herb communities

These develop on soils rich in nitrogen and are associated with alpine meadows and in the vicinity of alpine huts, essentially anywhere where nutrients accumulate. They occur below or around the natural treeline and are mostly dependent on the management of grazing animals. Tall herbs also occur naturally in unmanaged areas which experience long periods of snow cover. They also occur in sheltered gullies and hollows and can form under forests and bushes with damp, nutrient-rich soils. Typical species in this luxurious environment are adenostyles and blue sow thistle, monk's rhubarb and nettle.

Bogs and wet flushes

There are a variety of wet and damp habitats ranging from blanket bogs and mires to spring-fed flushes and seepage channels. Their soils are either intermittently or permanently wet and are inhabited by specialist plant communities. Wet soils are deficient of oxygen and build up thick peaty layers as the decomposition of dead plant matter is vastly reduced. Bogs lie in flat areas and have deep peaty soils which are raised above the water table and retain water like sponges. These permanently wet habitats are covered with a vivid array of brightly coloured mosses along with cotton grass, rushes and sedges. Wet flushes are fed by springs or meltwater which is highly charged with dissolved salts and bases. Deeply swollen carpets of mosses are interspersed with starry and yellow mountain saxifrage, sedges and marsh marigold. Carnivorous plants also favour these habitats, as nutrients are unavailable and locked up in the soil. These plants have adapted to gain nutrition from consuming insects which are attracted by specialist leaves or flowers designed to trap and digest them. Butterworts and sundews are examples of such insectivorous plants. ■



1. The Glarus Main Thrust runs for several kilometers; it's seen here as the horizontal line of snow with older rocks forming the serrated peaks and younger rocks below.

Lochsite (or Lochseite) near Schwanden in the Swiss Glarus Alps is about as near as you can get to a sacred site in the annals of the scientific study of the Earth.

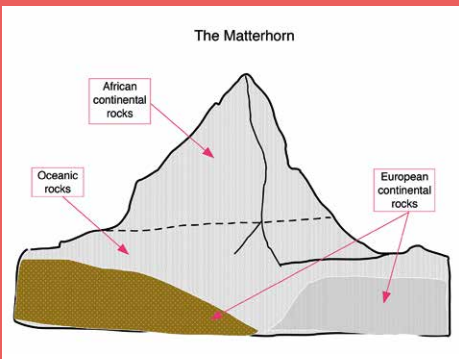
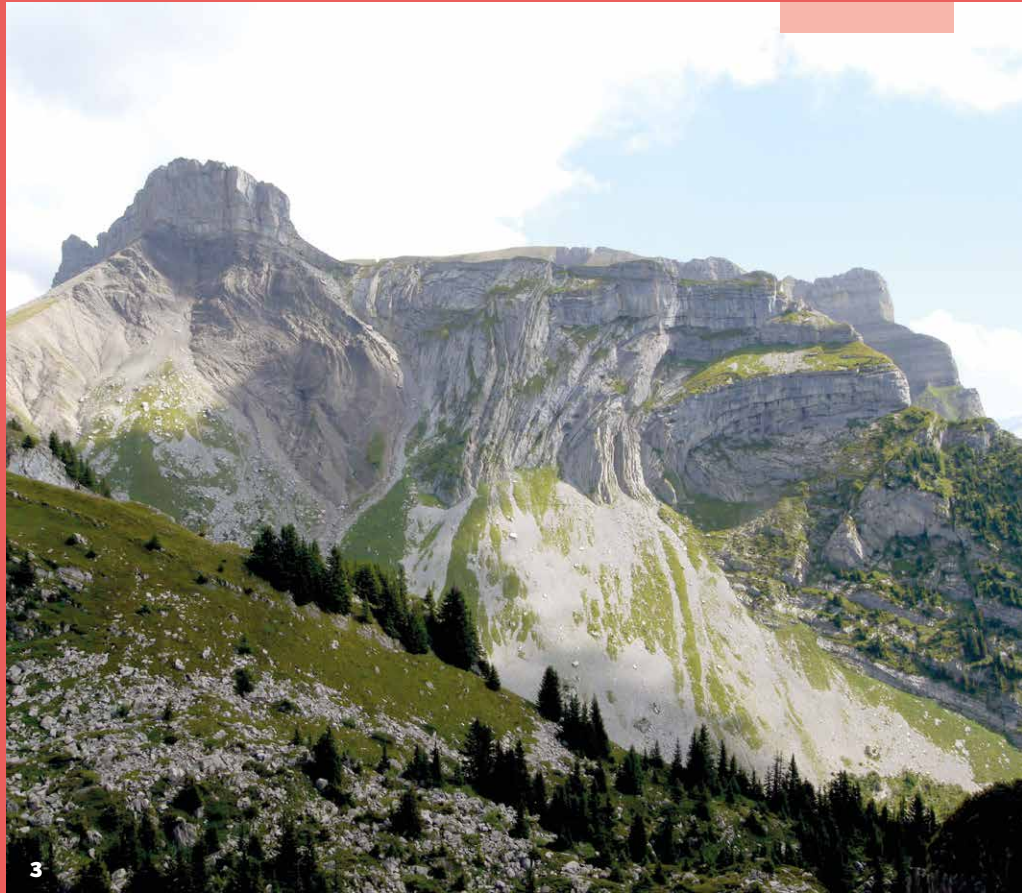
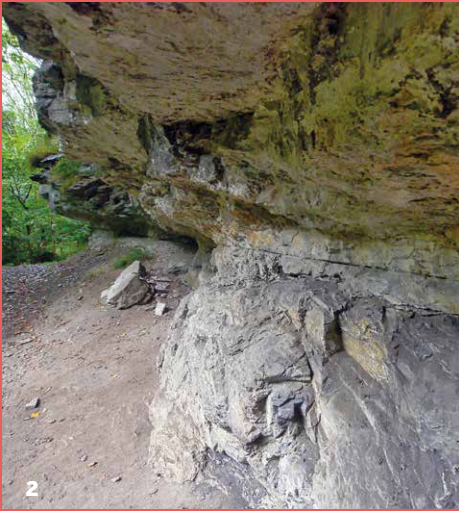
By the mid-nineteenth century generations of geologists had crawled over the entire Alps and studied the rocks in sufficient detail to identify the vast array of different rock types, to work out the order in which they were laid down and to group them into where they had originated.

As the strata of rock are laid down on top of each other, there is the natural progression of older rocks at the bottom, to younger ones higher up. However, the rock outcrops at Lochsite presented a problem. The time order of the rocks was upside down. What were clearly younger rocks appeared underneath older ones. Geologists now know that the higher and older rocks at Lochsite are around 250 million years old (the rock known as Verrucano includes a very distinctive purple rock with some pretty large crystals which aided identification). The underlying rocks, however, are much younger, dating from only about 35-40 million years ago.

This odd order confronted geologists with the need to work out what could account for it. The enigma of Lochsite was, as proposed by the leading Alpine geologists of the day, a gargantuan double fold, like wrinkled skin on the human body flopping over itself (this interpretation was based on the idea that the Earth was slowly shrinking but the brittle crust, it was suggested, could not shrink so folded over on itself).

But over time geologists became convinced that there had in fact been a single movement, the result of unimaginably powerful force pushing billions and billions of tons of rock, from the south and south-east, thrusting older rocks over the top of the younger rocks.

By the end of the nineteenth century the idea of 'thrusting' began to be accepted as the key process in mountain-building. Indeed, the concept was 'discovered' independently around the same time by other geologists in their local mountain ranges in the Scottish



2. The thin black line is the 'Main Glarus Thrust' with older rocks above and younger ones below (Lochsite). 3. Thrust folds on the Faulhorn massif near Interlaken.

DIAGRAM The Matterhorn is made up African and oceanic rocks thrust over into Europe.

Geology of the Alps

It is often said that the Alps is the world's most complex mountain range. However, this may be because it has been more closely studied than other ranges by generations of geologists. I will try to simplify the story.

WORDS AND PHOTOS BY PAUL GANNON

Highlands, Scandinavia and North America as well as the Alps.

Further analysis showed that Lochsite was not unique and there were hundreds of other thrust sites scattered across the Alps. Slowly it was understood that mountain ranges were created by thrusting, often forming great piles of thrusts (known as nappes).

However, it took another half a century and more before there was agreement on what forces lay behind. We now know that the motive force is plate tectonics and in particular the collision of two (or more) continents which press in on one another

and are forced up into mountains (and also forced down to form 'roots' which are much deeper than the mountains are high).

In the case of the Alps it was the collision of Africa and Europe that created the mountain range we love to trek and climb. Or, to be a bit more precise, it was an arm of Africa (to simplify we can say roughly modern-day Italy) that swung round into southern Europe, squeezing about an area about 1,000 kilometres wide down to just 150 kilometres across.

The upper half of the Matterhorn, perhaps the best-known mountain of the

Alps, is actually made of rocks from the African continent. The lower half is formed from rocks that were created in an ocean that lay between Africa and Europe and it is necessary to look at the base of the Matterhorn to find rocks that originated in Europe.

The collision of the continents piled up in a crazy patchwork quilt; those oceanic rocks, the sedimentary rocks created on the European continental shelf, and the deep lying 'crystalline' rocks (gneiss and granite) that formed the lower European crust. This last group are formed of tough rocks and now form the highest points in the Alps including Mont Blanc.

On your next trip to the Alps it's worth pondering the power of plate tectonics which created the mountains we all love. It's a truly amazing story. ■



Paul Gannon is the author of *Rock Trails Peak District* and other geology guidebooks for hillwalkers. He is also the co-author of the new publication *The Alps - A Natural Companion*. He is a member of the Mountain Training Association and runs geology CPD workshops for the Associations.

HIGH-PERFORMANCE WATERPROOF TECHNOLOGIES

Upgrade to legendary waterproof protection with optimized breathability always backed with our GUARANTEED TO KEEP YOU DRY™ promise.



AND NOW, HIGH-PERFORMANCE NON-WATERPROOF TECHNOLOGIES

Upgrade to advanced functionality through a range of specific performance enhancements.



WHEATEAR

The nineteenth in a series of articles on wildlife.

I'm very fond of the wheatear. Such smart and bouncy birds; their manner is reminiscent of the robin, hopping over short vegetation before pausing to stare at you then bouncing on.

But if I'm honest, and this really doesn't reflect well on me, there's a particular reason I relish the opportunity to share these birds with others. I enjoy pointing out a feature that helps to identify them, a bright white rump that's very obvious in flight, and then sharing the link between this and the derivation of their name ... up until the 17th Century it wasn't considered vulgar to call something a White Arse!*

Initially, these spring migrants may be seen everywhere but particularly in coastal areas. They have many names but *fear na Feill Padruig* (bird of the feast of St Patrick) gives you a hint at when they start arriving. That's another reason for my affection for them; we can be in the depths of winter, but the promise of spring can be conjured by an early sighting.

Once they've made landfall, they'll head to their breeding grounds which are now predominantly the coasts and uplands of northern and western Britain. They've largely been lost from their former breeding grounds elsewhere as a result of habitat loss, their preferred short-cropped turf either becoming rank through the impact of myxomatosis on rabbits or ploughed up for agriculture.

They're not with us for long, beginning to leave their Scottish breeding grounds from late July and most will have left by mid-September. Before

* According to *Birds Britannica*, the name wheatear derived from two Old English words: *hwit* (white) and *aers* (rump or backside).

migration was understood as the cause for the disappearance of certain species the wheatear was thought to lie underground, dormant throughout winter. It would be easy to wonder at the ignorance of our predecessors but perhaps we should remain humble in this regard, given how little we still know of exactly where these birds go in winter.

Q What can *you* do for wheatear?

A Recognise, celebrate and record them via BirdTrack (for information see the BTO website www.BTO.org).

Q What can wheatear do for *you*?

A Remind you that winter will pass and spring is on its way.

A Give you a legitimate excuse to be vulgar. ■

Vital Statistics

Length: 15cm

Wing-span: 29cm

Weight: 24g

Habitat: Open country with short vegetation; nests in holes in the ground, stone walls, scree, etc.

Food: Almost entirely insects, occasionally other invertebrates and berries.

Voice: Whilst the male's territorial song is pleasantly lark like you're more likely to notice the 'chack-chack' call that inspired many of its colloquial names, e.g. the Stonechipper.

WORDS BY SUE HAYSOM

ABOVE: Wheatear.

© BTO/Edmund Fellowes.



Sue Haysom is a professional ecologist, Mountain Leader and member of MTA. Sue is the owner of Greyhen Adventures.



ABOVE Alice Kerr in the middle of *Hell Hook Traverse 6b*. © Pete Edwards.

On the 27th of August 1981 the Secretary of State of Wales announced the transfer of about 240 square metres of land owned by the crown to Gwynedd County Council, provided it was used to carry out improvements to the road in the vicinity of the Cromlech Boulders.

WORDS BY MAL CREASEY

This act brought to an end a protracted struggle which began eight years earlier when workmen were seen drilling the boulders in preparation for blasting to allow a road-widening scheme.

Most climbers will have more than a passing acquaintance with the Cromlech Boulders. Folk have bouldered there for decades, way before “bouldering” was invented; however they have more of a history than just as a venue for climbers. Welsh folklore has it they were the home of Canthrig Bwt, a child-devouring hag whose origin is lost on the mist of time, (for more information on this charming lady see James Perrin’s book *Vision of Snowdonia*). Over the years the boulders have become one of the most famous venues in the World, not only for bouldering in the modern sense of the word, but also as a meeting point and magnet for visitors dipping their toes into the traditions of British Rock Climbing. Just how many folk have ‘dossed’ under the boulders for a few nights is impossible to estimate and I know of at least one infamous character who lived there – even having his mail delivered to The Cromlech Boulders, Llanberis Pass.

It could all have been so different...

My own small part in their history took place on a wet December morning in 1973, the occasion: a hastily arranged protest to stop the drilling operations.

An hour earlier news had arrived at Plas y Brenin that drilling was under way! Initially the room went quiet – then there was anger at this news and those who were able, and (presumably the most expendable), were dispatched to the scene with orders to park all vehicles next to the drilling operations. The intention being to stop the drilling and delay the laying of charges whilst some semblance of formal protest could be organised. My aged old van (which was only worth a few quid), was quickly replaced by a brand new Land Rover. It was quiet a scene; a few council officials, a rag tag of climbers sitting on the boulders, some fairly confused workmen and various local luminaries clearly on different sides of the fence. Thus began the eight year battle. However, on this occasion the conservationists, which included the BMC Committee for Wales in their ranks won the day. The project was shelved indefinitely, much to the disgust

of the Caernarvonshire County Councillors who were dismayed at the strong feeling surrounding what, to their eyes was a simple road widening scheme.

However, the whole issue resurfaced in September 1976 when the new Gwynedd County Council revived the project. However on this occasion a long, bitter and expensive campaign was required before common sense returned and agreements eventually reached. Before that happened divisions hardened, the ‘Guardian’ noting “that the council had approached the task with greater subtlety by inviting the Snowdonia Park Committee to meet their Officers on site.” The National Park Committee asked that various objectors be allowed to attend this meeting and this was granted. At this meeting opposition (to the scheme) was heard with “impatience and disbelief”, its arguments discounted or discredited as “unreliable lay opinion”. The meeting concluded with a vote taken by the National Park Committee, itself an extension of the County Council, that resulted in the adoption of the most economical of the three alternatives proposed; which involved the greatest degree of interference with the boulders. This site visit also revealed some ‘covert’ operations had already taken place as it was noted the first boulder had been modified, producing a large overhang and an additional hazard! The lines had been drawn.

During the protracted and often heated arguments, the mountaineers who were desperate to save the boulders were branded selfish, bigoted and arrogant with the ‘Guardian’ referring to the boulders as “*two irregular lumps of stone... little in the way of special beauty*”. And went on to proclaim that Snowdonia was “*not the sole preserve of climbers*”. The then National Park’s Information Officer, apparently not particularly enamoured with the BMC at the time, declared that the Cromlech Stones have “*no historic value*”.

With divisions deepening, the BMC Committee for Wales took the decisive step in contacting Harry Sales, at that time president of the Climbers Club and a barrister specialising in Town and Country Planning, who immediately agreed to take up the case without charge. However, he warned of heavy expense as the Welsh Office had



ABOVE The morning of the December 1973 meeting. © Mal Creasey.

decided that only a Public Inquiry would solve the dispute.

Cash was raised with various supportive figures agreeing to give evidence but the real game changer appears to be Bob Dewer, a Consultant Highway and Traffic Engineer who was brought in by Harry Sales. Dewer visited the scene and felt there were viable, and economical alternatives that would leave the boulders intact and as a result spoke directly to the County Surveyor.

The Public Inquiry was arranged for January 1978; however things did not go entirely to plan. The County Council demanded the enquiry be conducted in Welsh; however the Welsh Office didn't have any suitably qualified, bi-lingual Inspectors so the Inquiry had to be cancelled at short notice, no doubt with a few red faces! This cancellation and the inevitable delay was an unexpected respite for the BMC Committee for Wales who threw themselves in to organising a strong defence. Traffic counts were taken, influential people invited to speak at the Inquiry and further fundraising efforts took place. Meanwhile, Bob Dewer had established a good relationship with the County Surveyors Office eventually persuading them to accept a plan which left the boulders intact. Thus, on April 6th 1979 the County Surveyor wrote to all objectors asking them for their approval of this alternative. And so, finally after agreement from all parties, including representatives of the BMC the scheme was finally submitted to the Welsh Office. However, this was not quite the end as a full year passed before the Welsh Office announced there would be another Public Inquiry on 17th March 1981 which caused some alarms... these were soon allayed as it was just a matter of dotting the I's and crossing the T's. Unrepentant to the last, the County Council insisted on conducting the meeting in Welsh. With just a few County Councillors present the Public Inquiry was over in a couple of hours, and six months later the Secretary of State decided the Council could have the land – provided it was used for what it was intended.

Not with a bang but more of a whimper. The Cromlech Boulders were safe, hopefully forever.

How times have changed... or have they?

I am indebted to Mr W R Shotton, known as Ron to friends and family for his article "Not with a Bang" in Climber and Rambler in 1981. Ron was the first to demand we youngsters speed to the rescue of the Boulders on that fateful December morning, he was the mainstay of the BMC Committee for Wales at the time and little did I know it but some years later would become my Father in Law.

P.s For those of a certain age, you might just recognise a few characters in the picture – no prizes are on offer. ■



Mal Creasey is a former Technical Officer for Mountain Training, until recently working as a freelance Guide and Mountaineering & Climbing Instructor based in North Wales. He has over 30 Alpine and Scottish Winter seasons to his credit. He is still keen to get out and about before the body seizes up completely. Although now a 'retired' Guide he is still a member of AMI and can be persuaded to do the occasional day on the hill or advisory work. He can be contacted at malcolmcreasey@btinternet.com



Training Courses

Inspector Courses Include:

- RoSPA approved PPE Inspector
- RoSPA approved Wood Pole Inspector
- Wire Rope Inspector
- Working at Height and Access
- RoSPA approved Operational Inspection and Maintenance Course



ERCA Courses Include:

- Traditional High Ropes Course Instructor
- Rescuer
- Adventure Park Instructor
- Low Ropes Course Instructor
- Temporary Low Ropes Instructor
- Site Specific Instructor



Courses can be run at **your own facility** - to ensure staff familiarity - or you can visit **our training venue** in Penrith Courses count towards CPD points for various ERCA associations including ERCA and MTA.

All of our training courses will provide Outdoor Professionals (old and new) with the skills they need to operate safely and confidently. Using a combination of practical and theory to teach, train and assess, our courses are always very well received.



Tel: 01768 840 300 or 01768 863 368
info@technicaloutdoorsolutions.co.uk



ABOVE Students hiking in the Bernese Oberland as part of a 3 week adventure camp in Switzerland.

LEAD FOR A LIVING

This article is for all members who wish to increase their chances of making a full time living out of leading or instructing others using Mountain Training qualifications.

WORDS AND PHOTO BY JAMES DAVIDSON

I shall highlight my top five careers tips and explain why combining them all is an effective and sustainable approach.

Mountain Training qualifications are a fantastic way to change or enhance a career. Let us examine five key areas to career development, all of which are currently championed (among many others) in mainstream education and many professional sectors and should be a core approach in the outdoor sector too. These areas are qualifications, skills, knowledge, experience and reputation.

1 Qualifications

Also known as ‘NGBs’ or simply ‘tickets’ in the outdoor world, Mountain Training offers qualifications on two major pathways: climbing and walking. These take candidates on a career journey from the valley floor to mountain summits, via coaching, reflective practice and a lot of time out on the hill in inclement weather with all types of clients. While it is not a perfect system it makes a lot of sense to view both pathways in tandem.

If you would like to work sustainably, year-round, then it is quite likely you would be working towards qualifications in both routes, particularly because they merge in the Mountaineering and Climbing Instructor (MCI).

It helps if you have been through the syllabus for the schemes for skills and leadership in “lower risk” environments too so you can tailor experiences to your clients and build on learning appropriately. As an example, I have been looking at the Lowland Leader syllabus quite a lot recently and have even logged some quality lowland days (QLDs) even though I am a Mountain Leader (ML). These

days were enjoyable, and I learned something new as well. Quite often I see questions on Facebook forums about working as an ML all year, or the most useful qualification to have for financial return etc. Important issues, certainly, but my answers are that you can work as a volunteer or professional ML all year if you want to, but you have to be very proactive and possibly move around a lot. The greatest investment is to keep on learning and working towards the next stage of your professional development. If you stop, not only is it hard to get going again, but you run the risk of a professional plateau. Long term career sustainability requires you to nurture the habit of regular CPD.

2 Skills

How many skills does it take to become a Hill and Moorland leader? There is a link to a course handbook on the information pages alongside each Mountain Training qualification. These handbooks are excellent, and are a great framework for development, pointing you to what you need to do, at exactly the right times. Each document contains the qualifications broken into sections, with guidelines and points to consider. Some of these points will relate to ‘hard’ skills you can practise such as knot tying, navigating, route planning etc. Others are ‘soft’ skills, such as the sensitive approach to coaching a climber with complex issues where there is no ‘right’ response or approach, or even simply how you relate to your clients. Are you an enjoyable companion to learn with? How many times do you praise clients compared to offering ‘constructive criticism’? Make a list of skills you can see in the handbook you are working on and make time to start practising them. Be

proactive. Take your highest full qualification – how much of the handbook are you confident with? The gaps indicate areas for you to focus on to become a better candidate. Maybe you're very confident and should look at the next step, maybe you realise you have some revision to do and need a refresher. There are loads of courses and CPD events on the same website to help and guide you.

3 Knowledge

Ultimately, this is all about at least having enough solutions in your mind, so that you have the luxury of choice when it comes to the “sharp end”. Not knowing which skill to use in any specific combination of client, location and scenario could render even a technical wizard effectively useless – indeed, my preferred interpretation of ‘skill’ is the application of knowledge in context. The right action for the right event – knowledge is the theory that underpins the skill, and forms the foundation of your actions. Before planning your route, you need to know the weather forecast and have a sound knowledge of working out the implications of all the data for your team. Again, go through the handbooks and work out which points could be simply theoretical; what can be practised at home? What sources are being promoted? What else has been developed since the handbook was published and is that also useful? Outdoor magazines can be brilliant at providing sources of further knowledge, as can the Associations’ Facebook groups.

4 Experience

What actually makes a good DLOG for your Mountain Training database profile? I was surprised to find no guidelines for what to write in that rather intimidating blank box. My advice for completing a walking log is to create the entry before the trip, and paste a weather forecast from MWIS into the space. I write my aims, one of which will be taken straight from the handbook. E.g. ‘assess how I would manage a party on steep ground or loose terrain’. I then save the entry, and write exactly the same aim into a weatherproof notebook. I carry this on the day, jot down weather, find the suitable spot to talk about my

learning point, jot down my thoughts, and then when I'm home, write everything in, along with a picture I've taken. Consequently, you have a very detailed DLOG with aims, observations, reflections and images to prove you were there. Additionally, when built up over time, you also have an outdoor portfolio which will impress an assessor. Further tips include getting a wide variety of experience, but for best career busting tactics, see where local companies are taking their clients and get the same experience before asking if they have any vacancies or need a freelancer. That way you will be freshly skilled, knowledgeable and experienced in the area they operate, and will create a good impression right from the start. You might be confident in being able to navigate through a blizzard all night in the middle of December in a place you've never been before, but clients tend to prefer being supported by a guide who really knows the area well. It instils confidence and trust, two key components of leadership, and also of your career.

5 Reputation

I cannot emphasise this one enough. If you have the right attitude, a professional approach, and clearly care about your work then it will get noticed. Further to this, if you are able to have a laugh, take a joke and also relax when appropriate, that's even better. It is a small industry with many active members, and the saying ‘trust takes years to earn and seconds to destroy’ is particularly resonant. Most instructors are acutely aware of remit, conscious of their session quality and mindful of being professional. There are others who are not, and those individuals become known over time. A long and successful career depends on reputation. There are many more opportunities than advertised vacancies, yet everybody I know who is seeking work as an instructor has had no difficulty in finding a start. Usually that is at a local climbing wall or a residential centre. Conversely, some centres and walls earn a negative reputation among instructors too – late paying to freelancers (or no pay sometimes), lack of respect for working hours, communication problems and staffing issues can all hugely impact the performance of a centre. ■



James Davidson is a fully qualified and registered careers development professional (RCDP) and a qualified Mountain Leader, Climbing Wall Instructor, Rock Climbing Instructor and aspirant International Mountain Leader. He works as a careers professional, with experience working full time as both a freelance and an employed instructor for a variety of centres in both the UK and internationally. He is currently a volunteer mentor as part of the Mountain Training Association mentor programme and enjoys helping out new instructors. Any candidates wishing to receive careers support specifically for Mountain Training qualifications and career development are welcome to contact him and arrange a consultation: james.davidson@live.co.uk



LIFE INSURANCE FOR CLIMBERS AND MOUNTAINEERS

Providing cover for climbers for over 21 years

Summit Financial Services can provide mountain professionals with cover for life insurance, income protection, critical illness and mortgage protection.

Don't let your hard work in the high mountain be compromised with inadequate insurance cover for your life, family, house or income.

Even if you have an existing life insurance or income protection policy in place we'd be happy to hear from you as we have a wealth of experience in negotiating improved terms on existing policies.

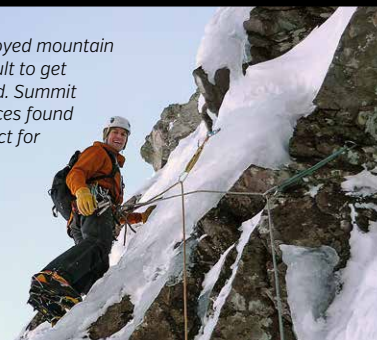
www.summit-fs.co.uk
Call today 0345 565 0937
 (quoting **Professional Mountaineer**)




“Endorsed by the OIA as the leading provider of financial protection for those engaged in outdoor activities”

‘As a self-employed mountain guide it's difficult to get the cover I need. Summit Financial Services found the right product for me and offer a great service.’

Mike Pescod



MIKE PESCOD ON MINUS TWO GULLY ON BEN NEVIS



MOUNTAINS FOR THE MIND

ABOVE View from the Glyders. © John Cousins.

At the start of January 2020 Mountain Training announced a new partnership with *Trail Magazine's Mountains for the Mind* campaign.

We know that many studies have shown that doing physical activity can improve mental health and we believe in the power of walking, climbing and mountaineering to connect people to the mountains and to other people.

WORDS BY NICOLA JASNIENIECKA

As a network of Mountain Training organisations we have agreed a vision and mission statement with regards to mental health:

Our vision is to create a diverse and active outdoor society where everyone can benefit from, and be inspired by, the joy of being in the outdoors, where they can learn new skills to keep themselves and others safe and where they can feel supported by a like-minded community.

Our mission is to support and develop people with the skills they need to be able to enjoy the hills, mountains and crags independently, safely and with confidence.

Mountains for the Mind echoes our own values by encouraging people to get out into the mountains, to do it safely and to share their experiences with others. At the time of writing the Mountains for the Mind Facebook group has

over 9,500 members and despite the coronavirus lockdown, it's still very active with people posting beautiful photos from previous walks, a fun time lapse film and an initiative to get second hand outdoor kit to low income individuals and families.

Ordinarily the group is a healthy mixture of people sharing their adventures, asking for help when they're struggling and offering support to those in need; the comfort many people seem to gain from the kind words of a stranger is really heartening to read. There's always someone who's had a similar experience who can offer encouragement or advice and Oli Reed, Trail magazine's editor, does a great job of keeping the group on track and inevitably, deleting posts that break the group's rules, though thankfully these are few and far between.

Last year the group also engaged with an organisation started by MTA member Andrew Higson, Black Dog Outdoors, to run free monthly

events supported by mental health first aiders and MTA members, to give people the confidence to get outdoors more. The name of the organisation is a nod to the World Health Organisation film by writer and illustrator Matthew Johnstone titled, 'I had a black dog, his name was depression' – if you haven't already, you should watch the film.

Another film worth a few minutes of your screen time is *The White Fox*, created by AMI member Rob Johnson, about 'Charlie Leeds'. Charlie is an International Mountain Leader and trainee Mountaineering and Climbing Instructor who experienced a traumatic incident whilst supporting Leeds United in Turkey. After suffering from PTSD and depression he then discovered the mountains and started gaining leadership qualifications. In the film Charlie talks candidly about his struggles and the joys of learning about Snowdonia's flora and fauna whilst working on the door of a busy bar in Leeds!

We're always inspired by people who have used our qualifications as a vehicle for improving their lives and those of others and as a training organisation we continue to invest in developing our staff. We have been increasing our awareness of mental health issues and last autumn six members of the team attended a one day first aid for mental health course and earlier this year two other members of staff attended a two day course. We are confident that as a result we have sufficient first aid for mental health cover within the office and will watch with interest as such courses develop and evolve.

We have also been in contact with the Institute for Outdoor Learning who have developed a statement of good practice for 'Outdoor Mental Health Interventions' – a valuable document that's well worth reading. The model shows the two axes of outdoor competence and therapeutic competence (see Figure 1) which clearly differentiate the 'type of service and expected benefits' one might receive from a mental health first aider who is personally competent in the outdoors, from those that might be gained through contact with an outdoor professional who is also a registered member of a professional

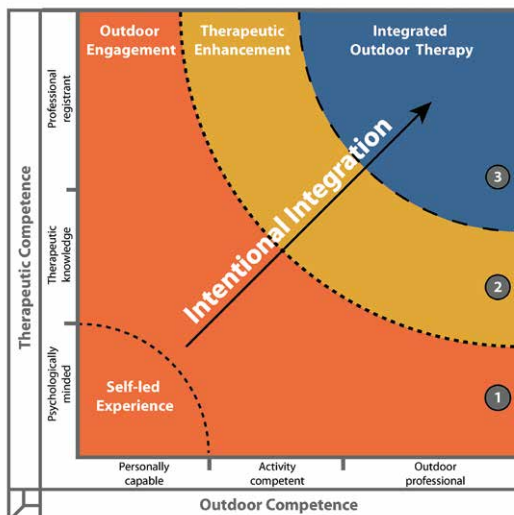


FIGURE 1 The Outdoor Mental Health Interventions Model.

© Co-authors Neal Anderson, Kaye Richards and Andy Hardie.



standards authority, such as the UK Council for Psychotherapy. The aim of the document was to 'develop a model that could support organisations and individuals who provide and utilise services for mental health and well-being in an outdoor setting. It has been created to ensure that those engaging outdoor learning services to improve mental health and well-being can do so with confidence and trust in what they are offered.'

As the outdoor sector emerges on the other side of the coronavirus pandemic, which is testing people's adaptability and flexibility skills to the max, we hope that you will continue to provide opportunities for as many people as possible to experience the mental health benefits of hill walking, climbing and mountaineering. In the meantime, let's look after our own mental health and that of our friends and colleagues in the associations; there is always someone who needs to be listened to and someone who will listen.

Links to useful resources can be found on our website: <https://www.mountain-training.org/help/resources/mental-health-resources> ■



Nicola Jasieniecka is the Media & IT Development Officer at Mountain Training and is responsible for the website, social media, CMS development and Mountain Training's publications. She is a Mountain Leader and Rock Climbing Instructor and member of the Mountain Training Association.



BIOLITE HEADLAMP 200

A minimalist design which maximum comfort and fit, the **HeadLamp 200** is a compelling entry into the rechargeable landscape.

Delivering 200 lumens, the transparent polycarbonate front includes red and white LED's, allowing you to access four different lighting modes including a dimmable red flood light mode. The multi angle design is USB rechargeable and weighs only 50g. Featuring 3D slim fit construction, the integrated front sits front and central for no bounce for ultimate comfort and fit. Wherever you are and whatever you're doing, you'll quickly forget you're wearing it.

Easily prevent those lumens turning on in your pack by activating lock mode at the touch of a button, and with runtimes of up to 40 hours



on a single charge, you can leave your disposable batteries at home. Available in four colours.

Order from **Blacks** stores. For more information visit bioliteenergy.com

STRENGTH AND CONDITIONING FOR YOUR CLIENTS

As a professional mountaineer your physical capacity to be in the mountains enables you to earn a wage and continue exploring and challenging yourself.

WORDS AND PHOTOS BY TOM HORROCKS

The more days you spend in the mountains makes you efficient at hiking and climbing but doesn't necessarily make you stronger or more resilient to injuries.

Taking some time during the off-season to focus on conditioning can help:

- Improve performance by being stronger and more mobile;
- Strengthen bones, offsetting age related decline in bone density;
- Injury prevention through strengthening soft tissue (muscles, tendons and ligaments, as well as improving coordination and agility).

Focus areas for instructors

- Mobility – while climbing have you ever struggled to get your foot high enough for a particular foot placement or strained at the effort to mantel a high shelf? Mobility is the range of motion at a joint such as the hip and is influenced by muscle length and posture. Functional movements such as the squat help strengthen and open the hips giving better mobility.

In *photo 1*, I'm holding the goblet squat in the lowest position (isometric) to help open the hips and increase strength in that position.

- Flexibility – is the ability for muscles to lengthen. This can be worked on in many ways such as yoga, stretching and foam rolling. This promotes recovery after long workouts and helps to prevent injury. For climbers try pectoral release with a tennis ball by putting the ball in between your pectoral and a wall. Find a tender spot and work it until the muscle loosens off. This can also be done with a foam roller. Tight pectorals contribute to a poor posture and give the effect of "climbers' posture" when shoulders roll forward and the upper back protrudes out. This is due to weak lower trapezius and neck flexors and tight upper trapezius and pectorals.

Mobility and flexibility are very similar so don't get over worried about which one you are actually improving/working. Highlight the area of weakness or tightness and work appropriately.

Resolving imbalances between muscle groups (antagonistic training)

An imbalance between two opposing muscles can cause injury if one is being over-used and the other under-used. Quick examples might be the tricep/bicep and the hamstring/quadriceps. By stretching the over-used muscle and working the under-used one we can correct these imbalances and produce better overall strength.

Another consideration is if you are pulling or pushing. Take paddling as an example. When you pull the water past the boat, this can leave the opposing muscle (antagonistic) weak. This imbalance can be resolved by doing some press-ups.

For climbers pulling down frequently I would recommend pushing exercises such as a strict press using a barbell or inclined press-up.

Stabilising muscles

Stabilising muscles support the body while performing an exercise. These are muscles in the core, trunk and posterior chain.

If you are holding a weight or there is a weight attached to you then stabilising muscles engage. They can also be easily neglected while training large muscle groups which can lead to injury.

For example, by adjusting some very standard exercises we can engage smaller stabilising muscles. Try the scapular push-up (*see photo 2*). Start in a push-up position with straight arms and neutral spine. Engage the core and allow the chest to lower between the arms. Then push the chest back into the starting position. This is great for paddlers and climbers.

Climbers should also try the scapular pull-up (*see photo 3*). Hang on a pull up bar and try to squeeze your shoulder blades together and bring your chest up and out. This is good for strengthening scapular muscles such as the serratus anterior, latissimus dorsi and those that bring the shoulder blades together (retract) to pull you up. Although this is only a small movement it will work the scapular and its ability to engage when out climbing. This will reduce fatigue levels and keep good form while climbing.

Last but certainly not least it is important to optimise your lower-limb stability and balance by strengthening the stabilising muscles in your legs to help support the knee, ankle and hip when walking downhill. This will help improve your bio-mechanics and reduce excessive load through your joints.

Add a single legged squat into your training to engage these supporting muscles. Focus on keeping your knee over your foot to optimise alignment and biomechanics.

If unable to perform a single-leg bodyweight squat use a chair to sit down and stand back up only using a single leg. Don't allow yourself any momentum with your arms and lower down slowly into the seat. Even practising standing on one leg with your eyes closed will help improve your proprioception which will improve your ankle stability when walking over rough ground. This is a great one for both hikers and climbers.



1. Goblet squat. 2.1. Scapular push-up. 2.2. Scapular push-up. 3.1. Scapular pull-up. 3.2. Scapular pull-up.

'S&C' and your clients

Most likely a client will have a normal job, a normal home etc. By taking the time to assess a new client's fitness levels and training background you may find out potential warning signs, build a bigger picture of the person you're roped to and probably provide a better service by taking the time to show interest in them.

For example, a client may have an office job and drive one hour to work each day. This means that they most likely have tight hamstrings and hip flexors resulting from sitting down a great deal. Unless they train regularly they will probably have a low fitness level. Some basic strength and conditioning (S&C) can really help improve posture and contribute significantly to building fitness levels.

How does this affect you?

Have you ever had a client with sore knees while walking downhill or someone that's simply not fit enough? I feel as instructors we should be educating our clients and giving them the responsibility to prepare physically for the mountain experience. As instructors our overall aim is not only have a safe trip but an enjoyable and successful one. So, when does fitness (or lack of) in clients turn into a problem?

By asking a few more questions and investing just a little more time into clients we can create safer mountain experiences and keep our long-term clients injury-free and wanting to come back for more. This may mean referring them onto other professionals such as personal trainers and physiotherapists.

In addition to the regular question of "any previous injuries" and "what grade they climb", I add these extra questions:

- **What's your occupation/job?**

This tells you how physically active they are daily, what stress levels they have and how much time they may have for fitness preparation. The "weekend warrior" is also a much higher chance of being unconditioned and untrained but will have a level of fitness to build on.

- **How often do you train?**

This will give you a good understanding of all-round fitness and will show their level of interest in laying the foundations.



Tom Horrocks is a Mountain Athlete Coach and founder of Adventure Fitness Consultants. He holds the Mountaineering and Climbing Instructor qualification and is a Winter Mountain Leader and Level 4 Strength and Conditioning coach. Based in Cheshire he spends time climbing in North Wales and offering 'S&C' to clients throughout the UK. **0785 6061 407**
info@adventurefitnessconsultants.co.uk
www.adventurefitnessconsultants.co.uk

It may also spark some interest in learning more.

- **How do you train/what do you do?**

Again, building a picture of current fitness levels. If they lift heavy weights at the gym, they may be very powerful and strong but could struggle maintaining steady climbing over a long period.

More and more people have a better understanding and interest towards fitness, meaning some advice and recommendations could help them in their goals and aspirations.

Remember

- Never advise on something you are not qualified or hold relevant experience in;
- 'S&C' can help you maintain a longer career in the mountains by giving your body a regular MOT;
- Keep it simple – the simple exercises are usually the best ones. ■

Developing Teaching and Learning Skills # 1

In this series of articles we will be exploring some of the key factors that underpin our practice as trainers, educators, instructors, guides, leaders and coaches. Firstly we are going to look at how we go about creating a positive learning environment.

WORDS BY PAUL SMITH AND DAN WILKINSON, PHOTO BY PAUL SMITH



FIGURE 1 © Paul Smith.

A positive learning environment is one where our clients feel comfortable, believe that they can be successful and there is a sense of trust and rapport between themselves and you. There are several considerations for us to think through (see *Figure 1*). One of the key reasons we want to create a great learning environment is to keep those we are working with motivated and interested in the activities that we are passionate about.

Safety

Avoidance of physical, mental and social harm. Clients want and expect to feel safe, with risk appropriately managed. Many of the activities that we do are perceived risk activities – a group abseil is intimidating, but about as safe as abseiling gets for a novice. Lead climbing has inherent hazards that we can't control, and so we shouldn't be placing people in unnecessarily harmful situations until they are ready to engage and accept the level of risk.

Supportive

- **Wants versus Needs** – What have the clients come to you for? If they don't think or can't see that what they are getting is meeting the reason that they have booked you, the clients are going to start becoming disengaged. The tricky part is when the 'wants' don't necessarily match with what they 'need'. Careful negotiation skills are required! Alternatively some simple explanations of the learning journey that you are about to take them on and showing how that meets what they are after also pays dividends.
- **Clients feel valued and respected** – You know those films where some guy in the military is shouting at the new recruits because

they're from Texas? Just don't be that guy. Appropriate language, both body and verbal are key here, alongside showing interest in their contributions and previous adventures. The experience should be about them, not you.

- **Belief** – We should strive to create environments where clients feel as though they can achieve their goals, and their goals are realistic for them as individuals.
- **Behaviours** – in some situations we may have to set out and reinforce expected behaviours. It's really important that if we are doing this there is a sense that this is enforced equally for all participants. This includes us modelling the sort of behaviours that we expect, from choice of language through to ensuring that you are managing your own safety in the way that you expect the clients to.

Inclusive

- **Motivation** – What is the motivation of the clients? Are they already fully committed outdoor enthusiasts looking for the next piece of input to expand their practice? Are they a co-opted Duke of Edinburgh Gold team who haven't got the experience to see the relevance of the navigational skills they require? Are they looking to go back to the office on Monday morning with bragging rights, as they have just climbed a classic route on the North Face of Ben Nevis? Are they after a dramatic photo of themselves for social media? These differing motivations will really impact on the day out. Taking the time to discover the motivations that are in your client group will really help to shape an appropriate learning environment/experience.
- **Choice** – This is so closely linked to motivation! The people we are working with have chosen to be with you. Have they had any choice in the activity that is being set today? or where they are doing the activity? or what the structure of the day looks like? How much choice do you currently give to the people you are working with? Choice and motivation are very closely intertwined.

Engaging

- **Enjoyment** – Unless we are training people in skills essential to survival (because they are about to be marooned and they will require the skills to survive) what we are doing is meant to include

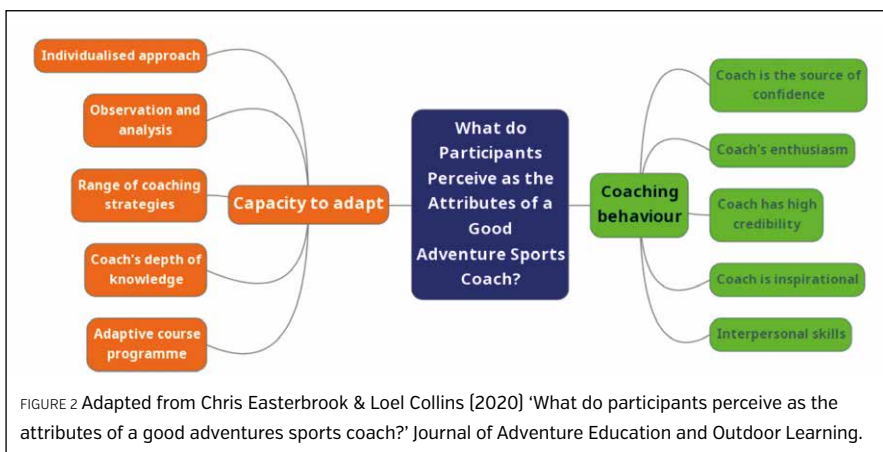


FIGURE 2 Adapted from Chris Easterbrook & Loel Collins (2020) 'What do participants perceive as the attributes of a good adventures sports coach?' *Journal of Adventure Education and Outdoor Learning*.

1. Having time to practice new skills is vital, here three novice climbers work together to reinforce their own learning.

an element of enjoyment to it. This level of enjoyment needs to be relative to the situation. For instance, a kid's birthday party without any fun is surely missing the point of the session. Likewise, starting an intro to an indoor climbing progressive course with the same warm-up as you use for a birthday party may not be the best approach...

- **Active Engagement** – Is everyone actively engaged? If not, why not? While this may be easier to achieve in small groups, it is also possible with larger groups - you just need to think about the tasks or roles within an activity and plan accordingly.
- **Varied experience** – This is particularly important for a linked series of sessions. Clients need to feel that they are not doing the same thing every time. Vary your delivery styles, the way tasks are set, where you go (this could just be different sections of the same wall or different venues) and allow the clients to start taking on some responsibility. This can include involving them in the decision making, direction and design of the sessions.
- **Time to practice** – there is nothing worse than being shown something or receiving feedback, and then not having the chance to practice before having the opportunity to adapt it to new situations and environments.

Challenge

- **Level of Challenge** – In ensuring that people are engaged with the learning it is vital to be setting the right task for the group or individual (more on this in the next issue). Too easy and they get bored very quickly, too hard and they give up.
- **Appropriate Challenge** – Is the challenge appropriate to the wants and needs of the group?
- **Progressive nature of Challenge** – If the challenge doesn't change as the skills of the learner grow, then we are not stimulating them enough (more on this too in the next issue).

We are the gatekeepers to this utopia of learning. When considering the idea of a learning environ-

ment we should look at it from two viewpoints – that of what the clients expect from us and what we expect from ourselves – see *Figure 2*.

A key fundamental element is your interest in the clients and the activity: Is this the 4th birthday party in a row? Does it show? Do you take the time to learn the client's names? Do you want to be there? Are you as enthusiastic as you can be, without being over the top?

You need to have a plan that is adaptive for your group, not just doing the same thing that you have always done, because you will get bored and it will show! Likewise, there can be a fine line to tread between being inspirational and trying to hard to impress. Being inspirational for your client's means supporting them to achieve their goals, not watching you flash V8.

So... why is all of the above important? Well, not only because we want to give the best experience that we can to our clients, but because the Mountain Training climbing leadership schemes all now have two specific syllabi requirements that can be addressed by the above information:

- 1 Create and maintain a positive learning environment for all participants;
- 2 Help participants develop a positive attitude towards climbing and introduce the idea of lifelong participation.

Crafting a positive and effective learning environment can sometimes be easy. We've all had those days when it's flown by, everything has gone smoothly, the rapport has been perfect and everyone has left buzzing. It won't always be that smooth, but our challenge is to try to have as many days like that as possible. After all, we're doing this because we enjoy it too!

In the next article we will look at how, once we have the learning environment dialled, we can maximise the effectiveness of our delivery, look in some more detail at how we use wants to sell needs, and how we can adapt our approaches for different learners. ■



Paul Smith is a Mountaineering and Climbing Instructor and is a multi-disciplined Adventure Sports Coach and Coach educator. After successfully completing a PGCE at Bangor University in 2001, Paul worked in secondary education until 2014. He provides the full spectrum of Mountain Training Climbing leadership schemes from Indoor Climbing Assistant to Rock Climbing Development Instructor, as well as the Foundation and Development Coach schemes.

📷 @paulsmith_coach



Dan Wilkinson is a Winter Mountaineering and Climbing Instructor, British Canoeing Level 5 Coach and has an MSc in Performance Coaching. He has worked in coach education and instructor development for the past decade and is passionate about effective teaching in adventure sports.

📷 @danwilkinsoncoach

A change of perspective – Coaching

While we were expecting the summer of 2020 to see climbing go to the Olympics, it now seems we'll have to wait a little longer. Regardless of how you feel about this, the postponement does allow us as Outdoor Professionals more time to adjust to the changes we are about to face.

WORDS AND PHOTOS BY PETE EDWARDS

We've already seen a huge change in how non-climbers view our favourite pastime, with climbers like Shauna Coxsey doing an amazing job of championing climbing to the masses. What's interesting for us – and what will eventually alter the clients we work with – is the public reaction.

I've spent the last two years reading, writing and digesting some of these changes as part of my Master's degree in Elite Performance and, as a dedicated boulderer, know first-hand some of the differences in attitude that many of you are likely to face.

This article looks at one of those aspects: motivation. We'll look at some academic theory on motivation for participation, how this might affect the way that we will continue to work and how we can adapt this into our own climbing as passionate outdoors men and women.

Let's Talk About Speed

One of the most controversial aspects of Olympic inclusion for many British climbers – along with the awarding of one medal across disciplines – is the inclusion of speed climbing, although a look at the mainstream sport news and we can see what that means to the public. Whether we like it or not, speed climbing has a big appeal to the masses: its fast (obviously) it's exciting and it has climber versus climber right in front of our eyes. People can understand a race, we see them all the time as part of the biggest appeals of athletics; look at Usain Bolt, who has amassed millions by effectively working for less than ten seconds at a time!

This idea of *mano a mano* is what drives many to sport. Racket sports and combat sports are two great examples of pitching one person against another and we only need to look at the appeal of tennis and boxing to see how popular they are. This isn't so much to say we want climbing to be comparative, more to understand that there is a basic appeal to this concept that sits somewhere in the psyche of people.

Climbers have typically been different and the appeal for many to adventure pursuits, alternative sports, whatever you want to call them (think paddling, climbing, snowboarding, etc.) is that there is no inherent need to measure your success against someone else. *Mano a roca* if you will and in the past, this has been fine as the educators like ourselves have largely been working with participants who share similar motivations.

I'm not suggesting that we all need to start practicing our speed routes. What we do need to prepare for are clients that may come to us with a different mind-set to those we are used to dealing with.

Motivations for Participation

Many of us will be aware of the Long Term Athlete Development Model (Balyi, Way, & Higgs, 2013). This is discussed in the Mountain Training Coaching qualifications but it was developed with mainstream sports in mind. The assumption is that the athlete will begin a sport at the FUNdamental level (much as with the BMC run courses) and progressively move up towards Elite level. Crucially, this is measured by their performance in competition.

There are other models too; Côté's Developmental Model for Sports Participation (Côté, 1999) for example, although this follows a similar path with similar assumptions. My personal choice though is Collins et al (2012) model called the Three World's Continuum.

Three World's lays out, well, three areas of motivation for participation:

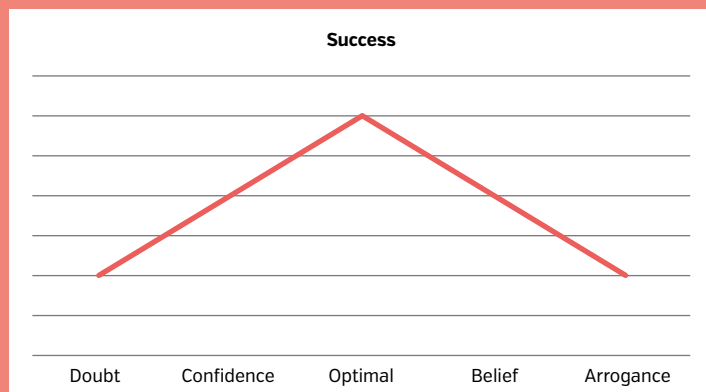
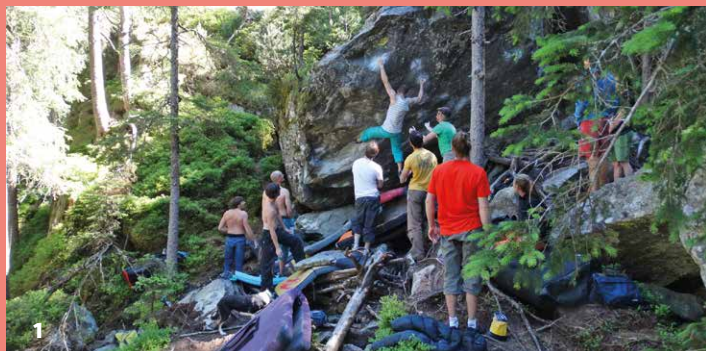
- **Elite Referenced Excellence (ERE)** – I want to be better than my peers
- **Personally Referenced Excellence (PRE)** – I want to be the best I can be
- **Participation for Personal Wellbeing (PPW)** – I do it because it's fun and I like it

As above, we're used to dealing with people who have come into climbing because it doesn't have that peer-to-peer or ERE aspect. Instead we've had people driven by PRE. Those participating primarily for PPW don't tend to come for coaching until they decide they want to get better but it's worth pointing out that there will always be an element of all three; people have to enjoy what they're doing or they'll drop out; climbers are driven by grades as that is the best metric we have for our abilities; and to be honest, most of us will have a competitive aspect in some way, shape or form.

As the Olympics throws climbing into the minds of the mainstream, we can expect to find more people wanting to climb indoors and wanting to beat their mates. We've seen it plenty in the past on climbing experience-type courses and I would surmise we may be getting more of them. What's more, with the accessibility of climbing, they might be quite good by the time they get to us.

How to Use This to Our Advantage

This is the crucial part and something I've used many times with clients. As we said, there's an element to each of these motivations going on at any one time; a percentage if you will. As coaches and



1. The social aspect of climbing is a major appeal for many climbers and falls under Participation for Personal Wellbeing. 2. The Indy Open Competition in March 2019. Indoor climbing competitions have typically been rather informal and more collaborative than competition in other sports. We may be about to see people taking them much more seriously. 3. Unknown climber on Dog Shooter 6b at Sheep Pen. **DIAGRAM** The DCBA Scale showing ideal mentalities for success. Model developed by Pete Edwards and Prowess Climbing Coaching.

instructors, by helping to set and adjust our clients' goals, we can shuffle that percentage from one aspect to another.

Even in competition scenarios, changing someone's mentality from ERE to PRE or even PPW – again, I did this with a client when he was struggling with the pressure of competition and we said go do something fun to get the psyche back – can reset them and help them come back stronger. Likewise, sometimes using ERE can focus a student, although it should be noted this should be done with care not to have a negative impact on other students in the group. ERE can be used to bring a client back to earth if they are getting too arrogant (see DCBA Scale) or to compete against the coach if the ability levels align.

So how do we change someone's mentality from ERE to PRE? If they're preoccupied with beating their mates, how do we get them to focus on something else? Here are some suggestions:

- **Grade.** Explaining we all climb different grades in the same vicinity (one of the things that makes climbing so great) can distract a climber from their peers' activities and focus their mind on finding their own climbs.
- **Style and technical improvements.** Concentrating each climber on one technique each can focus their attention on their own strengths and weaknesses.
- **Projecting.** Working a project quickly becomes a very personal battle and is totally irrelevant for anyone else. These can be outdoor projects or indoor climbs but for indoor, check the facility re-routing programme, and choose those that will likely not be stripped soon after being chosen (although some clients respond well to a deadline!)

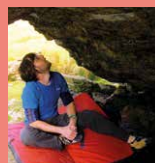
Of course there are many more and much of this will be apparent to many of you. However making it explicit – both to ourselves and to our clients – can allow us to prepare for a new breed of climber that is almost certainly on their way, and to help our existing type of clients find a new way to continue to improve and enjoy the sport that continues to drive us to work every week.

Projecting

For those of you with a more traditional bent to your teaching, one big change you may notice is the adoption of more sport climbing techniques and specifically, projecting. This is something I've done often in the past, and people are often shocked when they learn I once spent four years on a single boulder problem.

Projecting is a strange sub-set of performance climbing and can be equally demoralising and uplifting at once. As above, this requires a rethinking of success. Where before success may be getting to the top – or even coming back safely in some cases – with a project, the gains may be much more subtle. Linking sections of a climb or even individual moves can be big steps forward.

The trick here is to break the project down into smaller sections and concentrating on each part of the puzzle in turn, before finally trying to bring it all back together. It is time consuming and can be frustrating for the coach or instructor who wants to go get on the next climb but this may well be what our new clients are expecting. It also requires a different take on failure: failure is now not only something to fear but something that we can use to bring success. It is a learning tool, more than anything else, which shows us our weaknesses. Without failure, there will be no projecting and thus, no gains. ■



Pete Edwards is a professional climbing coach, who runs Prowess Climbing Coaching (<https://prowesscoaching.co.uk/>) as well as his Chez de la Bloc blog page (<https://chezdelabloc.wordpress.com/>). He is about to finish a Professional Master's Degree in Elite Performance, investigating the teaching and learning styles used by elite level coaches across the country. Personally, he spent 15 years trying trad, sport and winter climbing before becoming a dedicated boulderer, now with in excess of 700 logged boulder problems across more than 100 crags in 9 countries up to 7c+. He is also a father of two young children.

PART 2

IMPROVE YOUR PHOTOGRAPHY

GETTING CREATIVE – TIPS, TRICKS AND FUN PHOTOGRAPHY PROJECTS

Although access to the outdoors is extremely limited at the time of writing this article, this doesn't mean that we have to lock our camera's away too.

WORDS AND PHOTOS BY IAIN AFSHAR



Iain Afshar is a Mountaineering and Climbing Instructor, International Mountain Leader and photographer. He runs his own activity company in Bristol, 'Adventurous Activity Company' as well as 'The Photography Project', where he offers a range of photography workshops and tuition. Having travelled around the world and been lucky enough to photograph some of the most amazing scenery, people and places along the way, Iain specialises in outdoor, landscape, low light, wildlife and adventure travel photography as well as studio-based experimental high-speed flash photography. www.thephotographyproject.co.uk

With a bit of creativity, a few props and some spare time, we can use a few simple photographic techniques to capture some exciting and unique images. In a change to the proposed article, the following ideas and projects are all designed to enhance your understanding of the Exposure Triangle as discussed in Part 1 (see spring 2020 edition) and to put some fun into your photography at home or in the garden.

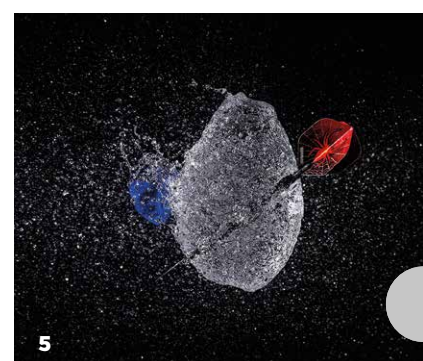
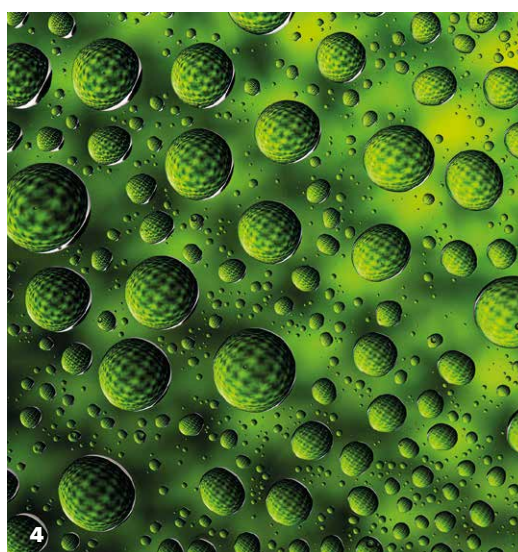
For these projects you'll mainly want to switch from the auto and semi-automatic modes to the camera's Manual mode (M). Manual mode gives us complete control over the camera's Aperture, Shutter Speed and ISO therefore allowing us, rather than the camera, to make all of the creative decisions in order to correctly expose the image. We will also look at some lighting techniques in order to add light to further enhance an image. Some of the following projects can be shot using an external light source such as a household lamp or torch. Others can be achieved by using an external flash-light or 'Speedlight'. The use of flash, especially using off-camera speedlights (that can be relatively inexpensive) can really open up a wealth of possible creative photographic opportunities. Perfect for a rainy day or during an enforced sabbatical!

Project 1 Fun with fire (well sparklers actually)!

For this project you will need some kind of sparkler. Cake sparklers are ideal as they are quite small and safe to use indoors. For my shot I used a lightbulb blu-tacked to a glossy black floor tile as I wanted to show the bulb and sparks reflected in the glossy surface. Feel free to get creative though.

To achieve this shot, set up the floor tile and lightbulb on a table with a black sheet of plastic or material for the background. Anything black will work though. You will need to shoot this image in a darkened room in order to eliminate as much ambient light as possible. I wanted the only light to come from the sparkler.

Thinking back to the exposure triangle, the creative effect I was after was to show movement of the sparks. A one-second exposure gave a pleasing amount of movement to the sparks, but longer shutter speeds will give different effects. It will be necessary to stabilise the camera for this length of shutter speed to avoid any unintentional blur from camera shake. Use a tripod or steady the camera on a firm surface and frame up the shot. I allowed a bit of space around the lightbulb for the sparks to fly into, though some trial and error will be necessary to give the best composition.



Line up the sparkler behind the bulb and fix it into place with blu-tack. Again, thinking back to the exposure triangle, I wanted a reasonable depth of field (DOF) in order to keep both the bulb and flying sparks in focus, so settled on an aperture of f11. Try and keep the ISO reasonably low for a grain free image. If the image is coming out too dark, try increasing the ISO slightly.

Once lit, cake sparklers burn for around 12 seconds allowing around 8 – 10 shots per sparkler. The fun thing about this project is that every shot is different, and the camera is capturing detail not visible to the naked eye.

Project 2 Water droplet refraction

This is an easy and fun project offering endless possibilities for creating abstract images.

Simply spray some water onto a clear flat surface e.g. acrylic sheet, picture frame glass, glass oven dish (or your waterproof jacket!) etc. Rubbing a bit of water repellent spray onto the surface first e.g. rainex, fabsil etc. will help the water droplets to bead giving even drops and a more striking image.

Suspend your sheet or dish at both ends about 15cm above a table top using anything to hold it in place e.g. a stack of books, DVD's etc. Beneath this place anything colourful you can find. Coloured/patterned paper, colourful fabric etc. You could even try using a tablet screen with a colourful image.

If possible, support your camera on a tripod angled directly over the water drops giving a bird's eye view. Manually focus on the water drops for more accuracy. Hand holding the camera is possible but using a tripod will give the best results. If your camera is struggling to focus you may need to increase the distance between the lens and subject. Dedicated 'Macro' (close-up) lenses work best as they can focus very closely to a subject, but any lens will work, though you may need to crop the final image.

You will also need some sort of external light source to illuminate the paper. E.g. Speed light, desk lamp, head torch etc. Having set everything up you'll need to dial in some camera settings. These will be dependent on your light source. Aim for a low ISO number to keep the image grain-free. DOF is less important for this project as your subject is essentially flat (if shooting from directly above). Some experimentation will be needed but you could try a starting aperture of around f8. Shutter speed will be determined by your light source and you'll need a longer shutter speed for dimmer light sources. This won't be a problem if you have stabilised your camera as the subject is static. If hand holding your camera then you can try increasing ISO and aperture (lower f number) to allow for a faster shutter speed and avoiding unintentional blur from camera shake.

MAIN PHOTO. **Project 3** Structure. f8, 1/40th sec, ISO 1250. Shot with a macro lens from underneath the leaf, backlit by the sun to show the intricate structure.

1. **Project 3** Fine detail: f5.6, 1/250th sec, ISO 100. Macro lens used to isolate and focus on a small part of a dandelion seed head with water drops. Close focusing gives a very narrow DOF.

2. **Project 1** A spark of an idea. f11, 1 second, ISO 250.

3. **Project 3** Lily flower. f16, 1/250th sec, ISO 100. Lit with a diffused flash light from either side. Narrow aperture gives a deeper DOF for greater detail. Macro lens allows for close focusing.

4. **Project 2** Refraction. f10, 1/200th sec, ISO 64.

5. **Project 4** Pop: f11, 1/250th sec, ISO 160. Freezing the motion of a dart bursting a suspended water balloon using speed lights. Set to low power, the very short flash duration freezes the action.



6



7



8



9

Project 4 6. Frozen in motion: $f13$, $1/200\text{th}$ sec, ISO 400. Using a similar flash set up as water splashes to freeze the motion of humming bird wings beating at over 60 times a second. 7. Nectar feeding bat: $f13$, 2 seconds, ISO 800. Several flashes were triggered when a bat flew through an infra red light beam trigger. Timing was impossible as this was shot in the pitch dark so the camera was set to continuously shoot 2 second exposures. A bat image was captured each time the shutter was open and the flash was triggered. 8. Splash Ring: $f11$, $1/200\text{th}$ sec, ISO 100. Dropping a small object into a plastic glass of water whilst triggering the camera at the precise moment of impact. One flash illuminates a white background with two others on opposite sides of the glass. Patience, experimentation and luck needed to get the winning image! 9. Collision: $f16$, $1/250\text{th}$ sec, ISO 200. Capturing colliding water drops requires patience and good timing. Shot with flash to freeze the moment of collision.

For my shot, I used a speedlight on a low power setting pointed down towards some green patterned paper. Shining your light at the paper from different angles will produce different effects. Alternatively, try mixing some oil and water together in a glass dish and suspend this above your coloured paper or spray some water on the back of a CD and point your light at it for really striking images.

Project 3 Macro photography. It's all in the detail

Macro or close-up photography allows for an intimate view of a subject. At magnification, exquisite detail, shape, form and colours can be highlighted. Although quite specialist and expensive, Macro lenses give a 'life-size' reproduction of your subject onto the camera's sensor. However, some entry level, compact/bridge/phone cameras have a dedicated Macro setting. Relatively inexpensive close up filters are available for DSLR's and it is also possible to mount a standard lens backwards onto a camera body using a reversing ring allowing it to focus much more closely on a subject. This is a cheap and effective way of getting into Macro photography. There are also some good Macro lens attachments available for smart phones.

When shooting close-up, DOF is inherently shallow so decisions may need to be made on what part of the image should be in focus. If photographing insects then always ensure that the eyes are in sharp focus. Static subjects are easier to photograph than moving ones as shutter speed is less important especially if using a tripod.

It is important to consider the light

direction and time of day as front, side, overhead and back lighting will all give different results. Bright, overcast light often produces some of the best results as clouds act like a giant diffuser softening the sun's intensity. If shooting indoors, try using a lamp, torch or speedlight to illuminate your subject. Try getting in close to shoot the tiny details on leaves or flowers or have some fun shooting close-ups of everyday household objects.

Project 4 Fun with flash. High-speed flash photography

Although some additional equipment is required, there are lots of fun projects you can do with an external flash or two. Third party manual flashes are relatively inexpensive and simple to use. If possible, try getting them off camera so you can try out different lighting positions for different effects. A set of radio triggers will allow the flashes to be triggered by your camera without the need for cables. By using the flash on a low power setting, giving a very short flash duration, it is possible to illuminate and freeze the motion of very fast-moving subjects such as water splashes. By manually setting your camera's shutter speed to its maximum 'flash sync speed' usually around $1/200\text{th}$ second (check your camera's manual) and choosing a narrow aperture (large f number) and low ISO, you should be able to eliminate most or all of the ambient light especially if shooting indoors or in low light. For my water splash shots, I deliberately underexposed for the ambient room light as I only wanted my subjects to be lit by the light of the flash, consequently

freezing the moment of splash. You'll need a camera that can accommodate an external flash for this project.

Set up your subject in front of your chosen backdrop, stabilise your camera and pre-focus on where you expect the splash to be then turn off your camera's auto focus. For the following water splash projects, timing is everything as the action happens so quickly. It is therefore necessary to release the shutter (thus firing the flash) at the moment of optimal splash in order to capture what the eye can't see. By adding more flashes, you'll be able to light different parts of the image or the background. Once you get the hang of it, the possibilities are endless and are only limited by your imagination. Be warned, this can become addictive!

Although not a project for the house or garden, my images of the hummingbird and bat were taken with multiple flashes using the techniques described above in order to freeze the movement of the incredibly fast moving-subjects.

A shutter release cable is a very useful addition to your kit, especially when shooting longer exposures or for shots where split-second timing is important. This will allow you to trigger the shutter without touching the camera therefore eliminating any vibrations. An alternative option is to use your camera's self-timer, though this makes the timing for any movement pretty tricky.

In part 3 we'll look at photographic composition – common photography rules, techniques and guidelines together with some night & low light techniques to further improve your images. ■

GEAR REVIEW



1. Using the SpotX to navigate back to a waypoint, somewhere on a foggy moraine. 2. Exploring the mountains of Vallecitos, with the knowledge that I had an SOS button, just in case.

SPOTX

Reviewed by Alex Kendall

When in remote places, it's a major part of planning to decide what device you're going to use to notify Search & Rescue if the worst happens. Alongside this 'worst case scenario', you may also want a way of communicating with people on a more regular basis, such as a satellite phone; and then on top of that you'll probably add a handheld GPS device for navigation. For January and February of 2020 I was planning a solo mountaineering trip to Argentina, and, keen to avoid bulk and expense, wanted to see what was out there.

I had come across Spot trackers when working on DofE and other trekking trips in the UK: they allow the trip manager to follow participants' locations on a digital map. They have three buttons – a pre-set message saying 'we're okay', a 'helping hand' saying we need some help, and an 'SOS' which also alerts the emergency services. A useful tool, which I've had to "use in anger" and which seems to work well, but which has no ability to communicate other than in an emergency, or to 'check in'.

Their latest offering, the SpotX, pushes these capabilities further in an aim to compete with the popular Garmin devices such as the InReach and InReach mini, which allow the creation of custom text messages, sent via satellite.

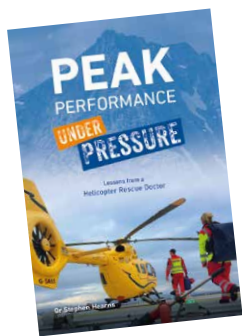
The Spot X looks like an old BlackBerry, with a keyboard and screen, and a chunky aerial. The device's claims, and my experience, is best summarised:

- **Messages can be sent to, and received from, any mobile phone, or email address.** This is very useful for communication during a trip, and if you're happy not to actually speak to someone, could remove the need for a satellite phone. It's worth checking SpotX's coverage, as unlike Garmin it doesn't cover the whole world. Also, I encountered times where a sent message wasn't received, and a message I know was sent to me never appeared. According to SpotX this could be down to some mobile providers not recognising texts sent via satellites. So, make sure you test sending and receiving messages to devices you know you'll need to communicate with on your expedition.
- **It has an SOS button.** I didn't get to test this (thankfully), but it works like other emergency functions on trackers – one red button alerts the UK search & rescue, who then coordinate the local response in whatever country you're in. Unlike an EPIRB, the SpotX's keyboard allows you to communicate the nature of the accident, and helpful location information, with any rescuers.
- **It has a tracking and waypoint function.** This has a few capabilities, none of which are amazing. When the device is used, or if you 'check in', a dot appears on a digital map, accessed by those at

home via a web address. You can also set waypoints on the device, as with a GPS, which you can then navigate back to – useful for finding your tent in the mist, or a key path junction. The only flaw with this is that there's no 'track'. The device doesn't record and display a breadcrumb trail for you to follow back – all you get is a distance and a direction arrow. Better than nothing, but not as safe as a GPS that produces a breadcrumb trail that may lead back round obstacles.

The SpotX tries to be a few different things – an emergency beacon, a communication device, and a tracker. It does all these reasonably well while offering a cheaper subscription than Garmin. The ability to communicate with any phone and email address is a great addition to any trip, at a much lower cost than a satellite phone. I think that Spot need to solve the issue of some messages not being sent/delivered properly, and I see no reason why the tracker/GPS function can't be a bit more versatile, but in general it's a useful device. For remote expeditions with no reliable mapping, I would still recommend taking a dedicated GPS, and keeping the SpotX as a communicator. ■

BOOK REVIEW



PEAK PERFORMANCE UNDER PRESSURE LESSONS FROM A HELICOPTER RESCUE DOCTOR by Dr Stephen Hearn

Reviewed by Emily Thompson

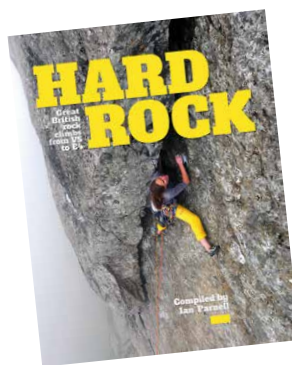
At the heart of a high performing team, according to Hearn, is the right level of pressure applied to generate performance. Too little and an individual isn't motivated, and too much can lead to stress and ultimately frazzle.

Based on his 20 years' experience in emergency medical and rescue situations, the book provides a fascinating overview of what it takes to make a high-performing team, and how to deal with pressure. Throughout the book the theories are accompanied by firsthand examples from intense and pressure driven environments, such as experiences of RAF pilots, Mountain Rescue and the Emergency Medical Retrieval Service – circumstances where a wrong decision can cost someone their life. This helps to demonstrate the type of high-stress situations where high performance is crucial, and how the tools and techniques have been developed and are implemented.

Each section covers a different part of the pressure process as Hearn sees it:

- **Under Pressure** covers aspects of human mental capacity from 'flow' where one is able to succeed with the right level of stress (a concept common to climbers), through to disengagement due to boredom at one extreme and frazzle from over-stress at the other.
- **The Pressure Pump** looks at the impact of an organisation's culture and how it impacts on its ability to achieve high performance. Utilising examples from the military, he discusses the benefits of continual marginal gains and having a culture to discuss improvement as well as ensuring the right people are in the right roles.
- **Pressure Control** goes on to cover the tools needed for individuals to ensure success in high pressure situations. These include having clear to follow guidelines, checklists, and systems to ensure they can maintain performance at a high level without failure.
- **Pressure Testing** discusses how it is important to expose teams and individuals to training and practice so that the tasks become automated, enabling them to focus on the challenges. It also discusses mental visualisations and rehearsal as a means of building confidence and reducing performance anxiety, concepts common to climbers for the same reasons.
- **Pressure Relief Valves** discusses how to manage being in a high state of pressure and both avoiding and dealing with frazzle. Techniques such as being able to control breathing, reframing the mind and ensuring delegation are discussed.

This is a fascinating book, both for the knowledge gained towards being a better performing individual and team, but also for the insight into the world of emergency medicine at this high level. Whilst this book would be useful to individuals in suits in a boardroom as it provides insight in how to manage and motivate teams, it is also an interesting book for anyone interested in improving their own performance or learning more about emergency medicine. ■



HARD ROCK GREAT BRITISH ROCK CLIMBS FROM VS TO E4 Compiled by Ian Parnell

Reviewed by Tim Neill

Hard Rock is synonymous with collectors of climbs and climbing books alike. This is the fourth edition of the fabled tome first brought to climbers' collective attention by the late Ken Wilson in 1974. This time edited by Ian Parnell, his breadth of experience in the traditions of climbing, writing, photography and a love of the subject really stand out.

The concept of *Hard Rock* could easily have been lost to younger generations as climbing has since changed and evolved. Ian has done a super job of rejuvenating it and delivering a colourful and contemporary new volume. It's not just a reprint, as some original climbs have fallen down and the two predominantly aided routes have been freed at grades beyond the scope of the book. Widely-debated alternatives have replaced these.

Neither was the original idea to create a de facto list of the "best" or "hardest" but more a spread of characterful climbs across Britain to entice a climber to go beyond their local patch and comfort zone. Personal opinion of the list will always be just that, and can only be measured against cumulative experience. In seeking out these particular climbs one might become a more rounded climber and undoubtedly see other equally fantastic routes and climb them too. In reading the accompanying essays the rich history of climbing is passed on in a way that has arguably been lost elsewhere.

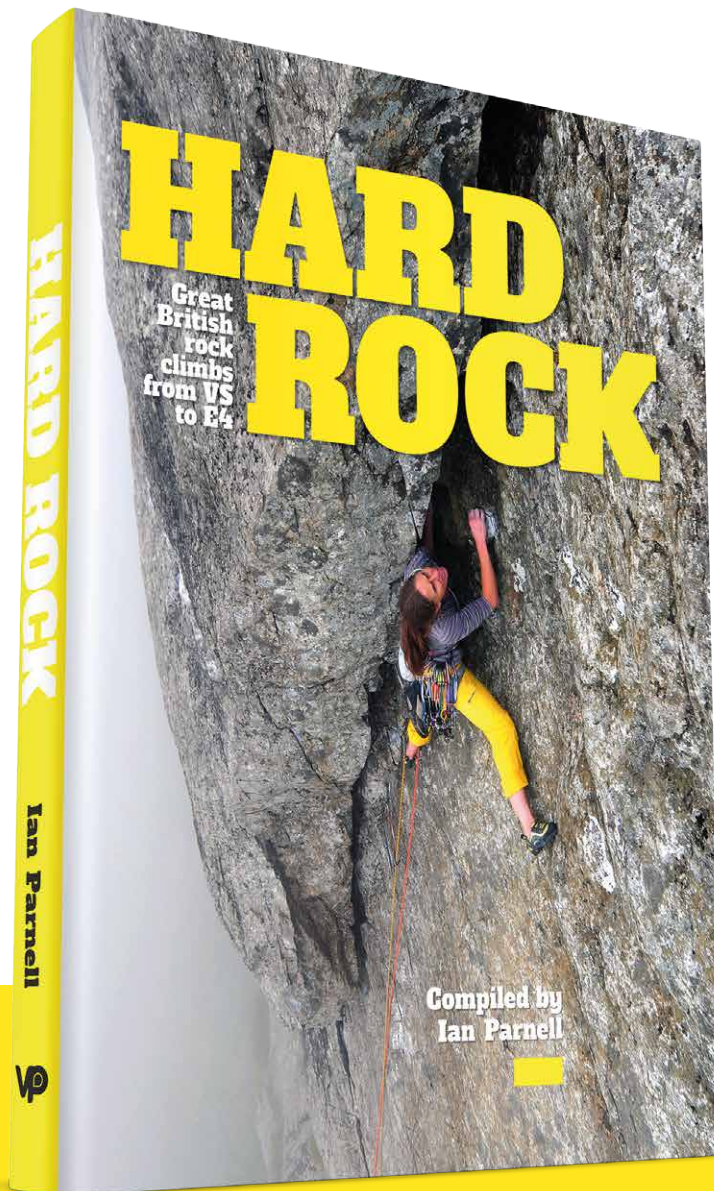
Ian has done well to juxtapose the old essays about each climb with modern photos showing a more diverse representation of climbers than the older editions ever did. The original writings, whilst at times a little dated, have been left largely as was to evoke the era in which these climbs were pioneered. Most transcend time and trends. Ed Drummond's piece on Cloggy's Great Wall is one such gem.

The additional essays blend in well and a particular favourite is Eleanor Fuller's chapter about The Prophecy of Drowning on Pabbay. It chronicles only a little of the climb itself, but delivers so much more about the environment and atmosphere of the place which fits perfectly with the book's concept.

On the whole the photos really capture the climbs, rather than being portraits of climbers. It's hard to compete with the atmosphere of the original photography of Ken Wilson and John Cleare etc and perhaps that's not possible with the small, climber-friendly, digital cameras of today. However, many of the photos are superb. The cover shot of Mary Birkett on Central Buttress is the epitome of a *Hard Rock* classic. Mark Glaister's capture of Moonraker is also inspirational and brilliantly shows off both climb and cliff in a manner equal to the quality of the adventure itself. A few of the photos suggest a story yet to be told, like those of climbers not yet too committed on the starts of Raven's Gully and Slanting Slab...

This book is arguably a necessity for any mountain professional. The routes should be essential for any aspiring Instructor or Guide and set a benchmark for whatever is the VS to E4 equivalent of a QMD (Quality Mountain Day). Even if you already have an old volume, pouring over this new edition will reignite the passion to visit some classics again and plan trips to those you haven't yet tried. ■

Get **20% off** this publication at www.classprofessional.co.uk
Enter code **PMPEAK20** in the online basket.
Offer valid until 1st September 2020. Offer excludes postage.



HARD ROCK

*The 4th Edition of **Hard Rock** is something that we should all be celebrating. It would have been easy for this classic tome to have been consigned to history, but instead it's come back with a bang that will no doubt inspire future generations. **Hard Rock** is just as relevant today because it encourages us to explore beyond our own back yard to visit, and enjoy, climbing in other areas of our idiosyncratic little island. Ian Parnell and Vertebrate Publishing have done a superb job and I would ask that you reward them by ordering a copy – you won't regret it.*

Rob Greenwood, UKClimbing.com

Available online from outdoor shops, book shops
and direct from www.v-publishing.co.uk

vp inspiring adventure

CLASSIFIEDS

KNEE & ELBOW Protection



- Comprehensive range to suit every application
- Ergonomic design
- Comfortable and secure fit
- Reliable protection
- Tough and hard wearing
- Manufactured to the highest standards from selected quality materials
- CE marking throughout
- NATO Stock No: 22c 8415-99-8873869



Gotec Trading Ltd
 Boulton Road, Pin Green,
 Stevenage, Herts SG1 4QL
 Tel 01438 740400
 Fax 01438 740005
 enquiries@gotectrading.com
 www.gotectrading.com

gotec

ALWYCH
ALL-WEATHER NOTEBOOKS
 Serious Climbers rely on their
'ALWYCH' NOTEBOOK

Order direct on
0141 352 6816
 or click: www.alwych.co.uk



BASP Outdoor First Aid Training 2 and 3 day Courses

UK Wide Venues
 Recognised by Mountain Rescue
 and Outdoor Sports NGBs



Book online at basp.org.uk · 03302 000 443

Clamcleat®
 Rope cleats

Line-Lok®

Glow in the dark rope cleats

NIGHT 
 DAY 

Available now at cleats.co.uk

LEDLENSER



LIGHT
 ENGINEERED
 BETTER

ledlenser.com
ledlenser-store.co.uk

7
 YEAR
 WARRANTY*

*With registration.
 More information at
www.ledlenser.com



ML6 Lantern
 Max 750 lumens
 Micro Prism Technology
 Red Light Feature

MT18 
 LUMENS 3000/600/30 BEAM DISTANCE 540/260/80m
 RUN TIME 5/9/96h

MH11 
 Bluetooth
 LUMENS 1000/750/300/10 BEAM DISTANCE 320/300/200/30
 RUN TIME Boost/4/8/100

MT14 
 LUMENS 1000/200/10 BEAM DISTANCE 320/120/30m
 RUN TIME 9/20/192h

LEDLENSER ARE A PROUD SUPPORTER TO MOUNTAIN RESCUE
 TEAMS ACROSS THE UK AND INTERNATIONALLY

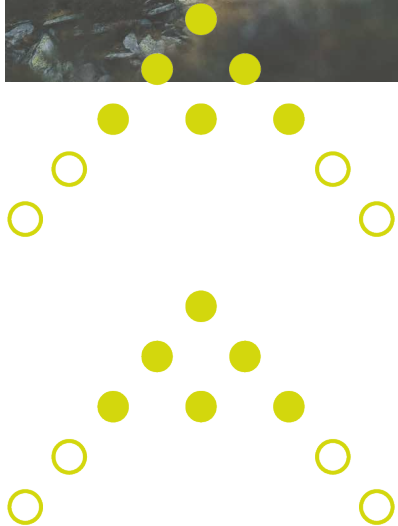
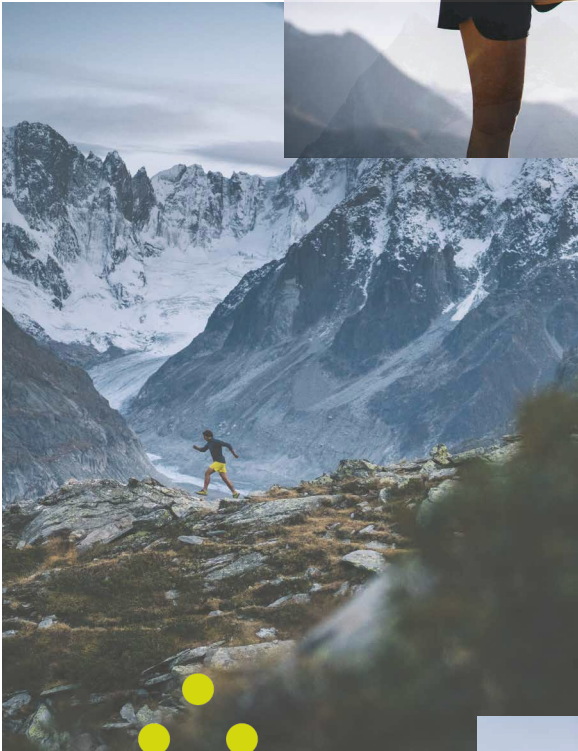
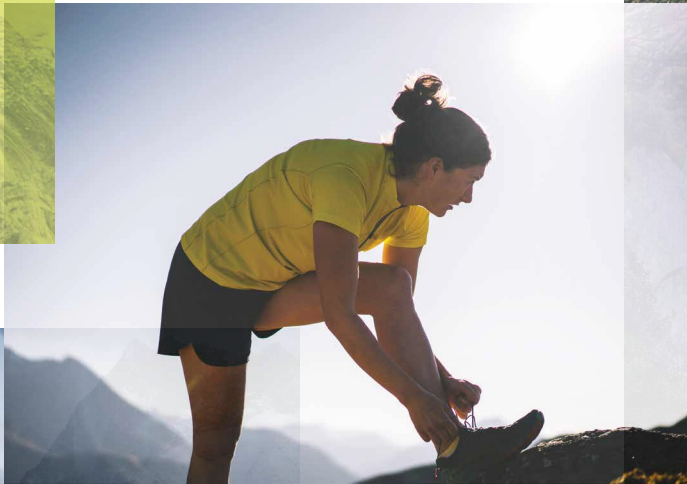
mail@ledco.co.uk
 01344 876 222

Rab®

THE MOUNTAIN PEOPLE

MOVE FAST. TEST LIMITS. SEEK CHALLENGE.

SKYLINE



Honed for the mountain runner, Rab Skyline is ultra-lightweight clothing that doesn't compromise on protection. From rocky ridgelines to steep technical descents, you can go further, do more and take less.

WWW.RAB.EQUIPMENT

MY HELMET
MY CHOICE



© 2019 - Petzl Distribution - M Daviet



TOP & SIDE PROTECTION

The TOP AND SIDE PROTECTION label represents Petzl's new in-house standard that guarantees its helmets provide front, side, and rear protection.

Today, all climbing and mountaineering helmets provide top protection for the wearer from rock fall. Direct feedback from the field indicates that side, front, and rear impacts are also regular occurrences.

Petzl certifies and commits to providing a certain level of protection for these types of impacts with its TOP and SIDE PROTECTION label.

**TOP AND SIDE
PROTECTION**



Designed for climbing, mountaineering and ski touring, the METEOR helmet is lightweight and low profile with excellent ventilation, making it comfortable for both summer and winter. METEOR is the first CE-certified ski touring helmet www.petzl.com



Access
the
inaccessible®