

The Professional **Mountaineer**

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The Association
of Mountaineering
Instructors

British Mountain
Guides

British Association
of International
Mountain Leaders

Mountain Training
Association



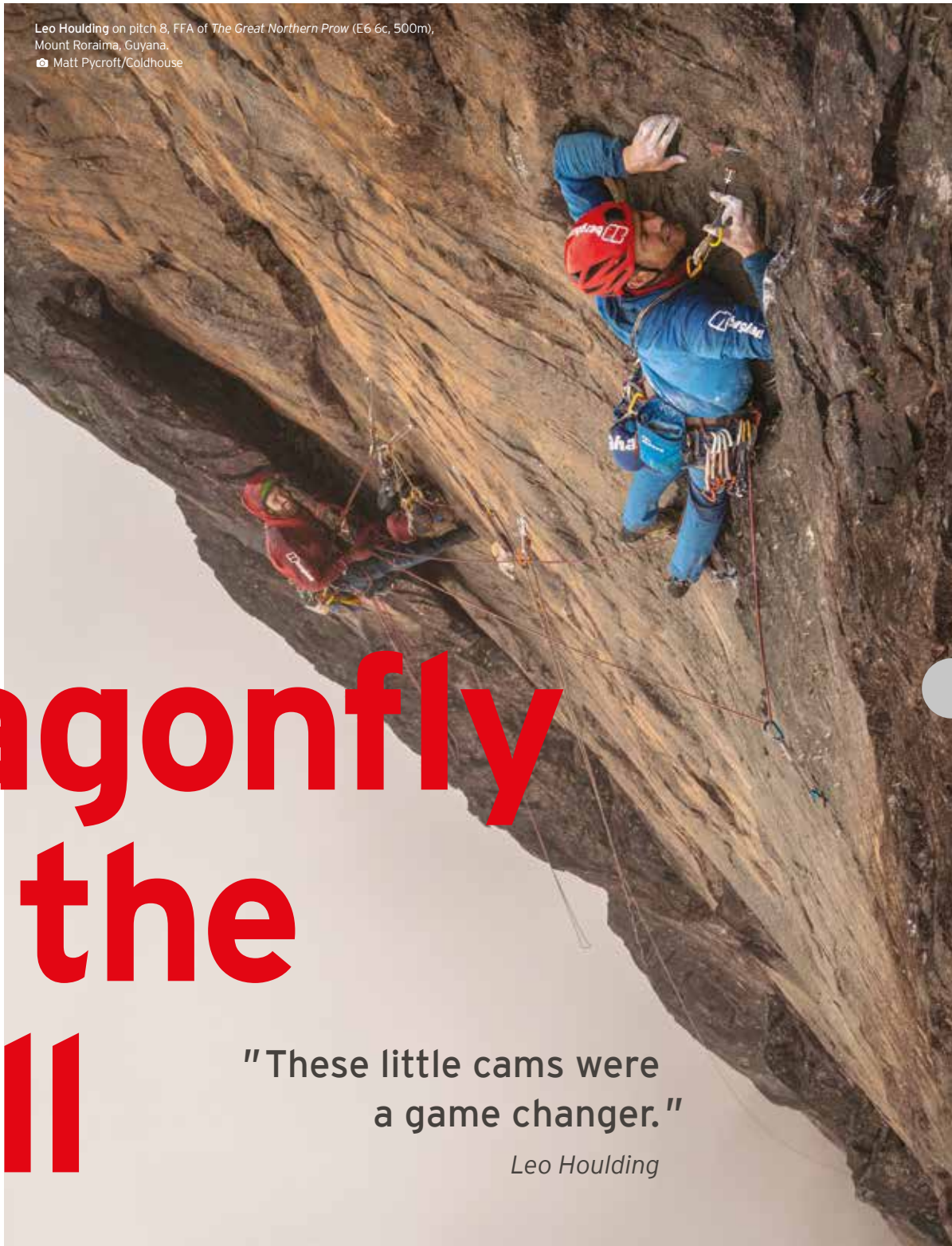
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**CERRO
TORRE**

**EUROPEAN
VULTURES**

Leo Houlding on pitch 8, FFA of The Great Northern Prow (E6 6c, 500m),
Mount Roraima, Guyana.
📷 Matt Pycroft/Coldhouse



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NEXT ISSUE

Summer 2020 Improve your photography – part 2, Mountains for the mind, Rock fall at mountain crags.

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Our front cover

Tom Grant and Valentine Fabre on the Sache – Mont Pourri (3779m) traverse in the Vanoise, January 2020. A moderate alpine route in summer, this becomes a long and serious outing in winter conditions! © Ben Tibbetts.

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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 editor at the end of the course completion ceremony for a Mountain Leader-style training course in the Western Ghats, (Sahyadri) February 2020. © GypsyPrincess Diaries.

Environmentalists predicted that average global temperatures would rise, and storm intensities increase, and so it has proved. A whole family of named storms have swept across the United Kingdom, often separated by massive thaws.

Pollinators are in rapid decline throughout the world, and species loss has accelerated to such a level that the age of mankind has now been dubbed the sixth mass extinction. But it is not all doom and gloom. According to *Nature* magazine:

“Earth is capable of providing healthy diets for 10 billion people in 2060 and preserving viable habitats for the vast majority of its remaining species... The benefits for biodiversity and humanity of pursuing these goals are great, and with forethought and timely action, these goals can be achieved.”

This is small consolation for our members who are struggling with the unrelentingly mild freeze-thaw cycles throughout Europe. I am writing this editorial in Mumbai, which has experienced the mildest winter in memory. Glacial recession is accelerating

almost universally.

Never was outdoor education more vital, despite the massive and unrelenting casualties that this sector has experienced under austerity policies. We must never forget our potential to motivate and inspire everyone we come into contact with, acting as custodians of our local resource, educators of the wonder found in the outdoors and as catalysts for incremental behavioural change.

Our National Councils provide vital contact with the policymakers, and have long been in close contact with the natural scientists. I suspect that it is social science that holds the “trump” cards for bringing positive change, but the internet has already been saturated with fake social media accounts – science fiction predictions of robot influence have reached at least metaphorical reality! We are important “influencers” out there in the real world, and we need to up our game if – as Greta Thunberg reminds us, we love our children.

This issue of *The Professional Mountaineer* provides some blueprints for survival. Enjoy!

Steve Long
Technical editor

OUR COVER



Ben Tibbetts

Ben is an adventure photographer, artist and British Mountain Guide based in Chamonix and the UK.
www.bentibbetts.com

OUR SPRING ISSUE CONTRIBUTORS INCLUDE



Iain Afshar

Iain is Mountaineering and Climbing Instructor, International Mountain Leader and photographer. He runs his own activity company in Bristol, as well as offering a range of photography workshops and tuition.



Sarah-Jane Dobner

Sarah-Jane is especially fond of sea cliff trad climbing, has been climbing for over 20 years and is a Rock Climbing and Climbing Wall Instructor. Her articles and poetry have been published in *Climb*, *Summit* and UKC.



Richard Goodey

As the co-founder of *Lost Earth Adventures*, Richard's hunger to explore the natural world began during childhood. At 17, he went on an expedition to climb untouched mountains in the Karakoram region of Pakistan.



Sam Hillcox

Sam is an ecologist, outdoor educator and aspirant International Mountain Leader and lived in the Cevennes National Park in France for 16 years. It was a joy and a privilege!

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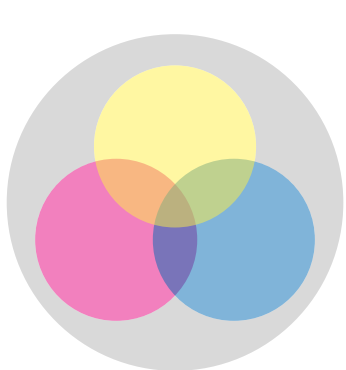
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Feeling inspired? If you would like to contribute to the next issue, please contact **Belinda Buckingham** at belinda@mountain-training.org

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)

With a year to go, the implementation of mandatory CPD as a membership requirement, the new CPD Policy and associated resources have been produced and are now available on the website. The AMI brand partner contracts with DMM, Rab and Lowe Alpine have been refreshed and re-signed for the next 3 - 5 years, with a range of mutual benefits both to AMI and the brand partners.

A huge amount of work has gone into the retendering for the insurance provision for members of the associations and our thanks go to David Hormigo for leading this from AMI's perspective.

The Mountaineering and Climbing Instructor trainee workshop programme for 2020 has been finalised with over 55 events on offer. Trainee support is an important and successful aspect of AMI and has gone from strength to strength in recent years.

Finally the annual Delivery Plan will be published at the AGM in late March, and is again on the website. This is based on the three yearly member survey which is due again this year. Please watch out for it and take part - your views are important to the association!

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)

As 2019 came to a close Peter Cliff BMG member was voted in at the AGM in Bariloche as President of the IFMGA, the first to come from a non-Alpine country.

While this was happening in the early stages of the Bariloche summer there were members guiding in the Antarctic and starting the winter season in the Northern hemisphere. Both in Scotland and the Alps an early winter season was welcome although conditions became a little more fickle through January.

BMG courses have still been successful in the Alps and Scotland in climbing, skiing and avalanche education. The BMG are helping the newly developing Russian guides association with this very subject being held in the Caucasus. BMG ski and avalanche training have been helped by the Fred Harper and Chris Walker Memorial funds in Switzerland and Scotland.

The climate emergency situation is demanding careful planning and thought on selection of climbing and ski venues throughout the world; with some old favourites no longer being possible or rarely doable.

Thoughtful and sustainable practices should be very much at the forefront of planning for the future protection of the environment we choose to practice in.

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)

We've just had our biggest and best Annual Conference and AGM ever – if you weren't with us in Llanberis then make plans to join us this December in Buxton, it'll be even bigger and better!

At our AGM we said a fond farewell and thanks to outgoing Director Simon Hale – someone who's been a part of the IML journey of so many members. We also said adieu to outgoing President Anne Arran. At the same time we welcomed new Directors Helen Barnard and Peter Chapman. Our association is run by volunteers so it's always great to see talented individuals step up and join the team. As part of our succession planning [and so I can celebrate being back on my feet] I stepped down as a Director, but became honorary President with a few specific projects to run.

Following the launch of the new Regional Reps Team at the Conference it's great to see events already taking place for the members. We've already hosted a diabetes workshop in the North East; Snow Safety in the Alps and we've just announced a full CPD weekend in Norway. More exciting events will be coming soon...

We have also been busy upping our social media game – and as ever we're keen for members to share pictures, events and their own news with us to help raise awareness of everything 'IML'. As ever everyone – stay safe, have fun and see you on the trail.

Kelvyn James [President]



THE MOUNTAIN TRAINING ASSOCIATION (MTA)

Our winter CPD weekend that took place on the 25th and 26th January at Glenmore Lodge was a great success; the weekend was packed with workshops covering a variety of winter skills including avalanche awareness, navigation, intro to winter climbing and teaching winter skills. We're looking forward to hosting this event for members again next year.

Our collaboration with the Met Office continues this year with a new series of Mountain Weather workshops programmed across the UK. This is a great way to help the Met Office increase awareness of their mountain forecasts to the mountain user community and fantastic CPD for members.

Last September we ran a further two mentor training days and this year we're pleased to announce that we're continuing to expand the programme, giving more members the opportunity to receive mentor support, and for others to train as mentors. Applications open for this years' intake in spring.

Finally, it's great to see regional groups out making the most of the dark evenings with a variety of peer led night navigation sessions and social climbs. Keep an eye on the workshop programme for future events.

Belinda Buckingham [Development Officer]



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**
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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



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2

MAIN PHOTO Deplar farm in front of Lambahnukur, with Einstakafjall in total shade. © Brett Batchelor. 1. Access into the mountains can only be by snowmobile.

2. Looking South into the fjot valley. Left to right: Hvammshnukur, Hreppendasular, Krosshnukur and in the shade Lambahnukur.

TROLLS, TUNNELS & TRAVELS ON THE TROLLASKAGI

WORDS BY RICHARD HAMILTON,
PHOTOS (UNLESS OTHERWISE CREDITED)
BY RICHARD HAMILTON



Richard Hamilton is a Mountaineering and Climbing Instructor, Winter Mountain Leader and International Mountain Leader, and until recently he was Head Guide and Guide operations manager for an adventure travel company at their Icelandic base high upon the Trollaskagi. He is currently working freelance and is now taking groups of people on Geography and photographic tours of Iceland. He also runs snowshoeing and winter walking trips to the Trollaskagi. Having introduced Iceland to coasteering, sea-cliff climbing and canyoning he believes that this is one place where true adventures can still be had, especially up North.

It is the Icelandic version of “*Que Sera, sera*”, and a phrase that captures the Icelandic “can-do” attitude very neatly.

Situated right at the inner end of Iceland’s longest and deepest fjord, Eyjafjordur, Akureyri (Iceland’s second city – population of roughly 20,000) is a great place to base yourself if you want to explore the thermal area of Myvatn with its hot pools or the Troll Penisular itself.

On that first visit to the Trollaskagi, the culmination of a chance meeting and a leap of faith that changed my life forever, every moment was a journey out of my previous comfort zones. “Drive north until you can drive no further” they told me. In normal circumstances this would have been a few miles up the N1 route up the spectacular western side of the fjord, since every other driver appeared to have abandoned their car in the deepening snowdrifts – but as a first-time visitor that was not an option for me. Suddenly, the entrance to the first of the Tunnels of the Trollaskagi loomed out of the blizzard; my salvation on this and many subsequent occasions.

There are five main fjords to the Trollaskagi, Eyjafjordur, Olafsfjordur, Hedinsfjordur, Siglofjordur and Skagafjordur, each connected by a tunnel. Until the mid 1980’s the only way to access these towns was either by boat or over the mountains. The area is abundant with tales of daring crossings of the mountains by the local people in search of medicine, food or shelter.

“*Thetta Reddast!*” whispered the air stewardess as we approached my new home on the Trollaskagi (Troll peninsular) of Iceland in a typical winter storm.

I soon learned the tunnel etiquette: cars travelling around the island clockwise have right of way and so you must pull over to the right; unless you are driving a juggernaut, in which case “might is right”.

After the first long Tunnel, you exit just above the Town of Olafsfjordur, (a brilliant winter surf spot). In winter you need to ignore the Sat Nav if it tries to send you over the mountain passes, where only doom and disaster lie! At the end of the fourth tunnel you come to a town that Icelanders call “The prettiest town in Iceland”. Siglofjordur is the most northern inhabited town in Iceland and sits on the west side of the fjord surrounded by a magnificent cirque of mountains. It is a fabulous base with affordable accommodation, its own ski resort and easy access to some of the most spectacular walking and skiing scenery. You can access the mountains by foot from your accommodation and make it back in good time for reputedly “The best Hot Chocolate in Iceland” courtesy of Café Freda’s, or perhaps relax in a hot pool or sauna.

This sleepy little town was once the centre of the global Herring fishing industry and known in the 1920’s as the “Manhattan of the North”. It is also (I kid you not) the town that gave ‘Disney’ their Snow White as she was a resident of Siglofjordur (no not the actual heroine, but the character upon which they based the face). Thanks to the tunnels, investment is returning – but with tourism and tourists as their main catch.

As so much of the climbing and scrambling

take place right at the valley bottom there is always an option for some beautiful walks and low ridgelines that can be ascended in most conditions. With most of the mountain summits above 1,300 metres everything feels slightly more epic, as you are starting at sea level. Luckily, roadside access to the mountains affords many options, and local buses can get you to or from your start point.

When the mountains are too wild, alternative activities include ice fishing (the kit for this can be bought at the local shop for about £5), sea kayaking, or a cultural visit to the award-winning living museum. There are ice falls that drape the fjord side and given the right conditions the brave can ice-boulder above the fjord, although a PFD and wetsuit (rented locally) are advisable.

The Trollaskagi is a huge plateau, courtesy of the sub-glacial eruptions that formed this part of the island. Snowshoeing and cross country skiing are great ways to get about the tops, although you may also have to share this from time to time with a couple of Heli-skiing operations in the area during the ski season (March-June) and snow-mobilisers during weekends or holidays. There terrain is vast, so each day out will feel like a new adventure. The area is very popular during the spring with European backcountry skiers, as the days are getting much longer, and the weather is fairly settled – it is not uncommon to be able to ski until midnight.

Roads running completely around the peninsular provide access to the mountains from any side – although if you want solitude then visiting the little-known Valley of Holar could be ideal. The local town swimming facility is an infinity pool overlooking Skagafjörður where on long spring nights you may be rewarded with sights of Humpbacks breaching in the fjord.

Further north is the Fljót Valley which runs all the way up to the Lag Heiddi, a high pass from which many of the surrounding mountains can be accessed. Hreppendasalur (1,052m) is a nice easy climb up a broad open flank that gives some stunning views of the surrounding mountains and the sea (over 14 kms away) whereas an ascent of Einstakafall (1,078m) is a striking line of ridges that wouldn't be out of place in some of the better known alpine areas of mainland Europe. Lambahjúker is a summit that is well worth seeking out and at 1,006 metres is slightly smaller than its neighbours – although as the months get lighter there is also the possibility of having to ford rivers as they start opening up.

In and around the town of Siglófjörður are a series of slightly smaller mountains that still have the ability to give some outstanding days on the doorstep: Hafnahyrna (687m) Hofsfjall (687m) and Hestsjardshjúker (855m).

Working back east the next Valley is Hedinsfjörður and this valley is a very popular place for ski touring; Steinshjúker (857m) and Víkurhyrna being two summits regularly visited.

Through the tunnel and into Olafsfjörður is another area well worth a visit. The small road on the west side of the fjord will lead you to an open valley that if ascended would lead you to the back side of the two previously mentioned mountains. However, up on the right side and heading towards the sea are two truly magical summits that I think encapsulate what climbing and walking mean for this area. Arfinnsfjall (853m) and Middegishyrna (832m) will leave you looking out across the Arctic Ocean and wondering what is truly beyond the horizon as you stare out along the peninsula. A starlit descent completes the memory. Mountains days beside the sea above Olafsfjörður represent some truly spectacular walking and climbing and should be a must on anyone's visit list.

Transport and weather information

Flights from the UK are plentiful and relatively cheap (Wizz air from Luton is currently £50) and land at Keflavik International airport – about an hour's drive from Reykjavik. There are some flights from the

UK that will allow you to transfer at Keflavik for a flight to Akureyri (although it is only with Icelandair and they are more expensive).

If you are not hiring a car, use one of the airport buses (Flybus,) to access the city, or if not staying in Reykjavik the internal airport is about 800 metres away from the bus terminus and can be reached from there by taxi.

There are plenty of flights going north during the day to various destinations in Iceland and Greenland but the trip to Akureyri is the most popular. Early booking is advisable as numbers are limited and the prices go up accordingly. (Air Iceland Connect)

If driving, there are plenty of car hire operators at the airport but be aware that there is a premium for hiring from the airport. Hire companies are much cheaper across some open ground about 500 metres from the airport, or it might be worth picking up a car from the city. Get the app *www.road.is* as this will give you current driving conditions and access to cameras at all the usual trouble points. Do check for winter tyres (preferably studded) and be wary if the Sat Nav tells you to go off-piste (it's not unheard of). I would suggest that driving north is best done by taking the ring road N1 West, not East. If caught in snow, a good tip is to remember to deflate the tyres slightly to give better traction. There is a good system of service stations on the N1 and it is also kept open even in the worst of storms, so rescue is possible. Use *www.safe.is* for good tips on driving for Iceland.

Weather forecasting is brilliant (it has to be) and my two go-to sites are *www.vedur.is* as this has a huge amount of other information such as avalanche, climate, seismic and much more. I also use *www.belgvingur.is* for very accurate wind and temperature information.

Rescue services are really good in Iceland and there is a search and rescue team in most towns of the Trollaskagi. They are good and well equipped and in Icelandic are known as Slysavarnafelagid Landsborg (stick to "Ice-SAR"!).

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CERRO TORRE

Via Dei Ragni (Ragni Route)

Time had passed since my previous expeditions to Patagonia, one to Fitzroy in 2002 and another to the unclimbed South face of the South Tower of Paine in 2006.

WORDS BY STU MCALEESE

So, when Dave Turnbull, Dan Donovan and I got chatting about a potential climbing trip back to Patagonia some years later, I felt it was time to go back; we were all ready for another climbing adventure.

Patagonia is famous for its wild and untouched nature, challenging mountains, and testing and sometimes horrendous weather. I've always been drawn to a challenge and I guess that's why expedition climbing has always been special to me. Patagonia's landscape is stunning yet harsh, with vast open mountains and glaciers. The trekking is superb with good infrastructure and a network of trails and camps. Climbing in the mountains there is still isolated, and the terrain is adventurous and often serious. In recent years the nearby village has grown, a tarmac road, hostels, shops and now wifi. This has changed the alpinism there significantly: there is less need for the expedition-style base camps and advanced base camps. Good weather forecasts can give you the ability to plan and wait with confidence that previously you did not have.

Our team really inspired me, and we knew we would always have a good time regardless of what the weather and conditions might limit us to. I felt lucky to be climbing with such a strong team of good friends; they are both top experienced climbers and mountaineers in every aspect, essential for what we were planning on climbing. An afternoon talking over equipment and a curry in Llanberis, was our expedition planning meeting and team building

event - quite memorable as I had mistakenly ordered the hottest curry ever and could hardly think...never again!

Initially our plan A was a big alpine rock route on Fitzroy, however as time went by we got news from Patagonia that Cerro Torre was getting climbed and the Ragni route was in good condition – the dream adventure for any alpinist. Cerro Torre is a stunning spire and huge technical mountain, full of adventures, epics and stories. It has attracted the worlds top alpinists for years.

There is no easy way up or down Cerro Torre, which is always in the spotlight; so important, special and holding a lot of mystery. The route that Maestri followed known as the Compressor route was the route which saw most ascents, however the famous bolt ladder which aided a section of the route was chopped and removed in 2012. Consequently, the West Face via dei Ragni started to get more attention. It is a famous alpine route mainly of snow/ice and huge wind carved ice mushrooms and tunnels – the very last pitch in some years has been an unclimbable ice mushroom. Maps were studied, books and articles researched, equipment gathered, we were on the flight excited and ready.

I had learnt from previous expeditions that fitness, strength and not getting injured prior to the expedition is key!



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MAIN PHOTO Cerro Torre, Torre Egger and Aguja Standhardt. © Dave Turnbull.

1. Bivouac at the Col of Hope, base of the route under Cerro Torre. 1 night was spent here on ascent and descent. © Dave Turnbull. 2. Tyrolean traverse river crossing to access the Cerro Torre glacier. © Dan Donovan. 3. The last few metres to the summit, above the ice tunnel and the top of the ice mushroom. © Dan Donovan. 4. The headwall. © Dave Turnbull.

So, the running and training started, mainly cardio and climbing strength around three times a week, whilst attempting to stay in good condition and not over train. Little did I know, but in the end, this expedition took all my mental and physical strength to the limit.

Arriving in the small village of Chalten we had three days of poor weather, which was a relief if honest as this allowed us to do some preparation and “on the ground” research into the mountain conditions. Little did we know but the next weather forecast was to be one of the biggest weather windows in years and it stuck around for about three weeks. Packing and getting organised the day before, we had to carry the absolute minimum, calculating exactly what we may need to eat and what clothing would be required given the conditions at the time. With some expert local knowledge and speaking with other climbers we aimed for a 5-day round trip from the village to climb Cerro Torre.

With the weather improving, we decided to trek in on the easier ground during bad weather, knowing it was getting good after. This seemed to be a normal tactic if you know the terrain is ok and then maximising the weather window ahead of you.

Day 1, I was nervous and ready for a test. We hiked into the Torre Valley with massive rucksacks, which involved a long walk up a huge dry glacier between Fitzroy and the peaks of Cerro Standhardt, Torre Egger and Cerro Torre, before bivvying behind a boulder at Niponeno in the rain! We were aiming to get to the Col of Hope

the next day, which felt like miles away and we were going to have to drop over onto the other side of Cerro Torre to access it.

The next day started at 1am and involved a climb over Col Standhardt and down to the west side of Cerro Torre above the Patagonian Ice Cap. Dropping over and abseiling down the other side felt wild and committing with lots of ‘what ifs’ and questions going through our minds. Things were starting to feel physical now as we climbed back up the west side of Cerro Torre through difficult snow and mixed climbing ground to the Col Esperanza (Col of Hope). With huge rucksacks and the sun beating down on us, we were all feeling very tired and apprehensive given the difficulties of the past day and what still lay ahead.

Leaving most of our equipment at the bivi site we set off around 1am with just one rucksack and a stove to be as light and fast as possible. This made the climbing less difficult, but it did feel very committing and so the weather holding was even more important to us. Most of the route was ice climbing up to 90 degrees in steepness in a few places with some mixed climbing in the middle section. The climbing was in and around massive snow flutings and huge vertical sheets of ice – simply stunning.

It was getting progressively warmer each day, but the weather held, and the temperature remained sufficiently cold for the most part. An ice tunnel through the final summit mushroom provided a fitting and spectacular finale! We took in the summit for a while in perfect

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5. The summit. © Dave Turnbull. 6. The famous last pitch of Cerro Torre, the summit mushroom of thick rime ice. That year it formed a wall into a tunnel of ice. © Dave Turnbull. 7. Dan Donovan and me at Col Standhardt – Day 2 on the approach to Cerro Torre. © Dave Turnbull.

weather with little or no wind and views all the way over the ice cap on one side and Fitzroy on the other – totally amazing!

Tired and very aware that we were only half way, and with afternoon temperatures rising, a speedy descent was now necessary. The descent from the summit involved abseiling the route on mainly ice threads, tricky at times, but the route had a few V threads in place from previous ascents. We managed to get back to the Col of Hope bivouac early evening, relieved and battered from falling ice (from the sun and other climbers).

With only a few hours of sleep we set off once more to descend the lower section of the route in the very early hours of the morning. This was very “involved”, with a number of blind abseils in the dark, some off-route and some just plain wrong! We arrived on the ice cap at first light and started the very long trek out along the ice cap, navigating big rocky sections and heavily crevassed dry glaciers.

Pacing ourselves we helped each other by taking turns in breaking trail in front. We had run out of food and only had a little gas left to boil water, so we had to keep going. With a couple more hours of slow painful walking and a cold river crossing as the final obstacle, we finally arrived at the small trekkers lodge, an amazing sight, and a chance to sit down take our boots off and to look at each other with a big smile and say, we did it!

2012-2013 Season

Stu and his team climbed Cerro Torre in 2012. A combination of repeated ascents and lack of rime due to the drier weather made the climb more straightforward than in previous years. Approx. 140 people repeated the route between November 2012 and March 2013. ■



Stu McAleese is an IFMGA Mountain Guide and Winter Mountaineering and Climbing Instructor, and works for Glenmore Lodge. He has been nominated for the Piolet d'Or 2003 and has undertaken expedition climbing in places such as Alaska, Patagonia, Himalaya, Peru, Baffin Island and Kyrgyzstan. Right now, he is exploring Scotland and is excited about spring rock climbing and summer alpine adventures.

THE CLIMBING WALL DEVELOPMENT INSTRUCTOR

Some thoughts on preparation for assessment

WORDS AND PHOTOS BY STEVE PEASE

Last year, some other providers and I wrote some short social media posts for Mountain Training, based on the indoor climbing qualifications. They can be viewed as a web article here: <https://www.mountain-training.org/help/articles/assessment-advice---indoor-climbing-qualifications>.

This article aims to share our opinions on preparing yourself for the Climbing Wall Development Instructor assessment, formed from our experience in recent years. We've been really fortunate to have run regular courses, and we've seen a good number of candidates. It's not meant to be a definitive guide, but in writing this, it has reinforced to me what a significant qualification this is.

The assessment is a minimum of six hours, and will look at your personal lead climbing abilities and how you introduce or develop the skills of lead climbing to others. In my experience it's a busy day, and you'll need to be able to demonstrate the required skills, typically in a busy indoor wall environment.

Personal climbing and belaying skills

6A is the minimum standard for assessment. You don't need to climb any harder, but you do need to be able to climb confidently and safely, demonstrating assurance in your all round ability. Be comfortable on varied wall angles; your favoured style of route might not be available during assessment. If you're unfamiliar with the wall you are to be assessed at, go and have a look and get climbing. Get a feel for how the routes are set, and the centre's general vibe, facilities and environment.

Ensure you are climbing consistently but with appropriate rest, building up to the assessment day. Your confidence, fitness and performance will hopefully make you look comfortable, organised and efficient on and off the wall. Contact the provider in advance if you have an injury and talk it through, don't risk making it worse or not being able to perform at your best. I've been surprised with torn A2 pulleys, sore shoulders and post-surgery knees as a way of introduction.

The skill set of a good lead belayer is significant. There is a huge choice of belay devices on the market, and ropes with seemingly ever decreasing diameters. Practice belaying with a variety of devices and ropes. Form opinions on them and how they work – or don't work – together. Have a working knowledge of as many of them as you can.

Understand your positioning when belaying, relative to the climber's position on the route and the base of the wall. Be mindful of the amount of rope in the system, watch your climber and be

attentive to their needs. If possible, have someone film your belaying; analyse the footage – are there any bad habits?

Make your belaying skill set as important to you, as your lead climbing grade and style. Stay focused and demonstrate that you have excellent awareness of its importance. Observe experienced skilled lead belayers, and on a busy evening at your wall, observe the belaying. What do you see, what could be better and why?

Lastly, consider how you might instruct lead belaying, the terminology associated with it e.g. dynamic belaying, and how you might introduce some of the devices commonly used.

Teaching and learning skills

On the day, we will need to see you deliver a variety of the skills associated with lead climbing. Each provider will differ slightly as to how they go about this. You may deliver within your peer group, or be given real candidates to discuss plans with, and then put these into action. Training courses will cover the core areas, and any sessions you assist on during the consolidation phase will hopefully develop these.

My advice here is to think very carefully about exactly how you are going to teach the required skills. As lead climbing instructors, we are by design moving our clients toward a potential real lead climbing situation. Once the assurance of any safety rope has been removed, your clients are reliant on the skills you have taught them. Above all else, the skills we deliver must be done safely, and in a progressive, structured and supportive manner. Take time during your consolidation phase to develop your instructing, communication, decision making and judgement skills, in as many varied situations as possible.

When introducing lead climbing skills and tasks, I also get candidates to consider some of the following:

- **Is it easy for you to manage?** Floor based tasks are often a great start for some topics. It should be easy for you to manage, and a comfortable introduction for the clients. Their headspace is about to be filled with lots of new thinking. As soon as feet leave the ground, what we do becomes safety critical.
- **Who is active?** Don't fall into the trap of just talking at your clients. Introducing clipping quickdraws is the assessment candidate's favourite for this. One hour in, and you've fully explained how quick-draws are hot forged but no one has clipped anything. Tasks that are safe, well managed, and involve everybody doing something are brilliant to observe.



1. Climbing at the minimum grade with confidence and style. 2. Belaying skills are important too, as is an understanding of the varied devices and ropes available.

- **Is it in context of what might be coming later?** Do you practice clipping quickdraws on a traverse or clipping them vertically whilst tailing a short piece of rope? What will the climbers be doing on the lead, and is your practice task preparing them for this? Are they both easily managed? Have a think.
- **What areas of the wall can I use?** If it's at all possible, move around the floor space/wall for different tasks. Different areas of the wall will spark interest, and are perhaps better suited for certain topics.
- **What resources have I got?** Beyond the climbing facility itself, what resources/learning teaching aids have you developed?

If a client doesn't understand one approach, what else can I do? – Develop a few ideas as to how to deliver each topic. Not everyone will understand the task, or have the ability to learn it at the same pace as others within a group. How will you deal with this?

The grades aren't important – I bring the climbing grade right down, well within the ability of my clients. I tell them why I've done this and explain that the grades on the lead will steadily increase as the skills become more embedded.

Appropriate situations and tasks set on assessment will ask you to demonstrate not only practical skills, but also decision making, communication and risk assessment skills. These are all within the syllabus too. Safe management of the tasks is therefore very much down to your decision making process, and the judgements you form, based on your experience prior to assessment.

Not surprisingly, some of the strongest candidates I've seen on assessment have gained significantly more experience than the minimum prerequisites. Their instruction has been safe, tasks have been appropriate and well managed. The clients have been active and felt that they have developed their skills and knowledge. The delivery therefore has been considered and practised.

Gaining this qualification is a significant achievement. It will put you in a position to introduce indoor climbers to the adventure and excitement of learning to lead climb, and hopefully make you consider other similar qualifications. Prepare well, and the assessment day should be an enjoyable and positive experience.



Steve Pease is a Mountain Training provider for various qualifications. He is based near London and runs regular Climbing Wall Development Instructor courses. www.verticalrelief.co.uk

Depending on experience and point of view, placing trad gear is either child's play or a fettle, mysterious black art, only mastered after years spent in a remote Welsh mountain cave with Gandalf the MCI. For students, it may well seem to be the latter.

PLACING TRAD GEAR

WORDS AND PHOTOS BY JOE BROWN

Over the years I have developed the following aide memoire for teaching the basics of gear placement to students.

I usually start by extolling the virtues of solid placements, before introducing a system that will enable them to make fast, accurate assessments of their protection equipment.

I like to hang concepts onto a narrative to help jog the memory – so for a moment, we're going back in time to the 1970's. White trousers are en vogue, but this is not Yosemite! Here, it's Saturday Night and Tony Manero is owning the dancefloor – owning the D-I-S-C-O. (yes, you can sing it if you can hold a tune!)

A digression? Please bear with me.

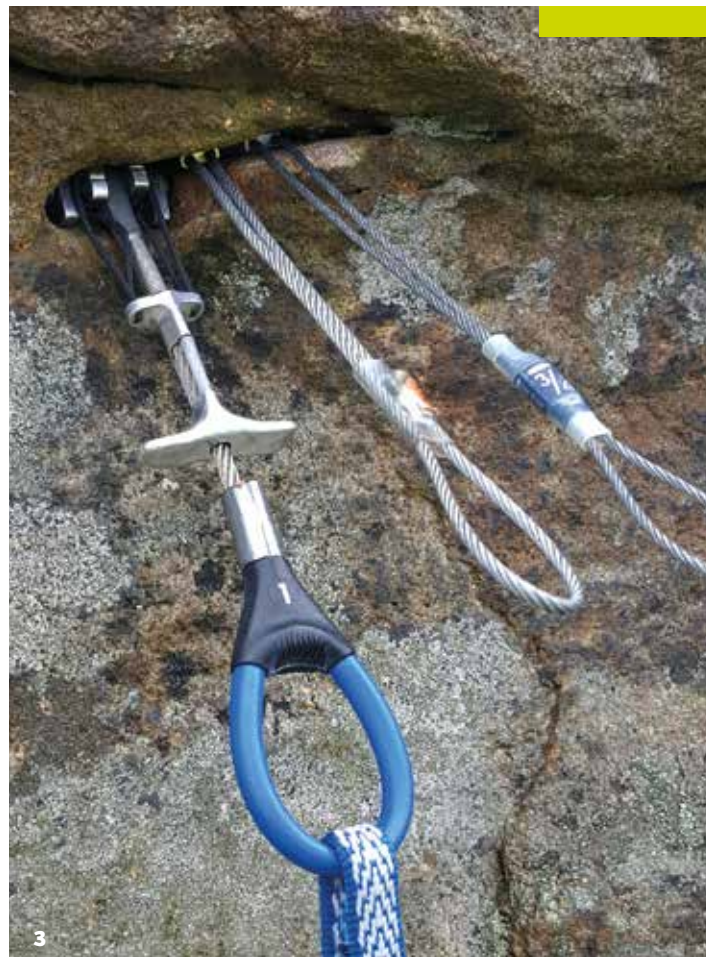
D I S C O, as you will have guessed, is an acronym. It provides a useful way to introduce placing trad gear, and is easy to remember, thanks to John Travolta. There are other acronyms around, but after an interested response from fellow instructors and friends I decided to share it with you all.

- **D**irection
- **I**ntegrity
- **S**hape or Size
- **C**ontact
- **O**verall



© Alex Ekins.

Joe Brown is a trainee Mountaineering and Climbing Instructor, and qualified teacher with 15 years' experience. Originally from Cleethorpes, he started climbing in 1990 at the age of 16 and is a familiar face on the Peak District scene. Joe was diagnosed with ASD in 2014 and has spent the last 6 years teaching in schools during winter and working as a freelance instructor for the rest of the year. He now lives in Sheffield with his dog Billy and is busy preparing for his MCI assessment at the end of the summer.



1. A shallow, marginal placement improved with an offset nut.
2. Two wires connected in reach – but what about the integrity of the rock?
3. Crucial gear for a Fawcett/Dawes Peak desperate – can you guess which one?

Direction of pull that the placement will cope with:

Better

- Nut** – wire points in direction of anticipated load
- Cam** – stem points in direction of anticipated load
- Sling** – won't lift off when tested in direction of anticipated load

Worse

- Nut** – wire points away from direction of anticipated load
- Cam** – stem points away from direction of anticipated load
- Sling** – lifts off when tested in direction of anticipated load

Integrity of the rock around the placement:

Better

- Nut** – solid, one piece, uniform
- Cam** – solid, one piece, uniform
- Sling** – no movement or vibration, part of the mountain, healthy (tree)

Worse

- Nut** – friable, cracked, thin, hollow
- Cam** – friable, cracked, thin, hollow
- Sling** – movement, vibration, hollow, detached from mountain, unhealthy (tree)

Shape or Size of placement:

Better

- Nut** – tapering, deep, even, right size to allow good contact
- Cam** – even, parallel, deep enough, right size to allow good contact
- Sling** – stays on when tested (as if turning a wheel), object being slung is big enough

Worse

- Nut** – parallel, flared, shallow, uneven, wrong size with poor contact
- Cam** – flared, shallow, uneven, wrong size with poor contact

Sling – rounded, rolls off when tested (as if turning a wheel), object being slung is too small

Contact between gear and placement:

Better

- Nut** – lots of surface metal touching rock all round, no movement when wire waggled
- Cam** – lots of surface metal touching rock, lobes between ¼ and ¾ open, trigger bar flat
- Sling** – lots of rock touching rock (threads and sitting blocks), no sharp edges

Worse

- Nut** – little surface metal touching rock, movement when wire waggled
- Cam** – little metal touching rock, under-cammed/ over-cammed, trigger bar sloping
- Sling** – little rock touching rock (e.g. for threads and sitting blocks), sharp edges

Overall score for placement:

- 5** – Good enough to use on its own; happy to abseil on it
- 4** – Bomber big nut/cam; happy to fall on it
- 3** – Good nut/cam, but with caveats, e.g. directional; happy to sit on it, but back up
- 2** – More bad qualities than good; definitely back up
- 1** – A joke; move on/find something else

And that's it. I can't take all the credit though. As ever, DISCO builds on the work of others, and particular thanks must go to Dave Rudkin (BMG) for sharing his excellent advice on teaching lead climbing with us during our Mountaineering and Climbing Instructor training, and Charlie Mackie (MCI) for helping to contextualise the overall score descriptors. ■

WHY ARE CLIMBERS BEING LOWERED OFF THE END OF THE ROPE?

It seems to me that the instances of climbers being lowered off the end of the rope while lowering are on the increase. I know of several people who have had lucky escapes surviving falls after being lowered off the end of their rope, and some who haven't been so lucky.

WORDS BY TREVOR MASSIAH, PHOTOS BY ROB SHOOSMITH

While it is something that I've always been acutely aware of and maybe have a healthy paranoia of, it is also something that I feel should just never happen.

Rope length

Climbers of a certain age might remember when sport climbing ropes were generally 50m (trad ropes 45m). Then after a few climbing trips in France and Spain it didn't seem worth travelling with anything shorter than a 60m. Then routes got even longer and you really needed a 70m. These days it's standard to buy an 80m – and even this might occasionally not be long enough. We keep a 100m in Kalymnos for the 50m pitches.

Having often dealt with ropes being too short, expecting it and planning for dealing with it has developed a certain level of awareness that I think is useful to pass on.

Knot is not always there

A greater number of people are aware of the benefits of tying a knot in the end of the rope. However, relying on the system of tying a knot in the end of the rope is not on its own sufficient, as it has proven to not always be there:

- Human error: People simply forget, or think that the other person has already tied it. Assuming that the bottom end is tied into the rope bag – but not checking – is also a possibility.
- Someone in your group unties the knot. I've seen this happen on several occasions and each time the belayer failed to notice. An inexperienced climber taking the end to practice tying in or to practice clipping and not knowing what the knot in the end was there for, will not necessarily tie it back in.

As the knot is not always there, people need to have other reliable systems in place for noticing that the rope is too short.

Before the knot

There are a few things that we have failed to do when the knot jams up against the belay device, or when the rope disappears through the belay device. If safety is an awareness of danger it might be useful to look at what we as climbers/instructors do ourselves to avoid needing to use that knot in the first place and make our clients aware of that as well.

- Read the guide book to see what rope length is recommended and take one that is long enough for any route you might want to do (ropes are cheap but you shouldn't be).

- Be aware! If you arrive at a crag and it looks big maybe the routes are long.
- As you're climbing the route you're thinking "Wow, nice long pitch, I love long routes. Hmm, did we pack the 70m or the 80m?" Communicate with your belayer.
- You're belaying and your climber seems to be going up forever. Do you think: "Awesome, I love long pitches, I'm really excited about getting on it myself"? Or are you looking down at the rope next to your feet and thinking "I wonder if it's long enough for my climber to get down"? Communicating at this point can be valuable!

An unfortunate accident in the Costa Blanca
The climber was on a route in a reasonably new sector of the crag. They had climbed the routes before but had not realised that the anchor had been moved 5m higher. This resulted in both the climber and belayer assuming that their 70m rope was long enough (it would in fact be for every route on that crag). Although unlucky, if climber and belayer had been looking at their rope, this accident would have been avoided.

Middle marks

I'm deliberately not mentioning middle marks when teaching clients. The problem with middle marks is that they can be unreliable. One of the advantages of buying a longer rope than you generally need is that it is often the 4 or 5 meters at the ends that show wear. Cutting 4 or 5 meters off the end of an 80m rope still gives you a useful length rope, but means your mark is no longer marking the middle of it.

Watch the end of the rope!

In recent years, I have been making a point of teaching belayers to pay more attention to the rope next to them than to the person they are lowering. As a belayer it can be hard sometimes to concentrate when surrounded by scantily clad beautiful people! – but the rope right next to your feet is what you should be paying most attention to. It's the only place that danger is coming from during the lowering process. This should be an integral part of the lowering process and is what we should be teaching.



1. Ben Hardy (right, Rock & Sun client) and Trevor Massiah: redirecting the belayer's focus to the rope next to them is crucial. As climbers we should be constantly gauging the length of the route against the length of the rope. This is a fundamental part of climbing that we should teach our clients. 2. A knot in the end of the rope is of course useful but should be seen as the last line of defence. 3. When at the crag observe how many people never look down at the rope, but just look up at the climber being lowered.

LOCATION: Thaiwand wall, Thailand.

We should also make clients aware of the importance of developing the habit of looking down at the rope while being lowered. It is great to take time to enjoy the view but more important to look down to see the rope next to the belayer and calculate well before you are lowered off the end of it whether it is long enough. I reckon about 99% of the time I'm able to see the rope after a few metres of lowering. Keep the rope visible! not tucked away in your IKEA bag!

Having asked thousands of climbers with a variety of experience where they look when lowering, virtually no one ever answers "the rope". Even though that is where the danger is coming from, and it is almost always there next to the belayer's foot.

Every time I hear of or read an article about someone being lowered off the rope, the cause is always said to be the lack of a knot. And of course, no one would be lowered off the end if there was a knot, but it would be helpful to acknowledge that the belayer (and climber) failed to pay attention to the rope. We should not be switching off because (we think) we have fixed the issue by tying a knot in the end of the rope. The knot should not be seen as the first line of defence – it is the last! ■



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.



THE ENVIRONMENT 'NEED TO KNOW, NICE TO KNOW'?

Over the last few years of running Nature of Snowdonia workshops for Mountain Leaders and Mountaineering & Climbing Instructors I have noticed that many people coming along already have a good level of knowledge.

WORDS AND PHOTOS BY MIKE RAINE



Mike Raine WMCI BA (Hons) PGCE is one of the Senior Instructors at Plas Y Brenin, the National Mountain Centre. His responsibilities include environment, and the national Mountain Training schemes. Mike is also the author of *Nature of Snowdonia: "the invaluable handbook for most Mountain Leadership candidates whether operating in Snowdonia or elsewhere"*. You can find out more on his Facebook blog Mike Raine: *Notes from the Hill* or follow him on Twitter @mikeraine. Mike will be hosting a CPD workshop relating to this article in April for association members.

Some have attended other workshops and some come back frequently. This is great for me as a trainer; I can build on, and develop, learning from a solid base. But there are a group of people out there who are not attending workshops like these. While a few are not particularly interested in the environment there are also some people who, I believe, are a bit intimidated by it all. I've heard people saying it's all a bit too overwhelming and they don't know where to start. The concept of 'need to know, nice to know', is an attempt to reassure those people that there is manageable content and achievable goals, and that if you have an idea what you 'need to know' rather than an infinite list of things that are 'nice to know' then you've got a fighting chance of developing some appropriate, and useful knowledge.

Of course, this can only work if we can agree what it is that people 'need to know' rather than just being 'nice to know'. I don't think anybody would want to draw up a definitive list of the ten flowers you should know but, let's be honest, the three common heathers plus tormentil, heath bedstraw and milkwort are pretty ubiquitous across all our acidic uplands and it would be a poor role model

who could not recognise these common plants and know a little something about them. There will always be some regional variation: walking in Scotland, leaders should know about deer stalking, and be able to spot arctic-alpine species coming down to sea level. In North Yorkshire knowledge of grouse shooting and an awareness of the special species of upper Teasdale might be considered need to know. In the Lakes, Juniper features strongly, whilst other areas might show some diversity through having limestone as a bedrock, such as in the Peak District or the Brecon Beacons.

If we start from what a Mountain Leader should know, we can then extrapolate what a Mountaineering and Climbing Instructor should be able to teach, then draw parallels across to Hill and Moorland Leaders and Lowland Leaders too. Much of the knowledge required is pretty obvious, such as, how access and rights of way work and how they vary across the UK and Ireland, legislation around the protection of the environment, application of the Countryside Code and knowledge of land use and associated issues.

According to the syllabus, the Mountain Leader should:

3a. aim to inspire and enthuse their groups in the mountains and continuously expand their knowledge and understanding of the environment.

There is, of course, guidance from Mountain Training on these aspects of the qualifications; it goes along the lines of: Develop your knowledge of



1



2



3



4

MAIN PHOTO Ungrazed land next to grazed land. Spot the differences! 1. Geology – every rock tells a story unravelling this one could be fascinating. 2. Birds of the uplands – Meadow Pipit chicks. 3. Glaciation – just one of many erratic's spread across our uplands, where has it come from? How far has it travelled? 4. Tormentil, it's everywhere in the hills but, did you know it grows to around a metre tall when ungrazed and that it is considered by herbalists to be one of our most useful plants.

mountain flora, fauna, geology, folklore etc.

Here's my first stab at suggesting what you need to know. In some cases below, I've plucked the number 12 from thin air, maybe there should be more or less, but hopefully it will fuel debate.

A Mountain Leader should be able to:

- *Explain why the geology of Snowdonia or the Lakes District is complex in comparison to Dartmoor, the Brecon Beacons or the Pennines. In Scotland you might contrast the Cairngorm with Glencoe or Assynt.*

Geology underpins everything. It helps us to explain why these places are hills, the character of these hills, the fauna and flora of places and how the land has been used and is being used. It is fair however, to say that the geology of Snowdonia or the Lake District is complicated and that there is great variation across the highlands of Scotland. The approach I've begun to teach people is not to explain the geology but, to understand why it's complex. For example, it can be old, at least 450 million years old in the Lakes and Snowdonia but, up to a couple of billion years old in some parts of Scotland. It may have featured volcanoes – these can produce different results depending on the type of lava, the areas in which they erupt and how they erupt. Rocks have then been folded to form mountains. These mountains have then been eroded to leave today's landscape with weathering exposed rock now being colonised and hidden by lichen and vegetation succession. Whereas, on the other hand, the Beacons and the Pennines have fewer rock types, folded in a similar structure and with clearer differences on the land surface.

- *Describe and explain the processes of glacial erosion and transportation. Identify features of erosion and deposition.*

Many people did a little learning about glaciation at school. But there are frequent misconceptions. I've often heard that 'glaciation formed these mountains' – oh no it didn't! If the mountains are over 450 million years old in the Lake District and Snowdonia, with even the rocks of the Pennines and Brecon Beacons being 350 million years old, and the last ice age having only finished 10,000 years ago, having lasted 2 million years, that means that water did most of the work of eroding our hills and mountains. All glaciation has done is added a few finishing touches, created some arêtes, cwms, and left behind some moraine debris. A Mountain Leader should know how these features are formed, roughly when they were formed and something of what they add to the story of these places.

- *Describe the lives of around 12 key mammals, birds or other living species in your area of operation.*

There is always a danger of creating an approved list of things to know. We really don't want to do this but, from your point of view you might just need to know what it is you do need to know! I'm

thinking that if I give you an achievable target perhaps it'll inspire you to work towards it. How about picking a dozen from these: raven, meadow pipit, wheatear, stonechat, kestrel, wren, peregrine falcon, golden eagle, grouse, snow bunting, stonechat, hen harrier, ptarmigan, curlew, common vole, field mouse, goat, fox, badger or deer. They don't have to be from this list, these are just a few examples, but a little knowledge of how to recognise them, where and when you might see them, their life cycle (anything really!) would definitely increase your enjoyment of the hills.

- *Recognise and describe, including some historical and current medicinal uses – around 12 plant species, including some upland specialists.*

How about some arctic-alpines, maybe purple saxifrage, maybe the Snowdon lily or perhaps rose root? How about some woodland species that you might see on the hill like wood sorrel, wood anemones or common cow wheat? It could be the heathers, gorse or maybe a tree or two. Are you interested in the mosses, lichens or fungi? There is so much available information about these that you will need to think about what is achievable. Give it a whirl, pick a number and make a list; expand your knowledge.

- *Explain how land use has, over time, contributed to how the uplands look the way they do and how this may continue to change, including some of the choices currently being discussed.*

In many ways this is the real nub of the matter, this is the real need to know. We need to understand that however our hills look now, this is not how they have always looked. Many of them were wooded to a considerable height. In England and Wales this means deciduous woodland with oak then birch, alder and aspen rising up the hillsides. In Scotland a woodland dominated by Scots Pine would have crept further up the hills than it might today. There were openings, there were pastures, large herbivores were indigenous and would have maintained woodland clearings. The tops were often too exposed for vegetation to grow to any height, but by the same token this provided space for travel and places to live at times when the climate was a little more benign than it is today. We see a patchwork of heather, neatly manicured with strips of ageing heather and strips of young heather, all carefully managed to provide for grouse. This is not a natural landscape. We see stands of imported pine trees, artificially created reservoirs and we have to keep out of some areas due to military exercises. But the biggest impact is that of grazing sheep. Huge swathes of our uplands are denuded of any interesting botanical diversity by years of over-grazing, encouraged by Government and European subsidies. This sterile upland is 'sold' to us as wild, natural beauty. It is not, and we are only just beginning to evaluate it and look at ways of improving it. Currently in the news is the way we subsidise our farmers; is it solely to produce food or is it to manage the environment for wildlife and nature, and if between, where between and who decides where the balance should lie? ■

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MY CHOICE



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MERLIN

The eighteenth in a series of articles on wildlife.

WORDS BY SUE HAYSOM



“Compact, dashing, and fearless” – sound like anyone you know? It’s not the type of description you often encounter in bird books but that’s how the merlin is portrayed. Perhaps that’s why they were once considered the ideal falconry bird for ladies. A feathered version of Mr Darcy?

It’s possible you’ve either never heard of or think you’ve never seen a merlin. Despite being considerably smaller than the other falcons in Britain they’re easily confused with kestrel, sparrowhawk or even a racing pigeon. Most views will be fleeting as they move often and fast.

Merlin occur in northern latitudes in Europe, Asia and North America. The UK currently represents the southern limit of their European breeding distribution and models predict that this line will retreat northwards in the face of climate change.

The translation of one of their Gaelic names *Seabhag-gorm-an-fraoich* or Blue Hawk of the Heather gives a pretty strong hint at their habits. They breed in the uplands, particularly in heather moorland and nest on the ground in deep vegetation, on rocky crags or in the stick nests of other birds in trees. After breeding they move to lower lying inland or coastal areas or even to continental Europe whilst members of an Icelandic subspecies also visit the UK in winter.

Like so many of our birds of prey, merlin declined in the 1950s and ‘60s and since then the regional trends over time have been mixed. The most recent UK-wide survey in 2008 estimated

there to be 1,162 breeding pairs, the vast majority of which were in Scotland. Our understanding of why they declined isn’t as clear as with some species. Land use change such as afforestation, the more frequent burning of heather as part of grouse moor management and organo-chlorine pesticides have all been implicated. Merlin were found to have the highest pesticide concentrations of any UK raptor; fortunately those levels have fallen which may have helped the recovery in numbers in some areas.

So remember, next time you see something flying low and fast over the heather you may have just caught a glimpse of the mystical merlin.

- Q What can *you* do for merlin?
- A When planning a climb check the BMC’s Regional Access Database www.thebmc.co.uk/modules/RAD/ or Mountaineering Scotland’s Nesting Bird Updates www.mountaineering.scot/campaigns/safeguarding-access/birds-and-nesting
- A Recognise, celebrate and record them via BirdTrack (for information see the BTO website www.BTO.org).
- A Reduce your personal and professional carbon footprint and encourage your clients to do the same.
- Q What can merlin do for *you*?
- A Who doesn’t want to encounter something compact, dashing and fearless on the hill! ■

ABOVE: Merlin. © BTO/John Proudlock.

Vital Statistics

Length: 28cm

Wing-span: 56cm

Weight: Male 180g

Female 230g

Habitat: Moor, heath, open coniferous forest.

Food: Mostly small birds, caught in open country, usually by fast low pursuit.

Voice: Normally silent, except near the nest. Alarm and attack call a shrill chattering ‘quik-ik-ik-ik’ or ‘kek-kek-kek’.



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



EUROPEAN VULTURES

WHY WE SHOULD ALL LOVE SCAVENGERS

If you have seen large birds catching the thermals in the mountain skies anywhere in the world, there's a good chance you have been watching vultures.

WORDS BY SAM HILLCOX

Vultures form two distinct families, the 'New World' vultures found in the Americas, and 'Old World' vultures found in Europe, Africa and Asia. Their similarities are a result of convergent evolution where similar characteristics or behaviours have evolved without a common ancestor.

The Andean condor (a New World vulture), is the largest flying bird in the world, found along the entire Andean chain from Colombia where it is the national bird, to Tierra del Fuego. I can remember the thrill of seeing condors circling the Torres del Paine in Chile, where abundant guanacos made for a healthy population of condors. With a wingspan of 3.10 metres it is unmistakable. The New World vultures have an excellent sense of smell, and use both sight and smell to find food.

The griffon vulture (an Old World vulture) is the most common vulture in Europe, found in high and medium mountainous regions from Nepal to Portugal where they build huge nests on inaccessible cliff faces to which couples return year after year. There are over 35,000 breeding pairs in Europe, and they are an increasingly common sight in the high European mountains. All Old World vultures find their food exclusively by sight and so look for the presence of other scavengers such as red kite, raven and magpies. Griffon vultures tend to form and prospect for food together, the more eyes there are looking for food the better. The Ruppell's vulture has the highest recorded flight of any bird species at 11km high!

Vultures and death

Vultures get a bad press because of their association with death; a scavenger waiting for the dying to, well, get on with it. They are a physical representation of something we don't like to think about; the gore-spattered, hunch-shouldered harbinger of death. We should swallow our loathing and learn to love and celebrate our scavengers! Would it help to call them necrophages – a more romantic word for eaters of the dead?

Without them we would literally be piled-high in death and mouldering corpses. Dramatic? India ranks number one in the world when it comes to cattle and milk production; there were 190 million cows in India in 2017 and yet their meat only represented 4.72% of all meat produced for consumption¹ (Hindus do not eat beef). So when their milking days are done and death beckons, how are the carcasses of cows disposed of? This can be ad hoc; after skinning for leather, corpses may be left at roadsides or at best deposited in a community charnel, there to be dined on by the local scavenger population.

Historically, India had a colossal population of vultures – the white-rumped vulture population was as high as 80 million in the 1980's, decimated to the present level of several thousand pairs. All nine vulture species in India are at threat of extinction, largely because of inadvertent consumption of diclofenac, a veterinary non-steroidal anti-inflammatory that you may know as Voltaren, used to treat pain and inflammation in the cattle they consume. Use of this



MAIN PHOTO Mob of griffon vultures waiting for a place at the dinner table. © Sam Hillcox. 1. Griffon Vulture. © Raphael Neouze. 2. Black and griffon vultures. © Raphael Neouze. 3. Black vulture. © Gilles Vergely, Maison des Vautours. 4. Egyptian vulture. © Gilles Vergely, Maison des Vautours.

drug is now banned in many countries.

With the population crash of vultures in India, drinking water is at risk of contamination by bovine diseases such as anthrax – there were 66 outbreaks in India in 2016 – and the populations of other scavengers such as feral dogs, foxes and jackals increases as food is more readily available. This has led directly to an increase in incidence of rabies in India², with as many as 50,000 cases of rabies thought to be attributable to this effect.

Now do you agree we should all love scavengers, and vultures in particular?

There are four species of vulture found in Europe, the griffon vulture, black vulture, Egyptian vulture and bearded vulture.

Fact file

Griffon vulture, *Gyps fulvus*

- **Identification:** Wing span 2.4-2.7m Pale head and ruff, sandy-brown wings with paler leading edge and splayed wing tips. Colonial, forming large groups in flight.
- **Habitat:** Mountains, plateaus, scrubland at high elevation, nesting on cliffs and rocky outcrops
- **Feeding:** The griffon is the first vulture species to arrive at a carcass. They tear into the carcass through the easiest points of access (natural holes!) and consume the soft body parts – muscle and viscera.
- **Cool facts:** Griffon vultures scavenge in groups. When a carcass is spotted a mob can strip a carcass in 20 minutes. In the feeding scrum the hungriest birds are aggressive and get to the carcass first. Griffons have excellent eye sight and can spot a sheep carcass from 4 miles.

Eurasian Black vulture (aka cinereous or monk), *Aegypius monachus*

- **Identification:** Wing span 2.5-2.95m. Body and wings are black to dark brown with a pale head and featherless dark face. Occur individually or in small numbers often in the company of griffon vultures.
- **Habitat:** High mountain pastures, steppe, open woodland and grassland from Portugal to China. Nest in tree tops on large nest platforms.

- **Feeding:** Black vultures will intimidate griffons off the carcass with ritualised, ‘stalking’ parades, using body size to menace other vultures. Feed on tougher tissues, tendons, ligaments and cartilage.
- **Cool facts:** The cinereous vulture is the largest true raptor – the Andean condor may be slightly larger but is not considered a ‘raptor’. In flight, it is such a large bird that it is said to look like a ‘flying barn door’.

Egyptian vulture, *Neophron percnopterus*

- **Identification:** Wing span 1.6m. Body, tail and leading edge of the wings white, wing tips and primary feathers black. Looks similar to a stork in flight. Solitary or in pairs.
- **Habitat:** High mountain pastures, steppe, open woodland and grassland, but only to approx. 2000m, from Portugal to India, and south to sub-Saharan Africa. Nest on inaccessible cliff faces, rocky outcrops or communally in large trees
- **Feeding:** The Egyptian vulture has a fine beak and naked face and can dig deep into the carcass to remove the tiniest scraps from the skeleton. Also feeds on insects, small mammals and lizards and dung.
- **Cool facts:** The Egyptian is the only vulture species which uses tools. They use stones to break into ostrich eggs and twirl sheep wool around small twigs to carry it back to the nest for nesting material. This is the only migratory vulture in Europe, flying to sub-Saharan Africa in the winter. This is the most endangered European Species.

Bearded vulture (aka lammergeier), *Gypaetus barbatus*

- **Identification:** Wing span 2.6-2.9m. Body and head pale buff-yellow, body dark. Tail distinctive – dark and a long wedge shape. Wing tips splayed, wings broad. The ‘bearded’ comes from the wonderful long black moustaches – feathers hanging on either side of the beak in both sexes. Solitary or in pairs.
- **Habitat:** High mountain pastures, steppe, open woodland and grassland, but only to approx. 2000m, from Portugal to China, and Africa from the High Atlas in the west to Kilimanjaro and south Africa. Nest on inaccessible cliff faces and rocky outcrops.
- **Feeding:** Feeds almost exclusively on bones – bone marrow is



5. Adult griffon vulture. © Gilles Vergely, Maison des Vautours, Aveyron. 6. Juvenile Bearded vulture. © Raphael Neouze.

dissolved in the gut. 70-90% of their diet is bone/bone marrow. Can swallow bones whole up to 30cm long. Longer bones carried in the talons to height then dropped onto rocks to break them before eating.

- **Cool facts:** Bearded vulture stomach acid is pH1, facilitating the digestion of bone. The Greek poet, Aeschylus, is said to have been killed by a bearded vulture which dropped a tortoise on his head (presumably in an attempt to break the tortoise open!). The German name 'lammergeyer' means 'lamb hawk' and refers to a misconception that the bearded vulture eats lambs.

Threats to vultures – the bigger picture

Muti. Use of vulture parts in African traditional medicine (muti, or black magic) practised across southern Africa. During the World Cup held in South Africa, Cape vulture populations were decimated by the practise of gamblers smoking the dried brain of the vultures to bring them luck.³

Direct targeting. Vultures are often shot by poachers as their presence can alert anti-poaching patrols to the presence of rhino or elephant poachers.

Secondary poisoning. Pest control using meat laced with poison such as strychnine is practised by farmers to control predators such as foxes, puma, jackals and eagles. Whilst the use of strychnine was banned in Europe in 2006, stockpiles are in wide circulation and it is just one of many chemicals used to poison wildlife and inadvertently the scavengers which feed on their corpses.

Electrocution and collision with power lines. This is a major cause of non-natural mortality in Europe which is common in, but not confined to vultures. Large bird species such as cranes, eagles, vultures and storks can collide with power lines during flight which may follow traditional migration routes and be driven by instinctive route finding. These birds are so large that when perching on the lines their wings touch two lines, allowing the electrical current to pass through the bird.⁴ In areas where this is known to be a problem, electricity pylons will be fitted with vertical wires which discourage the birds from landing.

Decline in pastoral farming. In the Cevennes mountains in the southern Massif Central, the griffon vulture population was at its height in the mid-1800s, coinciding with the maximum number of sheep being farmed.

Changes in carcass disposal legislation. In France a law was passed in 1942 making collection of animal carcasses from farms obligatory. It was no longer permissible to simply leave carcasses of livestock to be eaten by scavengers. The population of griffon vultures in the Cevennes was hit hard.

Low reproduction rate. Depending on the species, vultures take between 4 and 10 years to reach sexual maturity. They have typically one occasionally two chicks per year and live a long time, often pairing for life. Vulture populations therefore take many years to recover from bottlenecks.

Summary

An increased appreciation for vultures in their own right and the ecosystem services they provide is essential to improving their outlook. Populations of griffon vultures are increasing in some suitable sites, there are reintroduction projects for griffon, cinereous and bearded vultures in France and rewilding projects in Bulgaria and Greece which link distant populations of birds and improve their genetic robustness. Education is critical for helping these much-maligned birds, and the positive input we can have when taking people into the mountains and sharing some knowledge should not be under estimated. ■

1. <https://www.vetextension.com/current-livestock-animal-husbandry-statistics-india/>
2. <https://www.newscientist.com/article/mg19926684-400-rabies-tragedy-follows-loss-of-indias-vultures/>
3. <https://blogs.scientificamerican.com/extinction-countdown/south-african-gamblers-smoke-endangered-vulture-brains-for-luck/>
4. <http://datazone.birdlife.org/sowb/casestudy/collisions-and-electrocutions-pose-real-threats-for-large-bodied-migratory-bird-species>



Sam Hillcox is an ecologist, outdoor educator and aspirant International Mountain Leader and lived in the Cevennes National Park in France for 16 years. It was a joy and a privilege!



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EXPEDITION ECONOMICS

If you're reading this article it is more than likely that you're making money doing what you love to do and you're lucky to be in a very small percentage of people who actually love their job.

WORDS AND PHOTOS BY RICHARD GOODEY

There are several paths to making a viable living in the outdoors; you could be a freelancer, work for a centre, take on your own clients, work as a technical advisor, build a business or even a combination of these.

I'm going to focus on running a business. The purpose of this article is to highlight an area that I feel passionately about. I've been running an outdoor business with my wife, Sarah Allard for the last ten years; taking people on adventures in the UK, Nepal, Tanzania and Morocco. Over the years, a lot of mistakes have been made, but from the outset, we've always chosen to focus and compete on quality, not price.

Do. Not. Sell. Yourself. Short.

The economics of running trips abroad and in the UK are exactly the same. Without further ado, here are my top tips for running a financially successful outdoors company.



As the co-founder of *Lost Earth Adventures*, **Richard Goodey's** hunger to explore the natural world began during childhood. At 17, he went on an expedition to climb untouched mountains in the Karakoram region of Pakistan. He has lived in the French Alps, the Canadian Rockies and has travelled Asia extensively. Together with his wife, Sarah, Richard started *Lost Earth Adventures* with a single goal: to get more people to experience the great outdoors. Richard continues to instil this mantra into *Lost Earth Adventures* today.

Don't be a bottom feeder

You've spent eons gaining experience and obtaining your qualifications. Hours have been spent meticulously planning itineraries and creating robust operating procedures. Every year you invest in CPD, replace old kit, renew your insurances, and spend time and money marketing yourself. This applies whether you're an individual/sole trader or a company. And this has a value.

Recently, a competitor advertised one of their outdoor activity sessions which requires a high instructor qualification for £10 per person... £10 a person! I was absolutely gobsmacked. How on earth would that even cover the wear and tear of equipment, an instructor's wage and the time spent booking the individual in, let alone the annual overheads that need to be accounted for, like taxes and insurance. In contrast, for a very similar activity, we would be charging £49 per person.

We are all proud and passionate outdoor people and it helps to be equally proud of the product and services you offer. Stand behind your expertise and

price appropriately. The outdoors is a competitive industry. If you compete for the bottom and undercut your prices to attract clients this drives the wages down and profits lower. You are directly undervaluing the industry. Having loads of clients doesn't really mean anything if you can't pay the bills. It's a false economy, which brings me to my next point...

Don't be a busy fool

If you price at the bottom you will undoubtedly be busy, but at what cost? It is not just the financial burden that will be ever increasing. There's a whole host of not so wonderful side-effects to look forward to.

Like personal and professional burnout. More clients mean more admin, more behind the scenes planning, more investment in kit, more overheads, and more stress. It's not a question of if, but when one of the balls inevitably drops.

This also means less money in the tills to pay for your basic needs, fewer resources for investing in kit, CPD and company development and ultimately less time from adventuring, which is probably one of the key reasons you decided to become a professional outdoor person in the first place. Rather than wasting time stretching yourself too thin for clients that will not pay a proper price for an expedition, serve the clients that do. Your wallet and your mental health will thank you.

Do be true to yourself

Do you want to be paid to be outdoors? Or do you want the buzz and satisfaction of running a large and exciting expedition company, while building a team around you of fantastic people? If you're serious about running a company, the reality may be a tough pill to swallow.

It means you won't be spending 300 days a year in the mountains anymore. You'll be lucky if you get 50 days out and you might be so out of the game, you'll go from flashing 8a to wobbling up VDiffs. This is the brutal, but honest truth if you



ABOVE Climbing Mt. Toubkal in winter.

genuinely want a company that takes thousands of people a year on adventures, but thankfully rewards and satisfaction come in other ways.

There's nothing sweeter than reading an email from a client that has just returned from a life-changing expedition or seeing first-hand someone conquering their fear of heights whilst abseiling from a cliff. We are privileged as outdoor professionals to be able to enrich the lives of our clients and enable them to achieve the impossible.

Don't forget the road is not always easy!

It's a scary leap, going all in, in business. It takes gumption and determination. In our first year of business we took one customer to Nepal. That year we lost around £20,000. Sarah and I lived in a rather dilapidated, damp-infested bed-sit with a shared bathroom for £300/month. It was grim.

The next 4-5 years, I spent five months of the year living in Nepal, leading back-to-back treks. In the summer, I spent every moment I





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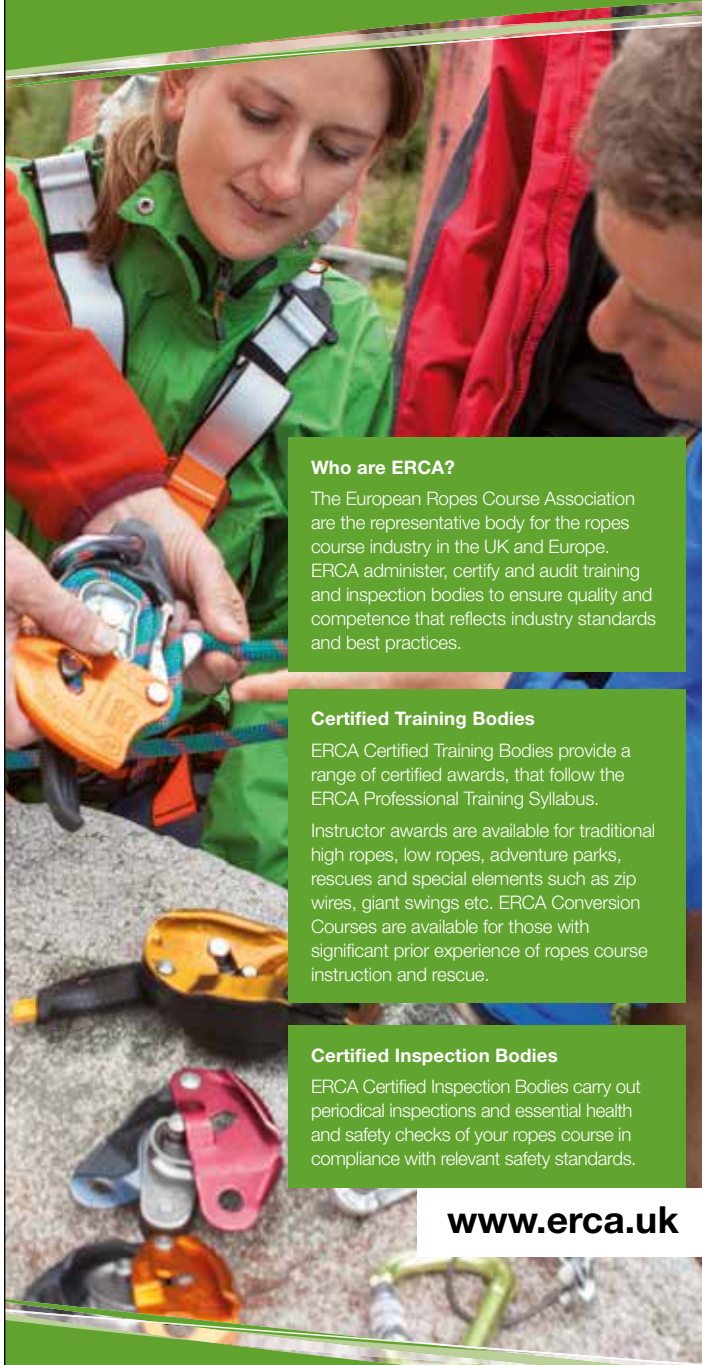
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ABOVE Trekking around the Annapurna Circuit.

could doing laps around the Yorkshire 3 Peaks, or holding the ropes while people climbed the Stanage classics. This wouldn't have been at all possible without my incredible wife, Sarah diligently organising everyone's itineraries, checking their documents, answering enquiries and generally making sure the ship sailed smoothly back at home.

Sounds great, doesn't it? As you can see at this stage, life was good for me and pretty unfair for Sarah. A life permanently on the road was not sustainable, both personally and professionally.

Although we had some success and had started to build the shell of a business, a huge factor was entirely overlooked by the both of us, which leads to my next tip.

Do place a value on yourself

On expeditions, I got a fantastic holiday, with free food, accommodation all sorted for while I was away and have a few spare quid left in my pocket at the end of the day. I never, ever paid myself a wage while on expedition. This works if you're a one man/woman band, but the next step to grow into a full-fledged business was to hire employees and leaders to run our trips.

In all of our calculations, we overlooked the true cost of a trip leader. Turns out, it costs quite a lot to send a guide to Nepal, as I quickly discovered when we decided to hire a guide for our flagship tour, Nepal Xtreme.

Nepal Xtreme, was our very popular multi-activity holiday that we charged £1,590 for. It was 16 days of light aircraft accessed downhill mountain biking, grade 4+ rafting, bungee jumping, canyoning, paragliding and some, off-kilter sightseeing. I regularly led groups of ten on this trip. When I led the trips, it appeared to be very profitable.

We then employed a few different guides to run these trips for us without doing much math and quickly realised our price needed to go up. With a bit of inflation, air tickets going up 15%, the pound plummeting against the dollar and paying a professional multi-disciplined guide we had to raise the price to £2,600. The next trip we had four people and lost £3,000. We never ran this trip again.

Do think of the bigger picture

You don't want to just employ guides and do admin, you'll probably want a team, this requires an office. The person who books the hotels, the ground crew, the flights, deals with the emails, checking the insurance and medical conditions won't always be you. This all has to be priced into a job.

It may feel good to earn £2,000 for two weeks fun in the mountains but it doesn't work out so well if you spent six weeks marketing, diarising, emailing, packing, buying and organising. Everything should be costed as if you were not there and you're paying people, every minute must be priced. Only then will you be able to grow. In expedition economics, the equations are simple.

Don't ever sell yourself short. ■

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TEACHING SKILLS FOR INSTRUCTORS AND COACHES: HELPING PEOPLE LEARN EFFICIENTLY

We all want to pass on the benefit of our experience, knowledge, and enthusiasm to others. But how to do this most effectively?

WORDS BY GUY JARVIS

In a forthcoming series of articles in *The Professional Mountaineer* we will be unpacking the teaching skills that are syllabised on the Mountain Training schemes. As a starter, this article suggests some of the fundamental elements of good teaching. Think of this as an opportunity to checklist your practice, and provide ideas to stimulate reflection. Covering teaching skills in just two pages is an impossible task; there are libraries of academic theories, models, peer-reviewed studies and evidence about what works, but in my experience it mostly boils down to the following:

Planning

Effective learning does not come about by chance (other than the accidents that are always better to learn from – others' misfortunes!). First, you need to be clear about your aims and objectives. Without these you will lose focus and direction – and so will your students. Always explain the context and objectives of the session before launching into teaching. Planning how to achieve this requires taking account of students' previous experience, knowledge and their learning needs whilst also considering the session structure, teaching techniques, timings, resources (human, natural and learning aids) and constraints (for example: the weather, ratios, time).

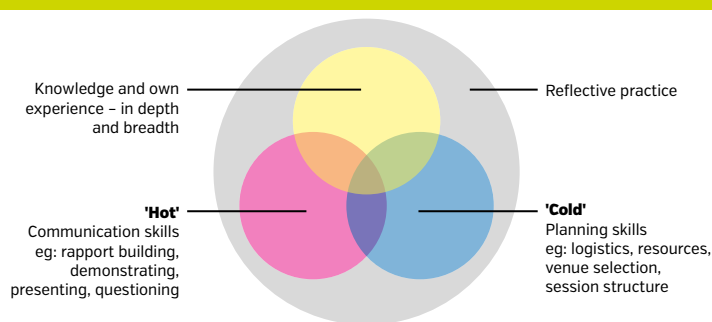
Don't be rigid with your plans when delivering your session though. You need to be able to adapt to changing conditions and the response you get from your students. Finally, but most importantly – know your stuff! It's impossible to do a good job of the above if you are unsure in your own knowledge. Bone up on the detail where necessary. Teaching a topic will always find your own weaknesses.

Setting the learning climate

You're not really teaching – you're helping people to learn. People learn best when they are relaxed but alert – this means we don't make the tasks too hard, or too easy. The brain needs to be prepared for learning as well. People need to be able to connect new information with their own 'mental map', so make an effort to find out what this is. A lot of teaching is about building up to 'golden moments' when things becomes clearer for the learner. Learning can be risky to self-esteem, so creating a climate of encouragement, acceptance and learning from failure is key. It's all about what's going on in their head, not yours. Learner resilience is developed over time by engineering many progressive, earned successes.

Communication skills

Above all, effective teachers are expert communicators – verbal and non-verbal – in both directions. Learn how to be fully congruent with these to both hold students' attention and to foster trust. This is as much about body language as it is about oration. Individual students have preferences about how they receive information



VENN DIAGRAM A (very) basic model to summarise the key components of teaching: know your stuff, set things up to optimise learning opportunities (cold planning), and communicate with learners effectively (hot delivery). Then reflect, refine and repeat...

(visually, aurally, kinaesthetically) and so it is best to use all channels and cover your bases. Stories are immensely powerful ways to illustrate knowledge and judgement. Have lots of them and get good at delivering them. Develop rapport skills to be able to connect with a wide range of people. These are not just about 'being nice'; there is solid psychology behind it. Read books on NLP (neuro-linguistic programming) if you want to find out more. Use students' names and find out what motivates them. Effective questioning plays a crucial role in opening minds and making connections; well timed, open, closed, leading, artfully vague questions – it's an art in itself.

Most importantly, talk less and observe and listen more to your students, monitoring their state of mind as well as their understanding.

Calibration, differentiation, progression, consolidation

Set activities at the right level for each student and manage an appropriate pace of learning. This is a crucial skill that develops as you accumulate a tried and tested range of teaching techniques. There is a 'sweet spot' of challenge level for every student that will motivate them to learn. Everyone has their own preferred level and pace of learning and your job is to keep each person stimulated and confident so that they progress.

Teaching techniques

Fill your tool bag. There are hundreds of techniques to choose from: demonstrations, stories, tasks, challenges, games, visual aids, post its, card sorts, and so on. Whatever you choose, the best are those that get your students actively engaged in learning. I find that in a good session the focus always shifts away from me leading (talking, demonstrating etc) to them (doing, discussing, experimenting). For example, when teaching navigation there are scores of teaching activities you can borrow from orienteering.

Teaching style

This is completely different to teaching techniques. This is about how you structure and facilitate learning appropriate to the experience of the student. For example, a novice needs to be shown what to do with clear demonstrations while a very experienced student can be set their own creative challenges and then have their solutions reviewed. (Search for 'Mosston's continuum' on the internet for a simple theoretical model.)

Personal style is something different again. The way you teach needs to fit with your natural personality. Don't try to copy other teachers' styles, no matter how good they are – it won't work. You don't need to be charismatic if that is not you: be yourself. Being inspirational is not about impressing people, it's about making them believe in themselves.

Reviewing

Reviewing is essential if you wish to embed learning, check for understanding, and to plan the next progressive steps. Reviewing also helps students become more self-aware and to learn how to learn. Reviewing can take place before, during and after a session. There are many creative techniques – it's not just chat. Remember that the most powerful feedback comes from the student themselves, and a well-structured review gives the best opportunity to exploit this. Try looking up anything by Roger Greenaway as a starter.

Giving feedback

Feedback is a key component of the learning cycle. Students need to know how they are performing and have misunderstandings corrected, with opportunities to understand errors. When giving any sort of formal assessment of a students' performance recognise this is a special situation that requires tact and skill. Done well it empowers the student and builds confidence. Done poorly and it can do the exact opposite. Here are three top tips:

- Prioritise feedback before you give it – less is more.
- When giving corrective feedback, ensure the student has the opportunity to attempt the task again – otherwise it won't stick.
- Keep it positive, always offering a way forward. There are no failures in learning, just 'not yet'. It is the students' decision whether to carry on – not yours.

Think carefully about the timing of giving feedback. Done too soon and the student may not be ready for it (they have their own internal processing to do which could take seconds or days, depending on the experience). Done too late and you may have missed the best moment as their memories and feelings decay.

Learn about effective goal setting that really helps people to continue their development (search for 'Well-Formed Outcomes' on the internet), and signpost them beyond your own support if necessary.

Reflective practice

All the above are mere tricks and theory if you do not practice, experiment and reflect on your students' and your own performance. You need to review your sessions against your desired objectives. Did you achieve what you set out to do? Over time you will build up a repertoire of techniques and a sense of what is likely to be most effective in a given situation. Teaching is as varied as people are. Good luck! ■



Guy Jarvis is the Executive Officer for Mountain Training England. Prior to this he was Director of Training at Undercover Rock in Bristol where he founded the National Indoor Climbing Award Scheme. He has clocked up over 10,000 hours of classroom teaching in a range of comprehensive schools. He holds the Mountaineering and Climbing Instructor, and International Mountain Leader qualifications.



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Being a climber: Progressive lead coaching

Participants often learn effectively through authentic first-hand experiences rich in immediate meaning where the process and content are integrated, and they can gain an appreciation of the whole from an early stage.

WORDS BY RICHARD ENSOLL AND DANNY TOWERS

An important aspect of these experiences is that learners exercise as much power over their learning as we can facilitate whilst fulfilling our duty of care.

Lead climbing is often taught at a ratio of 1:2, why is this and what are we concerned about that means we have to be *'just there'*? It seems that we, as mountain professionals can be quick to place novice climbers into consequential (scary...?) situations where we are drawn into close management typically involving technical solutions. Teaching in this way can serve to place power predominantly in the hands of the coach, reducing participant involvement and the room for discovery learning. If our concern is that our participants are likely to fall off then perhaps easier angled, less consequential terrain could allow us to step back a little more, facilitating greater lead climber autonomy? (Photo 1)

In response to these observations we decided to explore alternative approaches, which might provide a gentler progression for our novice climbers, and so we began searching for venues. These needed to offer a range of angles and route lengths from short (5 metre) easy scrambles to longer single pitch scrambles up to grade 3 in addition to graded climbs. Further to offering easy ground to move over, the scrambles needed to be short at first while also affording a range of gear placements to allow plenty of practice opportunities. The terrain would be easily navigable without a rope allowing the novice leader to focus on the new part, learning the ropes. (Photos 3 and 4)

To help tee-off our fledgling climbers we facilitated an experience of the whole lead climbing process with a concise demonstration of tying on, setting up the belayer, leading and placing a few runners, then belay building at the top. Upon arriving at the top we invited everyone to scramble alongside us so they could observe the process of placing runners and belay building *in situ*. (1) After a review of what they had seen, the climbers were ready for their first lead. (Photo 5)

The "low consequence" venue allowed us to set the learners off and experience their first lead with a high degree of ownership over their experience. It was not long before the climbing pairs had swapped roles and were beginning to peer coach. (2)

- 1 We were also able to demonstrate the importance of clipping from the hip by asking the students to reach up and 'fall' [i.e. climb down until the rope is taut] imagining they fell just before clipping.
- 2 Applying the notion, 'less is more' i.e. the least input the better as this allows learners to work from what they know, affording room for exploration. For example you might limit your demonstration to belay building, leaving them to fill the gaps around belaying a lead climber and leading the route. If participants happen to demonstrate good practice this can be celebrated in the moment, where this doesn't occur it may be addressed on the next route where appropriate.

As they moved on to their next route their second was asked to weight the system either from the base of the route by pulling the rope or through close supervision higher up. This provided task-intrinsic (sensory) feedback on the belay set up and process. Once they had begun to gain fluency and accuracy the leaders progressed to steeper, longer (but still ungraded) routes. (Photos 2 and 6)

During the afternoon of the first day participants are often ready to select more challenging terrain and lead this under minimal supervision, looking and feeling like 'climbers'. A guiding principle in helping climbers decide whether they should progress to more consequential ground is a shared (between the climber and coach) sense of readiness. For example, the performance becomes relatively automatic and therefore ready to cope with increased stress; mastery before fear.

We found that on the next day of the programme the participants were able to reproduce the previously learnt skills, with minimal coach input and experiment with the amount of routes they were able to complete in a given time and place, before increasing levels of technical difficulty or environmental consequence.

Reflections: Some good things happen when we reduce the angle

As environmental consequence decreases the technical nature of the task can remain 'real' whilst offering increased opportunities for learner autonomy. Despite using relatively 'tame' terrain, skills are gained with immediate satisfaction found in the task, together with preparation for later usefulness. This approach affords a wider range of teaching ratios, in the case of this article, group sizes are typically 8:1.



1. Teaching crag. © Danny Towers. 2. Competent belaying on day 1. © Danny Towers.
3. Lead climb demonstration. © Richard Ensoll. 4. Belay building having led the route.
© Richard Ensoll. 5. First lead climb begins. © Richard Ensoll. 6. Competent lead
climber on day 1. © Danny Towers.

Sources and background concepts

Some background to 'being a climber'. Read more at: Towers, Danny and Loynes, Chris (2018) 'Finding New Ways: Developing a Co-Constructed Approach to Excursions in Higher Education', Journal of Experiential Education. Los Angeles, CA: SAGE Publications, 41(4), pp. 369–381. doi: 10.1177/1053825918808329.

Concepts behind focussing on the environment and how it shapes behaviour. Read more at: Brymer, Eric and Renshaw, Ian (2010) 'An introduction to the constraints-led approach to learning in outdoor education', Journal of Outdoor and Environmental Education. Singapore: Springer Singapore, 14(2), pp. 33–41. doi: 10.1007/BF03400903.



Richard Ensoll, AMI member and Winter Mountaineering and Climbing Instructor, is a senior lecturer at the University of Cumbria, involved in teaching delivery in the Outdoor Studies department. He has been involved in outdoor learning and adventurous journeying for over 30 years and is currently fascinated by ways in which our practice can be enhanced through slow [or more rhythmical] practices.



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IMPROVE YOUR PHOTOGRAPHY

GETTING OUT OF 'AUTO' MODE

PART 1



As outdoor professionals we are often lucky enough to visit some of the world's most incredible and scenic places.

WORDS AND PHOTOS BY IAIN AFSHAR



Iain Afshar is 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

Nowadays it's rare that we, or our clients travel to these places without a camera, be it a DSLR, smartphone or anything in between.

Whilst today's cameras and phones generally produce amazingly good quality images, many people often don't venture away from the camera's 'Auto' mode. Here, the camera will automatically select the most appropriate combination of settings in order to correctly expose the scene. As good as this is, the camera doesn't necessarily know what you are trying to achieve photographically and may take any creative control away from the user.

With a basic understanding of exposure and by taking control of your camera's settings, this will allow you to add some creativity into your images and greatly enhance your photography.

The 'Exposure Triangle' describes the relationship between three different settings; aperture, shutter speed and ISO.

Aperture

This is simply the opening within the lens that limits the amount of light that can pass through the lens and reach the camera's sensor. By changing the aperture value on your camera you increase or decrease the size of that opening, allowing more or less light into the camera. Aperture is measured in f-stops e.g. f2.8, f4, f11 etc. (Confusingly, the

smaller the f-stop number the larger the opening, and the larger the f-stop number the smaller the opening, so we will emphasise the practical implications of the numbers).

Aperture also determines an image's depth of field (DOF), i.e. how much of the image area is in focus. An image with a large or deep DOF will show everything in focus from foreground to background, whereas a small or shallow DOF will concentrate the focus on a much smaller area, with foreground and background elements blurry.

We can use this to creative effect when shooting portraits or landscapes for example. Portraits often look more appealing when the subject is separated from the background, especially if the background is distracting or uninteresting. A shallow DOF (small f-stop number) will achieve this, resulting in a sharp in-focus subject with pleasing background blur.

For landscapes we typically want everything to be in sharp focus, e.g. from the rocks in the foreground to the distant mountains in the background. A deep DOF (large f-stop number) will achieve this.

Shutter Speed

This simply controls the amount of time that the shutter opens and exposes the camera's sensor to the light entering through the lens. Shutter speed



1



2



3



4



5

is measured in seconds or fractions of seconds e.g. 1/1000, 1/100, ½ of a second etc. 1/1000 of a second is very fast (or short) letting in very little light whereas ½ second is relatively slow (or long) letting in more light.

For creative effect, shutter speed can control how motion is captured by the camera. A fast shutter speed will freeze the motion of moving objects, e.g. freeze the motion of a skier mid jump, whereas a slow shutter speed will record the movement indicating motion, e.g. to show blur in flowing water or movement in clouds.

There are a few trade off's to consider though. If you are using a very slow shutter speeds, your camera will need to be stabilised on a tripod or other steady surface to prevent camera shake and a blurry, unfocussed image. When hand holding your camera, the slowest shutter speed you can shoot at without introducing shake depends on many factors, including the focal length of your lens, whether or not your camera/lens has image stabilization and how steady you can hold the camera.

ISO

ISO controls the sensitivity of the camera's sensor to light, i.e. how it responds to the light it receives from the shutter and aperture. A high ISO number makes it more sensitive to light, whereas a low

ISO is less sensitive to light. ISO is rated as a number e.g. 100, 200, 400, 800, etc.

Aperture, shutter speed and ISO all affect the exposure in similar ways. Whilst the first two have creative side effects, i.e. DOF or motion blur, ISO doesn't. Ideally you'll want to keep ISO as low as possible while still achieving the correct exposure. Increasing the ISO also increases noise (grain) in the image. Sensors perform better at lower ISO settings allowing for a higher quality image though cameras are continually improving their highest ISO performance.

In daylight or well-lit scenes the ISO can be set low, usually around 100 to 400. In such cases, you can usually get correct exposure by adjusting your aperture and shutter speed. However, in low lighting there may be no other option than to increase ISO. If you want both a fast shutter speed and deep depth of field (small aperture/large f number), then raising the ISO might be necessary.

How do aperture, shutter speed, and ISO work together?

Aperture, shutter speed and ISO work together to properly expose an image. A change to one value will impact the other two. There are always trade-offs to be made when selecting an exposure.

For example, decreasing the size of the aperture,

MAIN PHOTO. Hartland Quay, Devon. *f16, 13 seconds, ISO 200. Long exposure used to blur movement of the waves and clouds to give an ethereal effect.*

1. Mount Manaslu, Nepal. *f16, 1/125th sec, ISO 200. Narrow aperture gives deep DOF. Relatively slow shutter speed adds blur to the flags indicating motion.*

2. Slate bridge: *f9, 20 seconds, ISO 200. Settings used to give good DOF and to blur movement of the water.*

3. Hang on, Red eyed tree frog, Costa Rica. *f4, 1/125th sec, ISO 400. Wide aperture gives narrow DOF just to keep eyes in focus.*

4. Heavy load, Nepal. *f4, 1/100, ISO 400. Wide aperture to give narrow DOF to keep porter in focus but blur out the background.*

5. Eyes on the prize, Barn Owl, Sussex. *f5.6, 1/1250th sec, ISO 1000. Wide aperture and high ISO necessary to achieve fast shutter speed to freeze motion of the Barn Owl in flight.*



6

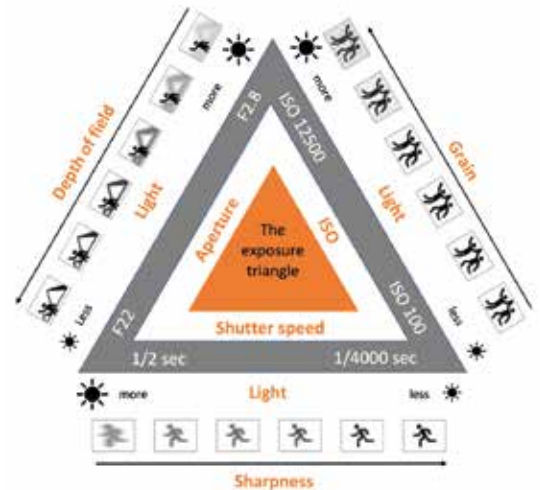


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8

6. Red eyed tree frog, Costa Rica. $f7.1$, $1/60$ th sec, ISO 2000. High ISO needed as shot taken in dark jungle. Slightly narrower aperture used to keep more of the frog in focus. Flash used. 7. Home Sweet Home, Costa Rica. $f4$, $1/2000$ th sec, ISO 400. Fast shutter speed needed to freeze motion of wood chips. Wide aperture blurs out background. 8. Beautiful Blue, Gokyo Lake, Nepal. $f11$, $1/50$ th second, ISO 200. Settings used to give good DOF. DIAGRAM. Exposure triangle.



i.e. selecting a larger f-number, to increase the DOF for a landscape shot will require a slower shutter speed or higher ISO to let in enough light to expose the image correctly. You would therefore need to decide whether to use a tripod in order to keep the camera steady during the longer shutter speed required or use a higher ISO setting (at the cost of increased noise), especially if shooting in low light.

Or, increasing the shutter speed will need to be matched by an increase in ISO or aperture size to maintain the same exposure value. In many situations, it may not matter, but in tricky lighting, finding a balance of settings that offer the DOF, motion, and noise levels you're happy with may be a challenge with a compromise having to be made somewhere.

Whilst it is possible to change all of these settings in manual (M) mode, many cameras feature several semi-automatic modes which can help to simplify things. If you just want to focus on depth of field, Aperture

Priority mode (A or Av) lets you manually set your desired aperture and the camera will automatically set the correct shutter speed for your selected aperture value. Shutter Priority (S or Tv) is the reverse, controlling aperture automatically whilst letting you manually select your chosen shutter speed. Auto ISO is generally turned on or off independently of the exposure mode. Turning it on can simplify things further but by using it you are giving more control back to your camera and may lead to noisier pictures if the camera decides that a very high ISO is necessary, especially in low light.

All of this is very much dependent on whether you can take control over the settings on your camera or phone. Smartphones don't allow as much control over them as DSLR's or more advanced compact cameras but they are catching up, especially with the use of some excellent smartphone camera apps.

Don't be afraid to try out some of your camera's semi-automatic and manual settings. Once you get your head around the exposure triangle and build your confidence, you can start to enjoy your photography much more. Aside from the technical aspects, we are often in the lucky position to be able to access high and remote places that many photographers can only dream of visiting. Photography is another skill that you can pass onto your clients whilst leading them in the mountains and may help to make their experience even more special.

Top tips:

- A small f-stop gives a shallow (i.e. small) depth of field: to make the background of a portrait blurry use a small f-stop (e.g. $f2.8$). To keep everything in focus e.g. in a landscape, choose a large f-stop (e.g. $f16$).
- To freeze a moving object, use a fast shutter speed. To show movement by blurring motion, use a slower shutter speed.
- Changing one setting affects the others. If you use a fast shutter speed, you'll likely need to use a larger aperture or higher ISO to compensate.
- Use a tripod or other method of stabilising the camera when shooting images at very low shutter speeds or in low light to prevent camera shake and unintentional blur.
- Keep ISO as low as possible to reduce noise where possible.
- Consider using the semi-automatic modes to allow some control over the camera. Use Aperture Priority mode to control depth of field or Shutter Priority mode to control motion.

The images featured in this article are intended to demonstrate some of the principles outlined, i.e. shallow and deep depth of field and the effects of using different shutter speeds.

In part 2 we'll look at photographic composition – common photography rules, techniques and guidelines to further improve your images. ■

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3

1. Andy Collins bouldering in Bohuslän, Sweden. 2. Sandro Gromen-Hayes leading *Come to Mother F5/5+* at Wyndcliff Quarry, Wye Valley – a popular introductory sports crag. 3. Frances Turner and author on the 12 pitch classic, Vestpillaren Direct, on Lofoten, Norway. © Andy Collins. 4. A busy day at Battleship Back Cliff, Portland.

Top Tips for Transitions

WORDS AND PHOTOS (UNLESS OTHERWISE CREDITED)
BY SARAH-JANE DOBNER

**First touch of real rock!
First bolt-clipping trip!
First experience of trad!**

There are plenty of guides on the practicalities of such transitions, but here are a few ideas addressing more intangible aspects – teaching awareness and respect for the crags and landscape and etiquette, right from the start...

Five Top Tips – Plastic to rock (bouldering)

- 1 Love the rock. It is your ally, not your adversary. It will help you, take care of you and guide you. Before starting to climb, perhaps take a moment to sit with the boulders. Get to know each other. It's rude to touch, without being introduced.
- 2 Stand on your feet. Outdoor climbs are often much slabber than indoor problems. Walk up. Feel the rock through your boots.
- 3 Go into 3D mode. Everything is a hold (the entire surface of the blank groove, the wall behind you) – not a dot-to-dot of helpfully coloured resin blobs. Your entire body is a tool (your back, seat, forearms, elbows) – not just hands and toes.
- 4 Climb from the inside. Feel how your body wants to move. Trust your flesh, and its connection with the rock. This isn't about showing off to anyone else, or performing for anyone else, or 'achieving'/'ticking'/'conquering' a particular problem. Begin to dance.
- 5 Be willing to learn. You are the pupil, rock is the teacher. Concentrate in class – limestone, sandstone, granite is the lesson and the coach. Accept your bashed cuticles, bloodied knees and bruised ego. Outdoors is old school so be respectful: try hard, pay attention, take the punishment and don't answer back!

Six Top Tips – Indoor routes to sport climbing

- 1 Get in the habit of researching access/suitability. Check weather (rainfall and windspeed and direction), tide times, bird bans, firing notices, owner restrictions, recent rockfall etc. The BMC RAD app is a good place to start.
- 2 Take the easiest line. Move around. Only rarely will the route follow the bolts like a piece of string. What does the rock want you to do? Where does it want you to go? Your movements are not dictated by human setters with a plan in their head. You're dealing with a cosmic setter out there. Tune in. A good rule of thumb is to choose the pathway with the best footholds (don't worry so much about the hands).
- 3 Learn new techniques. Some movements which are used occasionally indoors become absolute mainstays outside. So palming down, for instance, really comes into its own on real rock. Become acquainted with jamming, mantle-shelving, back-and-footing and other comedy horror shows. Ask people to help you.
- 4 Be quiet. Not making a racket is part of the etiquette. Learn the climbing calls. Aside from these, do not shout loudly up and down the length of the cliff. Especially do not swear, power scream or go on about how hard you climb indoors. Such noisiness distracts everyone else from listening to the crag.
- 5 Wear a helmet. Rocks break, spikes can cut. Quickdraws get dropped by mistake. It won't guarantee your safety, but it might help.
- 6 Pace yourself. An indoor route might take 5-10 minutes, whilst leading an outdoor sport route may take half an hour or more. Don't rush, don't panic, don't apologise. Take the time the route demands. Keep going steadily upwards.



Six Top Tips – Sport to traditional climbing

- 1 Be honest with yourself. Are you fierce today? Reckless? Emotionally wobbly? Take all this into account, because what is inside tends to manifest on the rock. Trad is less about your fingers and more about your soul.
- 2 Move from rest to rest. Look up and clock where your next rest will be and move to that. If you get blocked, step down a few feet and re-plan. Why take or hang when you can just bridge out and stand in balance? Though this feels unfashionable, it will build awareness, strategy and stamina. Try it.
- 3 Foster partnerships with people you trust. With trad you will commonly end up out of sight and out of hearing (on sea cliffs, having traversed around corners...). You need to be very clear what the rope movements are likely to mean and how to respond. Communicate with each other before you set off.
- 4 Really get to know the rock and, by extension, the gear (wires, cams, slings etc). If, in sport, you can climb on top of the rock, clipping bolt to bolt, with trad you must go deeper. Look in the slots. Feel in the cracks. And always the question is – will the rock protect you? How well? Do you rate that cam a 1/5 or a 4/5? Will it hold you if you fall? Develop your judgment. Open your heart to trust. Trad, for me, is where the relationship with the cliff shifts from pleasantries to intimate exchanges about things that matter.
- 5 Be prepared to make it an apprenticeship. Transitioning from hard sport to tick a few select E6's has always left me cold. Opposing wires, chimneys, loose top-outs, abseil access, multi-pitch route-finding, double ropes tracing the cliff parallel as tramlines – how to become competent with all of this? Many years on many different crags having many epics. Try and keep the epics reasonably safe!
- 6 Hide your sandwiches. Otherwise they will surely be eaten by seagulls/mice/squirrels/cows/flyes/dogs. ■



Sarah-Jane Dobner is especially fond of sea cliff trad climbing, has been climbing for over 20 years and is a Rock Climbing and Climbing Wall Instructor. Her articles and poetry have been published in *Climb*, *Summit* and UKC. In 2018 she shared an award at SHAFF for the BMC Women in Adventure film, *The Salty Dance Floor*. She is interested in the visceral, sensual and spiritual aspects of the sport. <https://dobdobdob.co.uk>



THE ALPS A NATURAL COMPANION by Jim Langley and Paul Gannon

Reviewed by Mal Creasey

This book is an absolute 'must have' for anyone lucky enough to be working (or playing) in the Alps on a regular basis.

It consists of three main sections; geology, alpine flowers and finally 20 walks where some of the geological features and flora/fauna can be seen at first hand. There is a second section to the geological section with area notes clarifying some of the geological issues in different regions within the main alpine chain. The colour photographs on each page and numerous diagrams greatly assist in explaining some of the complex issues which are inevitable in a book of this nature.

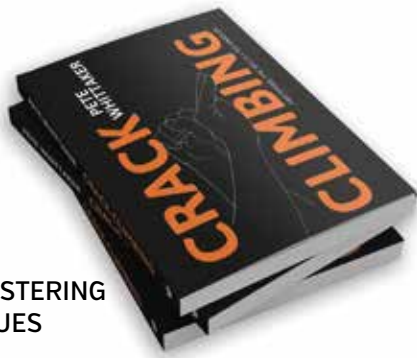
The book follows a logical pattern, beginning with an overview of the geography of the Alps, looking at where the rocks originate from and then describing the complex process as the rock was thrust upwards (and downwards) by movement in the Earth's crust over millions of years. Add to that the creation of sedimentary rocks laid down at the bottom of shallow seas and stirred in to the melting pot. The author steers away from complex language wherever possible and does an excellent job, but the complexities of the mountain building process are such that some technical language is a necessity. Logical progression follows, with chapters on weathering, erosion and glaciation, which are easier to understand and make stark reading as the speed of glacial recession is outlined both here and in the Area Notes. There is one anomaly which I can only assume is a typo, referring to the speed at which glaciers travel – I believe it should be metres rather than kilometres (page 60, right hand column). My only other gripe in this section is the lighter grey font used on some of the diagrams, which is not so easy to read as the black.

The third section of the book explains the alpine environment, habitats and the many different flowers to be found in certain locations and why. Initially the author describes the different types of growth, reproductive systems and more importantly how they survive the harsh climate, poor soils and short growing season. This is clear and easy to understand. The flower Identification Guide lists over 300 flowers sorted by colour, petal and leaf shape, each with a colour photograph and short description of each flower, where it might be found, habitat and flowering times etc. Again, some of the fonts, particularly those on the yellow background and highlighted box indicating the optimum flowering times are less clear. However these are small points in what is a really informative guide to the vast majority of alpine flowers.

The final section of the book highlights 20 walks of varying length and difficulty where many of the geological features and flowers previously discussed can be observed at first hand. After a short introduction which includes general information and emergency contacts each walk is described and includes a map with notes on length; difficulty; approximate timings etc. Lat/long references and QR codes give details of where the nearest parking is, which is an excellent little touch. The walks are predominantly based in the western/central alpine areas with just a few located in the limestone regions further east, with one in Austria – although the information box relating to this walk would have you believe the Stubai Alps are in Switzerland.

There is an excellent glossary, bibliography and index contained within the final few pages. Apart from the points raised above, this really is a bumper bundle of information and a 'must have' for anyone either planning a trip to the Alps or generally interested in how the Alps came into being and why they are as they are today. Despite spending half my life in alpine terrain I certainly learnt lots, and the next time I venture 'over the water' I shall certainly be taking my copy. ■

BOOK REVIEW



CRACK CLIMBING – MASTERING THE SKILLS & TECHNIQUES by Pete Whittaker

Reviewed by Paul Smith

When I started climbing, people spoke in hushed tones about ‘Jamming’, giving away very little detail on how this was achieved in practice, other than you just stick your hands in and expand them. There was the odd short magazine article and perhaps a few pages in the technical climbing books of the time. Johnny Dawes film “*Best Forgotten Art*” went some of the way to exploring the vast range of what crack climbing could be.

Fast forward (quite) a number of years and even the YouTube generation still lacked a comprehensive publication on crack climbing, until now. Pete Whittaker has taken his years of high level crack climbing experience and created a resource that will develop any climber or climbing coach’s technical understanding of the wide range of techniques and tactics, which will go some way to ensure successful ascents. The book’s 256 pages span through narrow finger cracks, hand, fist and offwidths before delving into chimneys and roof cracks – a particular topic that Pete is renowned for – before having a look at the placement of gear, equipment to protect yourself and of course, taping of hands.

As to be expected from a Vertebrate Publishing book, the layout is crisp with some stunning photos. Each of the sections are punctuated with a ‘Meet the master’, a 2 page spread containing a brief interview with prominent climbers, many of whom you will be familiar with, others may need a google. These break up the text of the main body of the book and give some light relief from its hard going technical content. Right at the start of the book, Pete acknowledges that the content is a heavy going and suggests that you dip into and out of the book as required, focusing purely on the content that is relevant to you at that specific moment in time. This is a suggestion that I wholly agree with; this isn’t a book that needs to be read cover to cover. Pick the topic you wish to get better at, devour the content, before doing the bit that is going to make the difference – lots of climbing.

Given that crack climbing on the whole is a kinaesthetic experience the excellent diagrams that are present throughout give the reader an opportunity to develop their own intrinsic feedback. These diagrams highlight where you should be in contact with the rock, feeling/ applying pressure, directions to twist, pull or push, although the ones that feature a Resusci-Anne-esk Pete are a little disconcerting.

The one thing that I felt was missing from this book was a suggested list of suitable routes to go and try out some of these techniques on. I do acknowledge that this could provide to be tricky, due to the way the book has been written to target the international market. This is perhaps something that both Pete Whittaker and Vertebrate Publishing could do as a series of online articles to support the climbers trying to develop these skills.

If you want to get better at climbing cracks or coaching people to climb cracks better then this is the book that you need on your shelf. ■



MASTERMIND **MENTAL TRAINING FOR CLIMBERS** by Jerry Moffatt

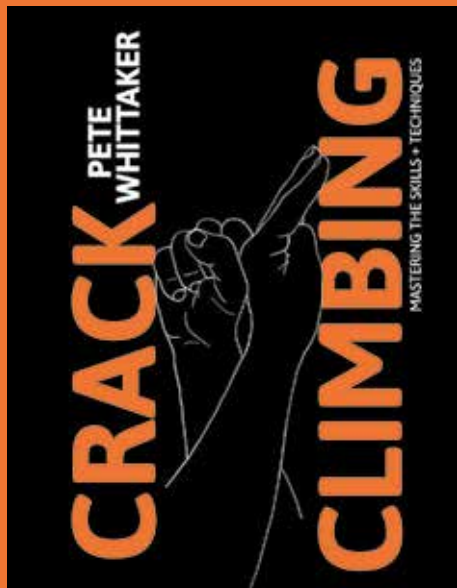
Reviewed by Myles Harris

Recent achievements of climbers, such as Alex Honnold free-soloing El Capitan or Adam Ondra completing the world’s first 9c, have inspired climbers of all abilities to strive towards achieving their own goals. Much literature has been written about improving personal performance, however, Jeffery Moffatt’s book *Mastermind* focuses not on physical training, but psychological preparation. Moffatt’s innovative book is filled with crucial advice on mental training for climbers and is enriched with stories by hugely talented people who have defined the modern climbing era – Ben Moon, Margo Hayes, Pete Whittaker and many more. If you intend to push your climbing to the next level, *Mastermind* is undoubtedly a book to add to your reading list.

From the beginning of the book, Moffatt is very open and honest. He discusses his experience of being at school and having dyslexia, reflecting on his struggle to read and write. Moffatt’s school report at the age of seven labelled him, “pathetically anxious to succeed.” Negativity did not hold Moffatt back, but kindled a passion and fuelled his commitment to sport. At the age of fifteen, Moffatt started climbing and after leaving school focused on improving his physical abilities to excel in climbing performance. However, Moffatt astutely recognised that ‘climbing strength’ is a symbiotic relationship between physicality and psychology. He had a realisation that climbing is a very intimate sport, “a mind game and ... a battle of holding it together.” He recognised his mind needed training to have clarity of thought when under such immense pressure, yet at the time sports psychology was an emerging speciality. Moffatt began a journey of self exploration, defining the most efficient methods to mentally prepare himself to tackle and overcome climbing challenges. Throughout *Mastermind*, Moffatt has included advice and training tips to guide climbers through a journey of mental preparation. The content of his book is underpinned by work from Professor Lew Hardy, a British Mountain Guide who is a leading academic in human performance, and anecdotes from other climbers around the world who similarly have pushed their own boundaries.

Mastermind does not limit you to passive reading about mental training. Moffatt has included tools and activities throughout the book to engage with, supporting you in mentally preparing for your next climbing challenge. There is space throughout the book to formulate your own, bespoke training plan and identify lessons learned from the valuable insights of Moffatt and the contributors to *Mastermind*. He refers to different styles of climbing, making *Mastermind* a book relatable to all climbers at any level. Furthermore, *Mastermind* is visually stunning. The high quality images of climbers and impressive graphics strengthen the inspiration and encouragement given to the reader. Salient points from each chapter are highlighted in bold and are complemented by motivational quotes in the margins. The structure and format enable you to read from the front to back cover, or dip in and out to revise the key points. In summary, *Mastermind* is more than a book. Moffatt has produced an essential tool that empowers all climbers to enhance their mental training and achieve new heights in their climbing abilities. ■

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